Interior Design Manual

FOR NEW CONSTRUCTION AND RENOVATIONS OF HOSPITALS AND CLINICS

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Department of Veterans Affairs

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Note: This document contains hyperlinks to locations within the document, as well as to locations on VA's website (www.va.gov). Hyperlinks are in colored text and are visible when the mouse scrolls over linked text. For users referencing a printed version of the Interior Design Manual, the internet address of each link is listed in parentheses.

EXECUTIVE SUMMARY

The Interior Design Manual (IDM) will provide VA staff participating in the development of interior design projects with an understanding of their roles, responsibilities and the appropriate procedures for creating a comprehensive Interior Design environment. All VA staff members taking part in interior design are expected to follow this manual as best practice.

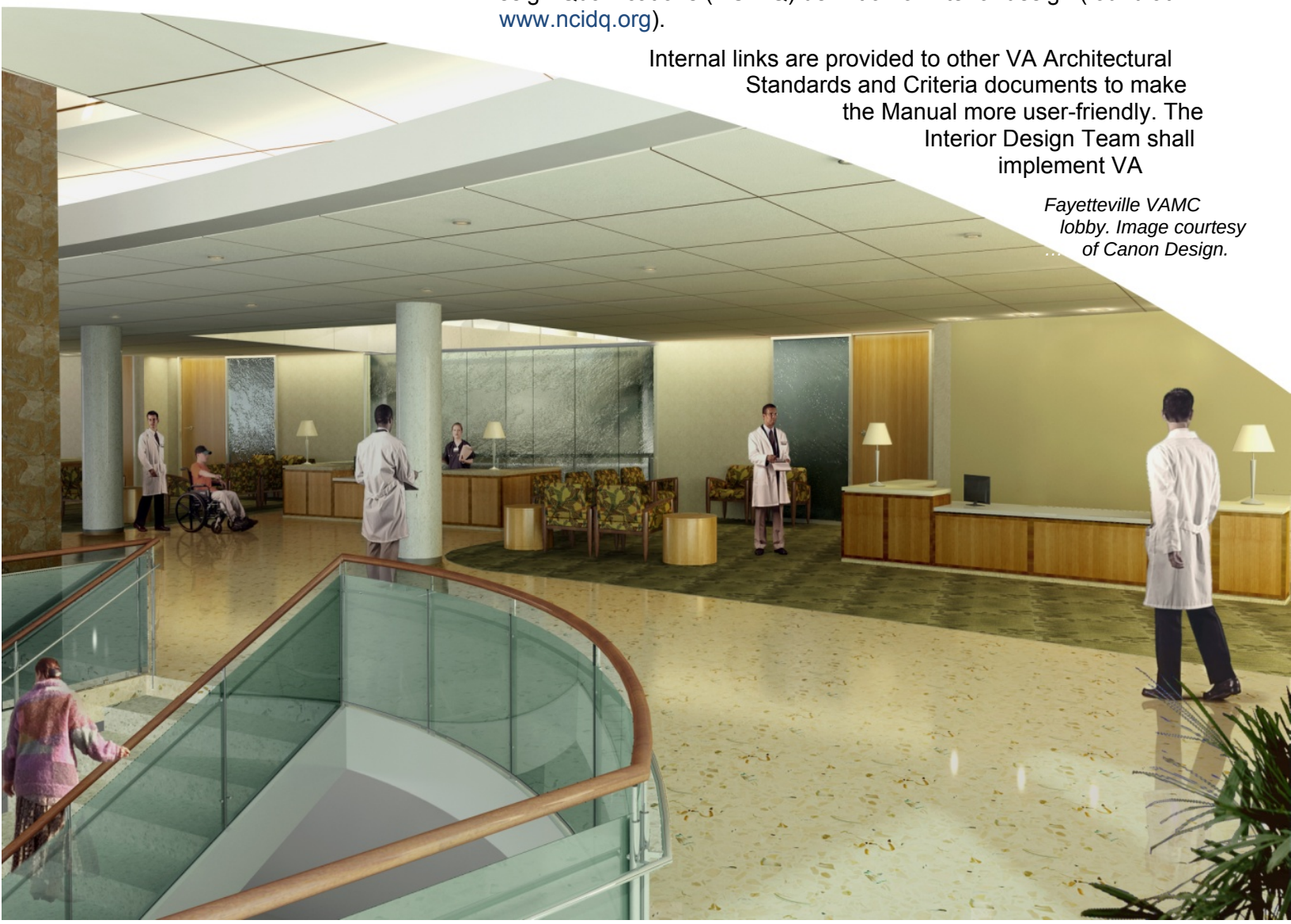
The purpose of the IDM is to aid in the translation of VA Master Specifications (http://www.va.gov/facmgt/standard/spec_idx.asp) into patient-centered design solutions. Design solutions should improve the quality of life and productivity as well as protect the health, safety and welfare of the veterans, visitors and staff. Interior Design is a major component in establishing and maintaining an environment that is professional, therapeutic, safe, aesthetically pleasing, and functionally appropriate.

The IDM will provide tools for understanding current healthcare design industry standards as well as innovative out-of-the-box thinking balanced with a clear awareness of what designing for VA means.

The IDM is a living document that VA staff will support and contribute to in future revisions, therefore creating a sense of ownership and collaboration between the staff and VA Central Office.

All VA designers should reference the National Council for Interior Design Qualifications (NCIDQ) definition of interior design (found at www.ncidq.org).

Internal links are provided to other VA Architectural Standards and Criteria documents to make the Manual more user-friendly. The Interior Design Team shall implement VA

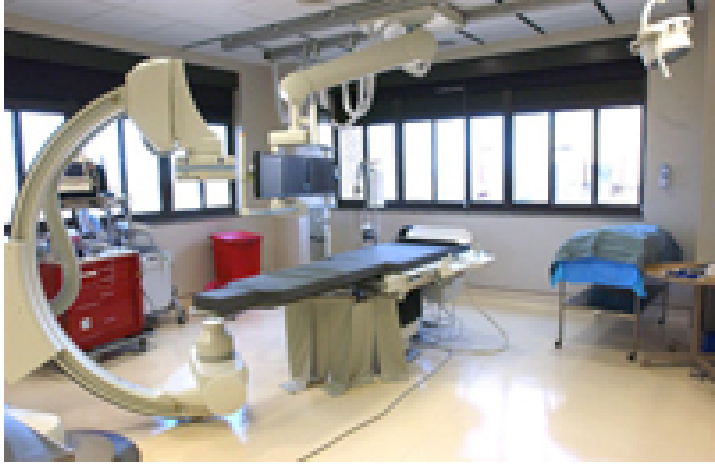


Fayetteville VAMC lobby. Image courtesy of Canon Design.

Architectural Standards and Criteria documents as a basis of design. The IDM is the resource to help build the rationale for options and challenges to those standards.

The IDM is intended to be a companion manual to the Architectural Design Manual. The manual provides check lists to organize the design process from Conceptual Design into Architectural Rules and throughout the Design Approach (http://www.va.gov/facmgt/standard/manuals.asp).

The IDM is also intended to be a companion to the Design Guides. The Design Guides provide functional and space criteria that are integrated with architectural, equipment, and environmental requirements into "guide plates," detailed, illustrative plans for each space (http://www.va.gov/facmgt/standard/dg_idx.asp).



Cardiac catheterization laboratory at VA Pittsburgh Healthcare System. Photo courtesy of the Department of Veterans Affairs

The manual is organized into four sections. Section one is the **Design Principles.** This section will provide VA staff members who participate in project design work a reference place to inspire the best design that meets the vision and mission of VA, recognizes the needs of the veteran patient and becomes an exemplary site for design. Section two is the **VA Design Portfolio,** which is organized by building types and provides a listing of sites that have achieved "best-in-class" design examples. Section three is the **Glossary,** which includes definitions of language used either within the VA system or in the Healthcare and design industry. Section four is labeled **Resource** and provides support web sites internal to VA and external to the design industry.

Left: Doctor and patient from VA's Fiscal Year 2005 Performance and Accountability Report. Photo courtesy of the Department of Veterans Affairs.

Below: Physical therapy at VA Pittsburgh Healthcare System. Photo courtesy of the Department of Veterans Affairs

VA ARCHITECTURAL STANDARDS AND CRITERIA

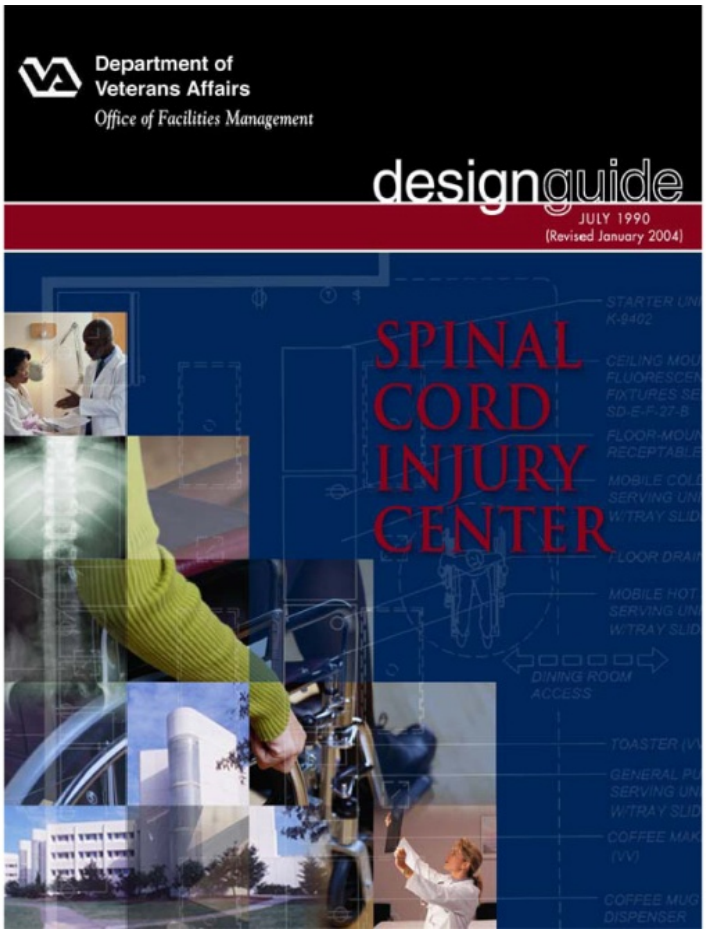
This Manual and the current editions of the following documents, also found in VA's Technical Information Library (http://www.va.gov/facmgt/standard/), comprise VA's architectural standards and criteria:

Design Manuals (http://www.va.gov/facmgt/standard/manuals.asp) – There are a number of Design Manuals falling under the following categories: Auto Transport, Architectural, Asbestos Abatement, Critical Path Method, Electrical, Equipment, Fire Protection, HVAC, Interior Design, Plumbing, Sanitary, Site Development, Specifications, Steam Generation and Distribution, and Structural. The manuals are a guide and a master reference that are expected to be followed in the design and renovation of medical facilities for VA.

Design Guides (http://www.va.gov/facmgt/standard/dg_idx.asp) – These documents include functional and space criteria integrated with architectural, equipment, and environmental requirements that are made into "guide plates" for each space.

Design and Construction Procedures (http://www.va.gov/facmgt/standard/proc_idx.asp) – A collection of VA requirements and guidance on various construction-related topics. Many of them were formerly known as VA "Construction Standards."

Equipment Guide List (http://www.va.gov/facmgt/standard/equipment.asp) – This is a list of equipment, furnishings, and utility requirements for each space in a functional area.



Equipment Reference Manual (http://www.va.gov/facmgt/standard/equiprm.asp) – This manual includes graphic representations of each piece of equipment to be purchased and installed by the construction contractor.

Room Finishes, Door and Hardware Schedule (http://www.va.gov/facmgt/standard/rooms/rooms.doc) – The schedule includes room-by-room standards for interior finishes, doors, and door hardware.

Space Planning Criteria (http://www.va.gov/facmgt/standard/spacework/) – This includes approved space criteria for each room in a functional area, plus "design considerations" for that area, space relationship diagrams, and interfunctional relationship matrices.

Standard Details (http://www.va.gov/facmgt/standard/details.asp) – Standard Details include scale drawings of many specific items and conditions and are to be used as a guide only, except for standard details specifically stipulated by PG-18-3, VA Design and Construction Procedures (http://www.va.gov/facmgt/standard/proc_idx.asp).

Master Construction Specifications (http://www.va.gov/facmgt/standard/spec_idx.asp) – The Master Construction Specifications are the specific requirements that architects, engineers, designers, and contractors must implement into construction documents for a VA building.

Infection-Control Standards – Although no architectural standards explicitly address infection control, it is a basic hospital function and a consideration underlying most of VA's standards and criteria.

Basic separation of clean and soiled material and activities is guided by the Space Planning Criteria (http://www.va.gov/facmgt/standard/spacework/space.asp), particularly by the Design Considerations and Relationship Matrixes and Diagrams.

Frequent hand washing is promoted by adequate and appropriately located lavatories and sinks, as per Space Planning Criteria (http://www.va.gov/facmgt/standard/spacework/space.asp) and the Equipment Guide List (http://www.va.gov/facmgt/standard/equipment.asp).

Isolation of contagious or especially vulnerable patients is provided by isolation rooms or spaces in accordance with Space Planning Criteria (http://www.va.gov/facmgt/standard/spacework/space.asp) and Tuberculosis Facility Guidance (http://www.va.gov/facmgt/standard/tb_idx.asp).

Control of airborne infection in general, as well as in isolation rooms, requires proper design of ventilation systems, as specified in HVAC Design Manual (http://www.va.gov/facmgt/standard/manuals.asp).

General cleanliness (as well as sterility in critical spaces) is facilitated by the following:

Finishes appropriate for each space, as per Room Finishes, Door and Hardware Schedule (http://www.va.gov/facmgt/standard/rooms/rooms.doc).

Detailing of features such as door frames, casework, and finish transitions to avoid dirt-catching and hard-to-clean crevices and surfaces, as shown in Standard Details (http://www.va.gov/facmgt/standard/details.asp) and Equipment Reference Manual (http://www.va.gov/facmgt/standard/equipment.asp).

Adequate and appropriately located and equipped housekeeping spaces, as provided by Space Planning Criteria (http://www.va.gov/facmgt/standard/spacework/space.asp) and the Equipment Guide List (http://www.va.gov/facmgt/standard/equipment.asp).

Outpatient Clinic and Regional Office, Anchorage, Alaska. Image courtesy of the Department of Veterans Affairs.

CONCEPTUAL DESIGN CONSIDERATIONS

DESIGN CONSIDERATIONS

Design Story

The "Design Story" will justify "why" spaces have been designed the way they are, or "why" certain materials have been used that may deviate from the established VA standards. It provides the validation, benchmarking, and "lessons learned" rationalization. The story is a tool for designers to build consensus and gain approval for their design solutions. It should be conceptualized early in the project and become enhanced during all design phases. The design story should be inspired by a patient-centered care delivery model, the military and national patriotism of the patients, and an understanding of veteran-specific disease and illness. It should also recognize the cultural, regional and ethnical differences, and should follow Federal Government codes, directives, rules and regulations. The design story should be inspired by emerging healthcare design, technology, evidence-based design, sustainability, and collaborative resources. This inspiration becomes the basis of the design story. In every sizeable project the whole project team can contribute to the design story. The project team includes all VA staff participants. This includes the Director's Office, Administration, VA Engineers, VA Architects, Environmental Programs staff, care giving staff, and end users that are affected by the project. Patient and family users can bring great perspective.

In medium and small projects there may not be a project team to contribute to the story; therefore, the story can be crafted by the designer, project engineer, in-house engineering trades (if available) and the end users that are affected by the project.

> "In a patient-centered environment, design solutions will respond to the needs of the patient profile both architecturally and through material selections."

Patient Profile

VA staff participating in the development of interior design projects should create a patient profile for their facility. The patient profile is a description of the unique characteristics and needs of the various Veteran patient users and may include cultural, regional, and ethnic

Hand painted mural at the VAMC Battle Creek Community Living Center. Photo courtesy of the Department of Veterans Affairs.

characteristics, to name a few. The description should address both mental and physical characteristics. This profile will help the designer create patient-focused design solutions. Refer to the Demographic material beginning on page 1-8.

In a patient-centered environment, design solutions will respond to the needs of the patient profile both architecturally and through material selections. When VA staff members participating in the development of interior design projects have the opportunity, they should discuss the patient profile benefits with the project team. In patient-centered environments, care givers include the patients in the collaboration of their care; therefore, the benefits of understanding the patient profile affect both the patient and the care givers.

VAMC, Cleveland, Ohio. Photo courtesy of the Department of Veterans Affairs.

Examples of a few specific VA Patient Profile design responses:

- Profile 1 - Post Traumatic Stress Disorder (PTSD)

  Attributes: Mental health patients typically arrive alone and the need for privacy is very great.

  Design Response: Small separated waiting pods are better than one large waiting room.

  VA Site Reference: VA Palo Alto Health Care System, VAMC Cleveland

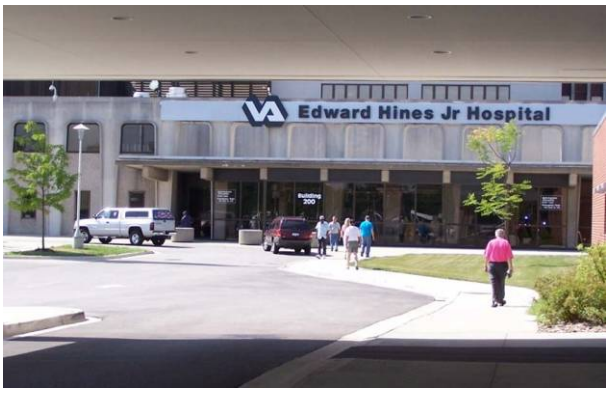
Veteran using treadmill from VA's National Center for Patient Safety 2004 Falls Toolkit. Photo courtesy of the Department of Veterans Affairs.

- Profile 2 –Spinal Cord Injury (SCI)

  Attributes: Patients with conditions ranging from limited physical mobility to complete paralysis.

  Design Response: Empower patients by providing a wireless system to control light, temperature, nurse call, TV, etc.

  VA Site Reference: VAMC Cleveland, VAMC Hines



Edward Hines, Jr. VA Hospital, Chicago, Illinois. Photo courtesy of the Department of Veterans Affairs.

- Profile 3 –POLY Trauma

  Attributes: A Poly Trauma area serves patients that require the environment to take into consideration their multiple disabilities of varying severity and their requirement for support over long periods of time.

  Design Response: High contrast in the environment, such as providing a counter top in one color and the sink in a contrasting color to meet visual impairment issues.

  VA Site Reference: VAMC Minneapolis

  VA Article Reference: The article highlighted in *Time Magazine's* August 27, 2006 issue, "How VA Hospitals Became the Best" explained "how the VA care is acing competitors."

- Profile 4 –Family Support Areas

  Attributes: Physicians need to discuss sensitive and / or confidential patient information with families.

  Design Response: Instead of the traditional consultation room, provide alternative respite spaces outfitted with comfortable and informal seating arrangements and a dignified and calm décor.

  VA Site Reference: VAMC Albany

Demographics. VA staff participating in the development of interior design projects will take into account the demographics of each VA

All VA patient-centered building designs will understand the demographics of each Veteran patient user type. This information will provide the designer with a humanistic understanding of the attributes of veterans as individuals.

Demographics include the basic information of age and sex, but also include the area of military service. Military demographics describe the state, period, and service activity information.

Reference the military census material listed on the following pages to better understanding the demographics of every individual veteran patient user type. The demographic information will provide context for the project team to better appreciate the needs of veterans that use their facility.

Veteran in his "personalized" bedroom at the Miles City, Montana Nursing Home. Photo courtesy of the Department of Veterans Affairs.

VETERANS BY STATE, AGE GROUP, PERIOD, GENDER, 2000-2003

State	Age Group																
	<20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+	Grand Total
Alabama	266	5,726	12,627	15,742	23,371	28,207	34,081	38,791	55,169	49,202	36,995	39,486	35,902	26,525	12,412	2,996	417,497
Alaska	61	1,200	2,235	2,724	4,949	6,229	7,233	8,263	10,444	8,590	5,130	3,328	2,670	1,822	703	184	65,767
Arizona	281	7,319	16,443	20,188	29,215	35,530	41,523	45,041	63,778	64,466	49,533	54,611	52,895	42,153	21,627	5,492	550,095
Arkansas	185	3,889	8,238	10,113	14,655	16,961	20,109	22,818	34,420	30,249	24,504	25,285	21,518	18,559	8,804	2,306	262,613
California	1,826	35,418	67,766	76,532	107,967	139,218	166,276	182,308	272,165	283,791	206,221	202,391	190,771	160,427	86,963	23,686	2,203,727
Colorado	204	5,467	13,505	18,061	28,073	34,175	38,469	40,497	57,105	53,363	34,833	32,622	28,933	20,870	11,024	2,737	419,938
Connecticut	168	2,551	5,233	6,085	9,655	14,274	17,104	17,212	29,292	36,373	25,385	25,623	26,217	21,473	12,064	3,249	251,957
Delaware	50	1,066	2,145	2,514	4,074	5,582	6,766	6,696	9,773	10,272	7,194	7,256	7,203	5,385	2,497	555	79,029
D.C.	24	433	822	1,035	1,811	2,379	2,681	2,700	3,853	4,007	3,183	3,558	3,412	2,830	1,540	537	34,804
Florida	824	20,747	45,976	56,042	81,714	108,744	134,419	134,408	189,458	194,568	155,355	177,594	182,807	158,084	83,558	22,778	1,747,076
Georgia	522	11,490	27,046	35,696	54,577	68,265	77,458	72,060	98,954	90,056	62,413	55,986	47,528	34,371	16,639	4,009	757,070
Hawaii	87	1,694	2,607	2,729	4,599	6,353	7,897	9,164	13,733	13,952	9,514	9,380	9,007	7,720	3,225	734	102,396
Idaho	133	2,706	5,586	6,165	8,133	9,780	10,407	11,403	16,249	15,759	11,617	10,991	9,413	8,436	3,984	1,065	131,827
illinois	749	13,468	27,772	32,206	44,798	51,450	57,095	57,929	111,295	110,406	77,514	81,999	79,473	65,050	32,749	8,455	852,409
Indiana	404	6,868	16,083	20,848	30,853	39,933	43,067	44,029	72,073	66,808	46,697	45,050	45,157	35,386	16,694	4,084	534,033
Iowa	155	3,186	7,097	8,773	12,933	15,768	16,372	18,871	36,656	31,895	21,720	25,712	23,695	19,542	10,037	2,442	254,855
Kansas	152	3,243	6,883	8,405	13,030	15,467	17,494	20,404	33,269	29,610	20,206	21,194	20,351	16,930	8,574	2,353	237,564
Kentucky	236	5,143	10,807	13,295	20,705	25,436	27,249	29,282	49,457	43,004	30,771	30,757	28,718	22,875	10,699	2,753	351,185
Louisina	354	7,226	14,139	15,896	22,450	22,344	25,031	30,639	47,425	41,271	31,014	31,307	29,327	23,551	11,709	2,778	356,461
Maine	78	1,712	3,580	4,302	6,407	9,035	11,309	11,801	18,905	17,774	12,754	14,130	11,867	9,364	4,871	1,174	139,063
Maryland	364	6,557	14,648	18,070	27,427	38,297	43,521	40,722	60,059	57,496	42,104	39,052	36,415	27,782	14,597	3,613	470,722
Massachusetts	215	4,952	10,633	12,981	17,979	25,669	31,446	30,475	56,190	61,344	45,679	48,763	48,038	39,925	21,896	5,899	462,083
Michigan	352	8,750	22,387	30,265	44,313	56,782	57,986	61,656	111,605	105,612	72,562	70,112	70,323	57,231	27,823	6,250	804,011
Minnesota	249	4,234	10,095	13,227	20,233	26,790	30,246	33,153	59,756	54,851	38,386	38,123	35,975	26,977	13,942	3,927	410,166
Mississippi	245	3,993	8,481	10,219	14,022	15,721	19,563	20,876	29,553	26,056	21,244	22,156	19,544	15,196	7,584	1,884	236,338
Missouri	352	6,751	15,410	19,466	29,101	35,993	42,451	45,266	72,262	66,571	46,973	50,736	46,838	37,475	18,018	4,507	538,172
Montanta	98	1,569	3,051	3,499	4,988	6,189	7,226	8,781	13,641	13,729	9,902	8,937	7,882	6,515	3,344	879	100,230
Nebraska	77	2,134	4,809	5,905	8,623	10,121	10,820	12,250	21,177	18,736	13,294	14,796	13,811	10,573	5,382	1,327	153,834
Nevada	177	2,741	6,799	8,921	12,991	16,980	20,110	22,607	31,022	31,897	24,475	22,418	20,006	14,747	6,738	1,665	244,295
New Hampshire	52	1,329	3,344	4,367	6,439	8,991	11,345	10,748	16,670	17,228	12,250	11,483	10,269	7,789	4,038	1,092	127,434
New Jersey	240	6,126	12,322	13,808	20,259	29,682	35,802	34,274	63,412	75,645	53,509	58,414	59,696	49,349	25,914	6,897	545,345
New Mexico	148	2,529	5,147	6,241	9,249	11,251	14,752	16,857	23,792	21,445	15,660	16,081	14,588	11,048	5,618	1,517	175,923
New York	782	13,060	25,636	29,438	44,882	65,313	75,225	73,389	134,286	145,104	105,225	113,647	112,667	94,058	47,920	13,757	1,094,391
North Carolina	469	11,626	24,624	30,436	46,187	58,413	67,266	68,551	96,638	90,100	62,976	66,498	59,814	46,136	21,633	4,849	756,216
North Dakota	49	999	1,763	1,944	2,558	2,959	3,418	4,484	7,864	6,582	4,964	4,779	4,735	3,495	1,886	572	53,048
Ohio	602	12,824	30,708	39,744	56,992	69,954	76,647	77,551	136,243	126,387	88,065	88,698	89,441	74,396	35,817	8,398	1,012,466
Oklahoma	247	5,876	12,009	13,894	18,516	20,967	25,200	30,983	46,356	44,317	31,467	31,421	28,612	22,845	11,338	2,657	346,707
Oregon	164	4,319	10,460	13,363	18,903	23,004	25,498	32,094	49,668	48,417	33,937	29,765	27,020	24,498	12,852	3,356	357,319
Pennsylvania	568	12,250	26,251	31,301	47,608	63,528	70,247	74,264	140,277	139,789	103,719	108,755	111,944	96,853	48,664	12,203	1,088,220
Rhode Island	27	965	2,007	2,422	3,276	5,440	6,485	5,829	11,095	11,516	7,770	8,251	8,736	7,394	4,038	1,078	86,327
South Carolina	406	6,860	14,229	16,672	23,434	30,556	35,628	36,474	54,935	48,638	36,947	36,201	31,435	23,830	11,187	2,650	410,084
South Dakota	63	1,099	2,194	2,551	4,076	4,567	5,161	6,010	9,850	7,785	6,045	6,986	6,579	4,787	2,603	623	70,981
Tennessee	273	6,329	15,564	20,605	30,486	39,228	44,519	47,381	74,187	66,594	48,610	46,177	41,969	31,734	14,783	3,666	532,105
Texas	1,577	29,130	64,086	77,544	106,062	114,833	133,854	154,314	209,064	202,964	139,325	137,316	124,347	96,985	48,889	11,925	1,652,214
Utah	122	2,630	5,226	5,926	7,788	9,586	10,050	12,365	19,042	18,044	12,637	13,376	12,713	10,624	5,374	1,235	145,738
Vermont	20	462	1,127	1,490	2,576	3,901	4,613	4,652	7,228	7,833	5,524	5,265	4,909	3,760	1,801	511	55,670
Virginia	747	14,559	26,705	30,696	46,371	62,905	73,925	72,348	92,698	88,347	59,594	57,230	50,696	37,863	18,270	4,647	737,600
Washington	387	8,555	19,010	24,113	37,211	46,350	53,318	61,012	81,790	83,154	55,984	47,828	41,374	34,451	18,317	4,871	617,723
West Virginia	134	2,428	5,423	6,740	8,589	10,344	11,453	13,643	26,749	23,002	17,872	17,498	16,842	13,610	6,437	1,522	182,285
Wisconsin	211	5,080	12,071	15,487	24,724	29,945	32,608	35,251	62,781	58,670	43,345	44,409	40,544	32,597	15,708	4,019	457,450
Wyoming	58	1,166	2,189	2,319	2,880	3,158	3,698	4,858	7,843	7,225	5,096	4,394	3,942	3,027	1,535	323	53,711
Puerto Rico	117	1,744	2,988	3,044	4,248	6,533	9,071	10,446	14,416	14,460	12,988	16,710	14,656	8,481	4,237	1,055	125,194
Is. Areas & Foreign	80	1,304	2,309	2,822	5,677	8,515	11,148	12,591	15,075	14,855	12,740	10,236	8,467	7,771	6,851	2,185	122,625
Grand Total	**16,433**	**335,482**	**720,292**	**876,868**	**1,282,634**	**1,617,594**	**1,866,341**	**1,980,471**	**3,080,697**	**2,999,809**	**2,163,422**	**2,194,770**	**2,081,691**	**1,685,153**	**855,408**	**219,927**	**23,976,991**

CENSUS 2000: PERIOD OF MILITARY SERVICE FOR CIVILIAN VETERANS 18 YEARS AND OVER

	AL	AK	AZ	AR	CA	CO	CT	DE	DC	FL	GA
August 1990 or later (including Persian Gulf War):	60,227	15,320	66,563	33,386	278,003	67,184	21,180	9,967	4,942	201,065	133,149
Served in Vietnam era	8,484	2,169	7,896	3,775	25,385	8,607	1,619	1,490	325	28,357	14,847
No Vietnam era service:	51,743	13,151	58,667	29,611	252,618	58,577	19,561	8,477	4,617	172,708	118,302
Served Septemeber 1980 or later only:	46,530	11,474	53,723	27,557	235,642	52,626	18,409	7,692	4,295	155,106	106,520
Served under 2 years	10,695	1,449	9,418	6,936	44,678	7,631	4,259	1,578	834	28,523	16,923
Served 2 or more years	35,835	10,025	44,305	20,621	190,964	44,995	14,150	6,114	3,461	126,583	89,597
Served prior to September 1980	5,213	1,677	4,944	2,054	16,976	5,951	1,152	785	322	17,602	11,782
May 1975 to July 1990 only:	61,431	12,565	71,781	36,566	334,578	66,453	34,757	12,082	5,820	231,351	128,362
September 1980 to July 1990 only:	34,311	6,984	40,245	20,780	186,996	37,007	18,629	6,796	3,479	130,870	76,063
Served under 2 years	6,529	953	7,774	4,473	32,370	7,006	3,421	1,047	541	23,970	12,202
Served 2 or more years	27,782	6,031	32,471	16,307	154,626	30,001	15,208	5,749	2,938	106,900	63,861
Other May 1975 to July 1990 service	27,120	5,581	31,536	15,786	147,582	29,446	16,128	5,286	2,341	100,481	52,299
Vientam era, no Korean War, no WWII, no August 1990 or later	126,847	26,148	150,138	79,453	754,682	142,958	87,712	23,680	11,816	444,997	232,891
Vietnam era and Korean War, no WWII, no August 1990 or later	7,714	818	9,154	4,640	29,220	6,655	1,396	1,194	494	30,064	11,156
Vietnam era, Korean War, and WWII, no August 1990 or later	4,016	377	5,500	2,173	22,412	3,820	922	378	468	21,533	5,499
Febrauary 1955 to July 1964 only	46,221	5,750	56,805	31,470	272,408	41,720	37,908	9,217	4,718	185,316	70,764
Korean War, no Vietnam era, no World War II	55,278	4,448	71,943	32,910	301,034	44,532	42,918	10,416	5,430	242,777	73,642
Korean War and World War II, no Vietnam era	7,315	478	10,910	4,447	50,627	6,033	4,560	1,167	967	38,910	9,107
World War II, no Korean War, no Vietnam era	73,515	5,228	115,615	53,716	504,010	64,101	75,822	15,403	9,269	461,291	97,796
Other service only	4,833	420	4,507	2,953	22,366	2,929	2,894	785	560	18,293	6,309
Total	**447,397**	**71,552**	**562,916**	**281,714**	**2,569,340**	**446,385**	**310,069**	**84,289**	**44,484**	**1,875,597**	**768,675**

CENSUS 2000: PERIOD OF MILITARY SERVICE FOR CIVILIAN VETERANS 18 YEARS AND OVER

	HI	ID	IL	IN	IA	KS	KY	LA	ME	MD	MA
August 1990 or later (including Persian Gulf War):	18,312	20,340	97,386	59,009	26,382	33,051	45,366	53,843	14,326	73,287	39,792
Served in Vietnam era	2,413	1,922	6,955	4,233	2,162	4,011	4,367	5,023	1,720	8,862	2,926
No Vietnam era service:	15,899	18,418	90,431	54,776	24,220	29,040	40,999	48,820	12,606	64,425	36,866
Served Septemeber 1980 or later only:	14,246	16,859	85,489	51,524	23,044	26,364	37,902	46,489	11,568	57,333	34,889
Served under 2 years	1,708	2,801	18,982	11,577	5,522	5,009	8,055	11,312	2,421	9,969	8,275
Served 2 or more years	12,538	14,058	66,507	39,947	17,522	21,355	29,847	35,177	9,147	447,364	26,614
Served prior to September 1980	1,653	1,559	4,942	3,252	1,176	2,676	3,097	2,331	1,038	7,092	1,977
May 1975 to July 1990 only:	15,260	16,842	118,086	85,645	31,863	31,562	51,051	49,477	21,341	80,902	63,402
September 1980 to July 1990 only:	746	9,911	69,758	50,924	18,923	18,055	30,478	26,688	11,975	47,844	34,885
Served under 2 years	1,082	1,937	13,981	9,970	4,162	3,889	6,441	5,522	2,068	7,760	6,648
Served 2 or more years	6,864	7,974	55,777	40,954	14,761	14,166	24,037	21,166	9,907	40,084	28,237
Other May 1975 to July 1990 service	7,314	6,931	48,328	34,721	12,940	13,507	20,573	22,789	99,366	33,058	28,517
Vientam era, no Korean War, no WWII, no August 1990 or later	35,738	39,851	289,637	176,218	87,496	79,493	114,213	114,470	46,434	150,518	150,981
Vietnam era and Korean War, no WWII, no August 1990 or later	2,151	1,562	4,033	2,971	1,388	2,608	3,628	4,524	2,142	5,271	2,864
Vietnam era, Korean War, and WWII, no August 1990 or later	1,328	768	1,930	1,217	622	1,168	1,849	2,225	857	3,581	1,786
Febrauary 1955 to July 1964 only	12,010	14,534	120,642	68,273	32,851	27,645	41,250	41,684	17,088	55,388	68,742
Korean War, no Vietnam era, no World War II	13,132	15,054	133,155	74,559	42,299	31,692	47,069	43,980	19,794	55,875	78,706
Korean War and World War II, no Vietnam era	1,389	2,179	11,313	6,512	3,232	3,414	4,204	5,818	2,062	7,320	9,112
World War II, no Korean War, no Vietnam era	19,844	24,358	217,908	110,729	63,292	54,431	68,404	71,894	29,317	87,442	138,650
Other service only	1,423	1,096	9,482	5,343	2,595	2,388	3,584	4,571	1,229	4,646	4,898
Total	**120,587**	**136,584**	**1,003,572**	**590,476**	**292,020**	**267,452**	**380,618**	**392,486**	**154,590**	**524,230**	**558,933**

CENSUS 2000: PERIOD OF MILITARY SERVICE FOR CIVILIAN VETERANS 18 YEARS AND OVER

	MI	MN	MS	MO	MT	NE	NV	NH	NJ	NM	NY
August 1990 or later (including Persian Gulf War):	82,180	38,395	36,848	60,764	11,602	21,751	29,080	12,770	44,908	24,374	104,128
Served in Vietnam era	5,176	3,132	4,122	6,098	1,326	2,971	4,433	1,418	3,283	3,902	7,344
No Vietnam era service:	77,004	35,263	32,726	54,666	10,276	18,780	24,647	11,352	41,625	20,472	96,784
Served Septemeber 1980 or later only:	73,293	33,289	30,154	50,459	9,547	17,240	22,500	10,473	39,253	18,176	92,159
Served under 2 years	14,435	7,234	7,458	10,970	1,889	3,286	3,620	1,863	9,434	2,972	23,458
Served 2 or more years	58,858	26,055	22,696	39,489	7,658	13,954	18,880	8,610	29,819	15,204	68,701
Served prior to September 1980	3,711	1,974	2,572	4,207	729	1,540	2,147	879	2,372	2,296	4,625
May 1975 to July 1990 only:	121,244	57,744	33,355	78,361	12,909	19,767	33,723	20,560	74,589	26,410	162,974
September 1980 to July 1990 only:	73,616	32,946	18,339	43,290	7,270	11,458	18,805	11,086	42,238	14,408	93,160
Served under 2 years	14,230	6,699	3,500	9,202	1,553	2,403	3,408	2,170	7,893	2,583	19,373
Served 2 or more years	59,386	26,247	14,839	34,088	5,717	9,055	15,397	8,916	34,345	11,825	73,787
Other May 1975 to July 1990 service	47,628	24,798	15,016	35,071	5,639	8,309	14,918	9,474	32,351	12,002	69,814
Vientam era, no Korean War, no WWII, no August 1990 or later	276,749	146,799	66,703	173,656	34,199	50,708	71,415	42,815	180,497	57,340	364,061
Vietnam era and Korean War, no WWII, no August 1990 or later	3,355	1,712	4,230	4,871	1,138	1,625	4,475	1,581	2,976	3,180	4,027
Vietnam era, Korean War, and WWII, no August 1990 or later	1,586	978	2,147	2,408	458	583	2,440	919	1,866	1,757	2,290
Febrauary 1955 to July 1964 only	106,430	57,690	25,821	66,555	12,365	18,106	25,804	15,934	84,348	18,065	166,779
Korean War, no Vietnam era, no World War II	118,636	62,681	29,796	77,455	12,885	24,117	28,441	16,880	97,585	21,942	196,018
Korean War and World War II, no Vietnam era	8,946	5,221	3,900	8,126	1,600	1,860	4,662	2,053	8,674	3,286	15,284
World War II, no Korean War, no Vietnam era	186,516	90,206	43,547	114,795	20,413	33,450	36,062	24,594	170,074	32,699	332,779
Other service only	7,931	3,542	3,084	5,280	907	1,222	2,026	932	6,700	1,665	12,824
Total	**913,573**	**464,968**	**249,431**	**592,271**	**108,476**	**173,189**	**238,128**	**139,038**	**672,217**	**190,718**	**1,361,164**

CENSUS 2000: PERIOD OF MILITARY SERVICE FOR CIVILIAN VETERANS 18 YEARS AND OVER

	NC	ND	OH	OK	OR	PA	RI	SC	SD	TN	TX
August 1990 or later (including Persian Gulf War):	118,357	7,805	109,397	48,681	36,587	95,741	8,001	63,972	9,821	70,025	263,192
Served in Vietnam era	13,087	896	8,166	5,503	3,457	8,178	820	8,746	1,114	8,578	29,209
No Vietnam era service:	105,270	6,909	101,231	43,178	33,130	87,563	7,181	55,226	8,707	61,447	233,983
Served Septemeber 1980 or later only:	95,436	6,335	95,464	39,782	31,089	82,491	6,633	49,325	8,024	56,042	215,600
Served under 2 years	15,508	1,313	21,031	8,497	6,101	18,720	1,673	9,253	1,784	11,535	38,805
Served 2 or more years	79,928	5,022	74,433	31,285	24,988	63,771	4,960	40,072	6,240	44,507	176,795
Served prior to September 1980	98	574	5,767	3,396	2,041	5,072	548	5,901	683	5,405	18,383
May 1975 to July 1990 only:	117,407	6,119	155,424	42,982	49,211	145,531	12,559	61,628	9,127	78,796	237,880
September 1980 to July 1990 only:	67,471	3,456	91,349	22,389	27,841	84,937	7,075	35,981	5,162	44,944	129,187
Served under 2 years	10,513	666	18,399	5,062	5,644	16,394	1,510	5,530	1,057	8,717	24,333
Served 2 or more years	56,958	2,790	72,950	17,327	22,197	68,537	5,565	30,451	4,105	36,227	104,854
Other May 1975 to July 1990 service	49,936	2,663	64,075	2,059	21,370	60,600	5,484	25,647	3,965	33,852	108,693
Vientam era, no Korean War, no WWII, no August 1990 or later	226,806	18,780	335,572	116,672	123,113	350,055	27,967	122,615	22,660	171,540	533,801
Vietnam era and Korean War, no WWII, no August 1990 or later	11,272	309	5,538	5,461	3,271	5,706	885	8,034	707	7,022	27,952
Vietnam era, Korean War, and WWII, no August 1990 or later	5,230	69	2,492	2,643	2,074	3,667	621	4,093	324	2,863	15,729
Febrauary 1955 to July 1964 only	77,355	7,454	130,172	39,857	44,036	156,183	11,181	42,217	8,639	61,434	169,650
Korean War, no Vietnam era, no World War II	89,290	8,174	144,768	42,946	43,849	177,394	13,548	44,816	11,738	64,585	179,512
Korean War and World War II, no Vietnam era	9,558	479	12,457	6,742	6,822	17,512	1,749	5,665	1,034	6,919	26,223
World War II, no Korean War, no Vietnam era	129,478	11,604	237,430	66,698	76,939	316,088	25,187	63,607	14,709	91,043	284,458
Other service only	7,893	572	10,757	3,380	3,088	12,911	796	4,324	611	5,914	16,412
Total	**792,646**	**61,365**	**1,144,007**	**376,062**	**388,990**	**1,280,788**	**102,494**	**420,971**	**79,370**	**560,141**	**1,754,809**

CENSUS 2000: PERIOD OF MILITARY SERVICE FOR CIVILIAN VETERANS 18 YEARS AND OVER

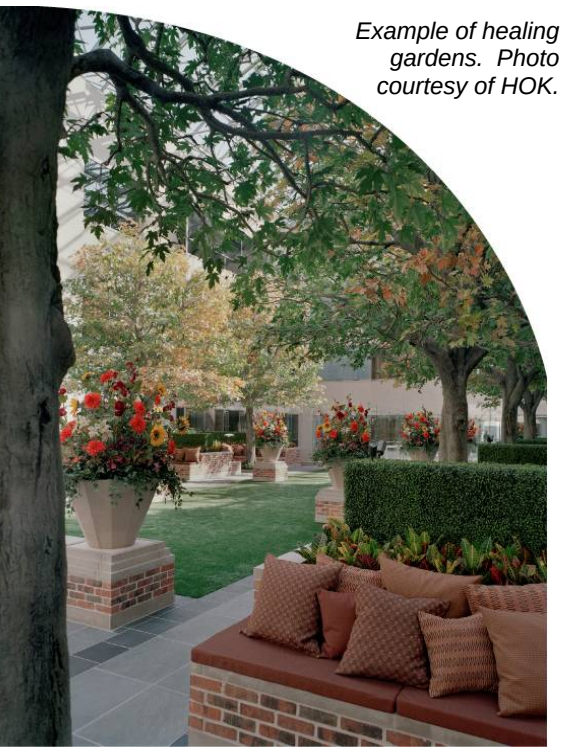
	UT	VT	VA	WA	WV	WI	WY	PR
August 1990 or later (including Persian Gulf War):	21,348	5,146	159,915	94,170	18,723	46,415	8,327	14,761
Served in Vietnam era	2,718	496	27,496	12,478	1,837	3,865	933	1,292
No Vietnam era service:	18,630	4,650	132,419	81,592	16,886	42,550	7,394	13,469
Served Septemeber 1980 or later only:	17,339	4,287	113,204	73,544	16,118	40,128	6,888	12,615
Served under 2 years	4,262	979	16,874	11,347	3,819	8,675	1,235	3,739
Served 2 or more years	13,077	3,308	96,330	62,797	12,299	31,453	5,653	8,876
Served prior to September 1980	1,291	363	19,215	8,048	768	2,422	506	854
May 1975 to July 1990 only:	18,268	8,871	115,601	94,743	21,902	63,164	6,110	18,972
September 1980 to July 1990 only:	10,536	4,727	66,029	53,451	12,741	36,472	3,477	10,016
Served under 2 years	2,500	965	10,182	8,692	2,425	7,099	759	2,137
Served 2 or more years	8,036	3,762	55,847	44,759	10,316	29,373	2,718	7,879
Other May 1975 to July 1990 service	7,732	4,144	49,572	41,292	9,161	26,692	2,633	8,956
Vientam era, no Korean War, no WWII, no August 1990 or later	46,045	19,060	226,908	212,698	61,260	150,679	19,083	35,822
Vietnam era and Korean War, no WWII, no August 1990 or later	1,475	428	13,854	9,326	1,888	1,973	527	1,247
Vietnam era, Korean War, and WWII, no August 1990 or later	924	217	10,184	6,112	553	814	384	726
Febrauary 1955 to July 1964 only	17,047	7,909	66,854	67,566	24,093	67,698	6,573	17,047
Korean War, no Vietnam era, no World War II	19,993	8,090	71,521	64,921	27,410	69,651	6,454	34,577
Korean War and World War II, no Vietnam era	2,439	923	11,020	11,472	2,687	5,074	676	2,337
World War II, no Korean War, no Vietnam era	32,309	11,640	103,986	104,590	41,041	104,290	9,377	18,864
Other service only	1,503	525	6,516	5,030	2,144	4,455	349	1,648
Total	**161,351**	**62,809**	**786,359**	**670,628**	**201,701**	**514,213**	**57,860**	**146,001**

Example of an area of respite. Photo courtesy of HOK.

Healing Environments

VA staff participating in the development of interior design projects will create a Healing Environment Statement for each VA Hospital or care-giving site. That statement will define the Healing Environment Design Goals and Principles.

The Healing Environment statement should recognize the mission statement of each VA facility and the mission of VA. The mission of VA is: "To care for him who shall have borne the battle and for his widow and his orphan." These words, spoken by Abraham Lincoln during his Second Inaugural Address, reflect the philosophy and principles that guide VA, and are the focus of VA's endeavors to serve the Nation's veterans and their families. Reference the mission of VA at the following website: http://www.va.gov/about_va/mission.asp.



Example of healing gardens. Photo courtesy of HOK.

During all phases of the project, from early design development to final design solutions, creating a healing environment is important in a patient-centered environment. All designs should be judged against the Healing Environment Statement to validate the solution meets the goals and principles of the Healing Environment.

Recent VA building designs have been recognized for creating successful Healing Environments. This recognition comes through the application of Planetree principles, or the application of therapeutic programs, or displaying good design in healing gardens to mention just a few.

VA Site Reference: Planetree -

VAMC Albany, NY - VA Healthcare Network, Upstate New York, continues to integrate Planetree Philosophy in all facilities

(www1.va.gov/visns/visn02/network/planetree/docs/planetree.pdf).

VAMC Albany NY, Network 2 Website was selected from among 30 best practice programs for a Planetree Spirit of Caring Award in the core component of Information and Education. The Spirit of Caring Awards recognizes the most innovative programs from around the nation. Network 2 subscribes to the Planetree principles (http://www1.va.gov/visns/visn02/network/planetree/index.cfm) of creating healing environments through patient-centered care. The 2006 award was created by *New Yorker* magazine cartoonist Arnie Levin, and illustrates the Planetree principles (http://www1.va.gov/visns/visn02/website/images/planetree2004b.jpg).

VA Site Reference: Therapeutic -

VA Palo Alto Health Care System, CA - Areas of Service, Recreation Therapy (www.palo-alto.med.va.gov/hcservices/RecTherapyService.asp).

VA Site Reference: Healing Gardens -

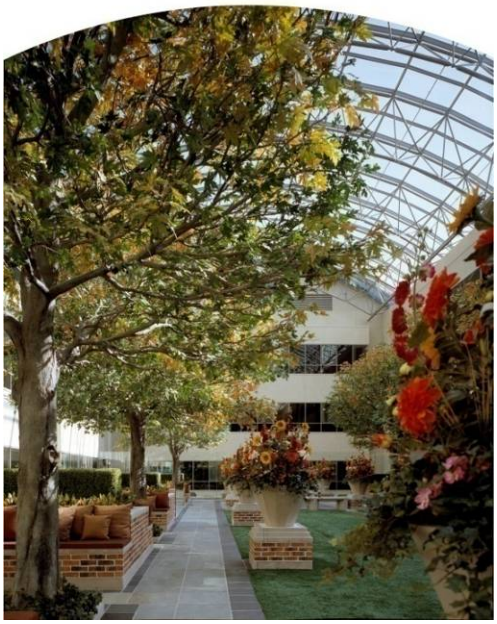
Portland VA Medical Center - The Healing Garden is designed with wide paths to accommodate wheel chairs and hospital beds and many of the

features will trigger the senses, such as tranquil sounds of water and wind chimes and the soothing scents of lavender and mint.

VA Site Reference: Healing Environments -

Pittsburgh, PA - The VA in Pittsburgh is getting underway with a $200 million project on the O'Hara campus. The facility will be enlarged by 264,000 square feet, including a 104,000-square-foot ambulatory care center, a 40,000-square-foot administration building and a residential complex comprised of seven townhouses (around 65,000 square feet total). The residential units will be used by veterans receiving help from VA. The design of the new facilities will incorporate healing elements. The goal is to create healing environments and not healthcare buildings. Plans are also underway to have the new buildings certified as "green" by the U.S. Green Building Council (www.va.gov/pittsburgh/public_affairs_news/va_parking_lot_project_to_break_ground.rtf).

> “...creating a healing environment is important in a patient-centered environment.”



Example of healing gardens. Photo Courtesy of HOK.

VA Site Reference: Evidence-Based Design -

Health Services Research and Development - The Health Services Research and Development (HSR&D) Service pursues research at the interface of healthcare systems, patients and healthcare outcomes. HSR&D underscores all aspects of VA healthcare, specifically quality, access, patient outcomes and healthcare costs. Additional information can be found on VA’s website at: http://www.research.va.gov/programs/hsrd.cfm and http://www.hsrd.research.va.gov/.

There are fifteen HSR&D Centers of Excellence (COE) (http://www.hsrd.research.va.gov/about/centers/centers_of_excellence.cfm) and three Resource Centers (http://www.hsrd.research.va.gov/about/centers/resource_centers.cfm) located throughout the US. In addition, HSR&D's Research Enhancement Award Program (REAP) (http://www.hsrd.research.va.gov/about/centers/reap.cfm) and the Targeted Research Enhancement Program (TREP) (http://www.hsrd.research.va.gov/about/centers/trep.cfm) support the development of other research centers across the country.

VA Site Reference: Evidence-Based Design -

The Richard L. Roudebush VA Medical Center in Indianapolis has partnered with VA Research and Development Service and was designated as a Center of Excellence on Implementing Evidence Based Practice. With the newly funded Research Enhancement Award Program (REAP) the Health Services research will focus on information management for patient centered treatment (http://www.index.va.gov/search/va/va_search.jsp?QT=evidence+based+design).

The healthcare design industry has publications that VA staff participating in the development of interior design projects can reference on Healing Environments. These publications include books, magazines, and articles which can be purchased or ordered through attending or visiting web-sites, conferences and symposiums on Healing Environments.

Healthcare Industry Article Reference: The Healing Environment principles should focus on:

- Positive Self Awareness
- Link to Nature
- Culture
- People
- Sense of Privacy
- Harmless to the Environments
- Meaningful/Diverse Stimuli
- Place for Relaxation
- Interaction with Outside World
- Balance between New and Familiar
- Beauty

From Venolia C. (1990) Healing Environments. *Journal of Healthcare Interior Design*, 2, 127-136.

Healthcare Industry Article Reference: Susan Frampton, Ph.D. President of Planetree. As the President of Planetree, a non-profit organization, Frampton works with a growing alliance of hospitals and health centers around the country and in Europe that have implemented Planetree's unique patient-centered model of care. Prior to her work with Planetree, she spent over twenty years at several hospitals in the New England area. *Putting Patients First: Designing and Practicing Patient-Centered Care*, (J-B AHA Press).

Healthcare Industry Article Reference: Roger Ulrich is Professor of Architecture at Texas A&M University and a Faculty Fellow of the Center for Health Systems and Design, an interdisciplinary center housed jointly in the colleges of Architecture and Medicine. *Therapeutic Environments*, from the Therapeutic Environments Forum, AIA Academy of Architecture for Health. "How Design Impacts Wellness" by Roger Ulrich, PhD, Texas A&M University; Mardelle McCuskey Shepley, D. Arch., AIA.

Example of meaningful / diverse stimuli. Photo courtesy of HOK.

Healthcare Industry Reference:

AIA Guidelines for Design and Construction of Healthcare Facilities ..... www.aia.org
American Academy of Healthcare Interior Designers ..... www.aahid.org/en-us/default.aspx
American Society of Healthcare Environmental Services ..... www.ashes.org
Green Guide for Health Care ..... www.gghc.org

Healthcare Industry Conference Reference:

Center for Health Design Conference ..... www.healthdesign.org/education/conf
Academy of Architecture for Health Conference ..... www.aia.org

Healthcare Industry Magazines Reference:

Healthcare Design Magazine ..... www.healthcaredesignmagazine.com
Journal of Healthcare Design ..... www.healthdesign.org
Building Design and Construction ..... www.bdcnetwork.com
Facility Care ..... www.facilitycare.com

VA Pittsburgh Domiciliary Housing Units, Pittsburgh, Pennsylvania. Image courtesy of the Department of Veterans Affairs.

Physical Environment- The following does not provide a comprehensive list, but is an incomplete collection of concepts that impact the physical environment.

Understand the physical hierarchy of building zones and the corresponding design and material selections. The common zones are: **public, patient, staff** and **service**.

- The **public zone** includes but is not limited to all building entries, lobbies, adjacent circulation, vertical lobbies, retail, spiritual space, conference, and even registration areas.
- The **patient zone** includes but is not limited to any area that a patient circulates and resides in along their journey to receive care. This includes departmental entries, waiting, consults, and exam and treatment spaces as well as patient wards.
- The **staff zone** includes, but is not limited to, offices, work rooms, copy spaces, nurse stations, physician spaces, locker rooms, lounges, conference, and all research areas.
- The **service zone** includes but is not limited to building support spaces (communication, electrical, etc.), utility spaces (soiled and clean linen), stairwells, and housekeeping aide spaces.

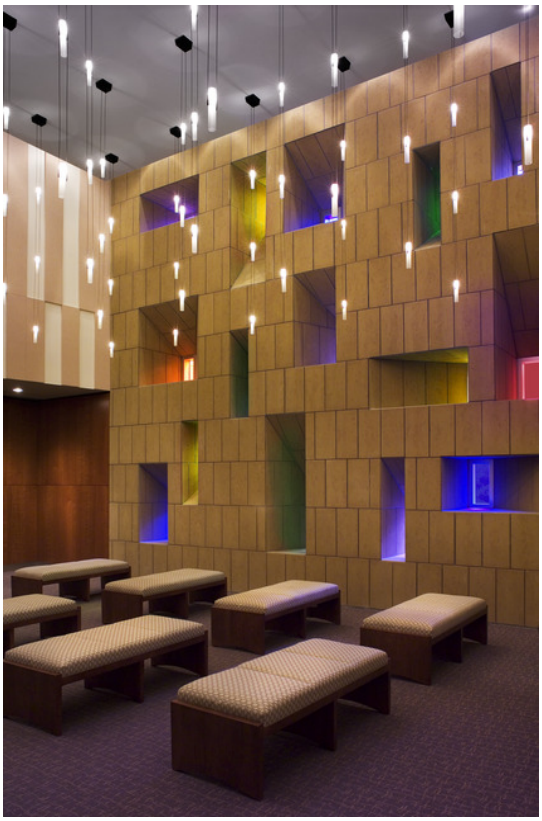
VA staff participating in the development of interior design projects can impact the indoor air quality of their facilities through the products they specify. Existing environments that are effected by sick building syndrome also require careful material selections. VA staff have a responsibility to understand the impact of their specifications on the immediate health of all building occupants, including patients, staff, and visitors. The emissions of building and furniture materials, cleaning products and ventilation of mechanical systems will profoundly affect the quality of the indoor air.

Understand the physical design elements that impact the acceptance of the healing environment such as art, accessories, ceilings, color, floors, furniture/cabinetry, hardware, lighting, linens, music, plants, textures, upholstery, walls and wall coverings, window coverings and wood work.

Building zones. Image courtesy of HOK.

Examples:

- Art: One goal of art is to provide an image that offers stress reduction and a tranquil view.
- Ceiling: The ceiling should provide a positive distraction or indirect lighting where patients are recovering.
- Color: Color perception can impact patients healing. When choosing colors, keep in mind that the elderly experience colors differently.
- Lighting: The lamp color temperature is important because it can change the color of floor and wall materials by dulling or enhancing their color. This can also be affected by direct or indirect lighting.



Design Elements – color. Photo courtesy of HOK.

Design Elements – art. Photo courtesy of HOK.

VA staff participating in the development of interior design projects should be familiar with CARES (Capital Asset Realignment for Enhanced Services - May 2004) to better understand VA's long term goals and how the goals directly impact their facilities. Seventeen sites around the United States were studied with the objective to identify the optimal approach to provide veterans with healthcare equal to or better than is currently provided in terms of access, quality, and cost effectiveness. CARES is VA's effort to produce a logical, national plan for modernizing healthcare facilities.

Examples:

- CARES: 2007 Chicago

  North Chicago VAMC is part of the Veterans Integrated Service Network (VISN) 12, a regional health care system that provides a full spectrum of health care to veterans. North Chicago VAMC serves as the long-term care referral center for this area's medical and mental health patients (www.visn12.med.va.gov/NorthChicago).

- CARES: 2007 Pittsburgh

  This project consolidated a three-division health care delivery system into two divisions to better accommodate current and projected workload. This provides a state-of-the-art improved environment, while reducing operating expenses and enhancing services. This project meets VA's strategic goals of honoring and memorializing veterans as well as increasing contributions to public health research.

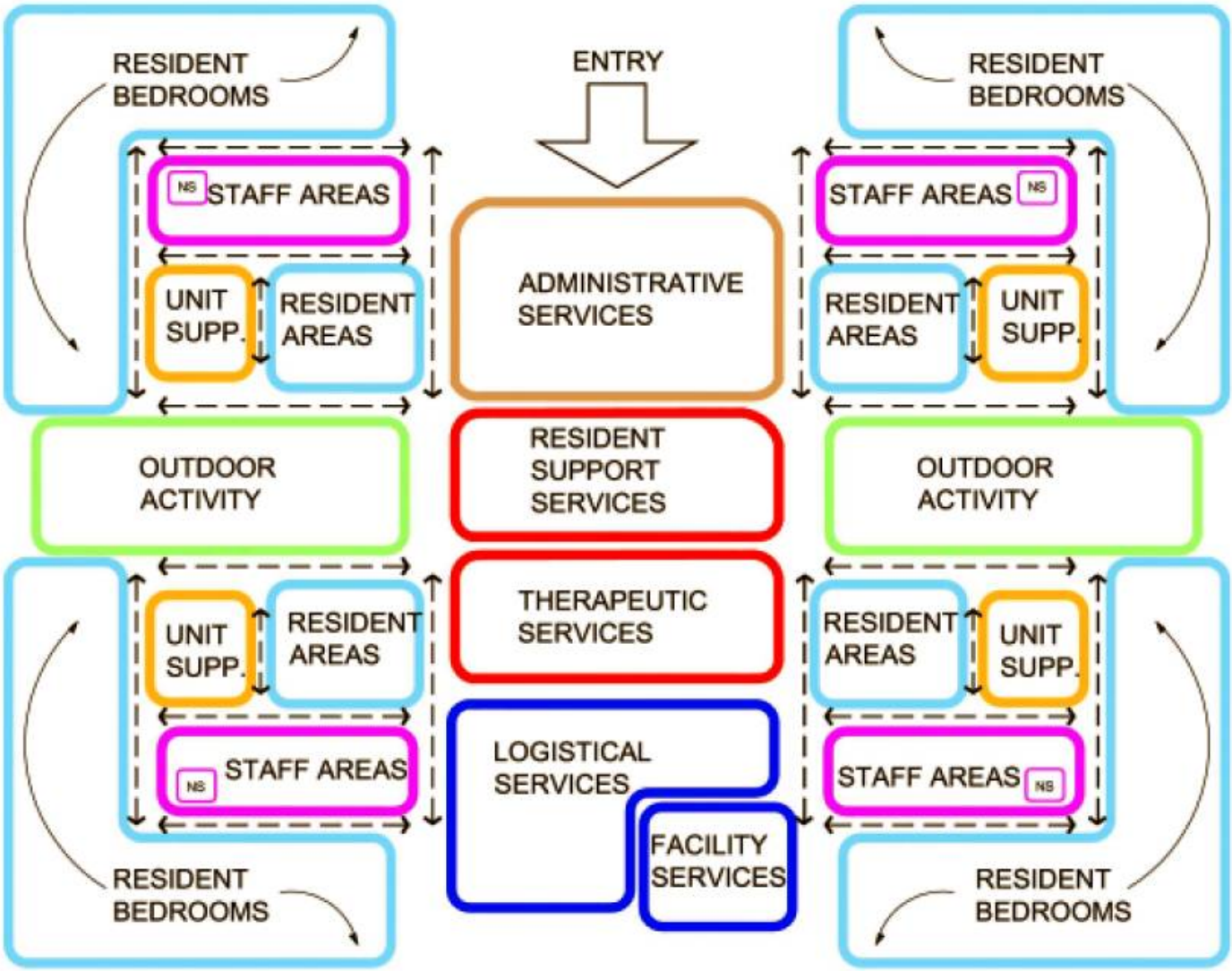
Organizational Planning Understanding
In early conceptual design for all sizeable projects, VA staff participating in the development of interior design projects will need to ask questions about organization planning.

Ask for a copy of the operational narrative if one has been written. This will provide a description of how the department being designed will function every day.

Ask questions on how VA patient-centered care is being planned and delivered by staff in the new space.

Example:

- The Planetree Model is committed to enhancing healthcare from the patient's perspective. It empowers patients and families through information and education, and encourages "healing partnerships" with caregivers to support active participation. Through organizational transformation, the Planetree Model creates healing environments in which patients can be active participants and caregivers are enabled to thrive, i.e., open nursing stations that encourage communication, and pantries that allow family members to access snacks and beverages for the patient.



Nursing home planning diagram. Image courtesy of the Department of Veterans Affairs.

Ask for diagrams that show external adjacency of how that department is supported by other departments. Reference the Space Planning Criteria (http://www.va.gov/facmgt/standard/spacework/).

Nursing home wayfinding – signage. Photo courtesy of the Department of Veterans Affairs.

Use bubble diagrams for internal adjacency to understand how the department will function day-to-day. Reference the Space Planning Criteria (http://www.va.gov/facmgt/standard/spacework/).

Organization planning topics that designer should ask about include:

- Operational assumptions
- Patient volumes and average length of stay
- Patient flow though the department
- Staff volumes - number of people working in the department
- Key rooms in department
- Internal and external functional adjacency
- Departmental needs of the patients and family
- Departmental needs of the staff

Amenities

Amenities can describe patient care services that a VA Hospital offers to patients to create a more hospitality-like environment. Complementary and Alternative Medicine (CAM) is also an amenity.

Examples:

- HOPTEL UNIT- Provides short term and sleeping accommodations for Veterans either before or after a procedure.
- FISHER HOUSE – The Fisher House is a home-away-from-home for families of hospitalized veterans or veterans who are in the area to visit a hospitalized member of their immediate family. Also welcome to stay at the Fisher House are veterans undergoing an extended episode of outpatient therapy who are able to care for their own personal needs or are accompanied by a caretaker.
- WELCOME CARTS – This service is handled by Voluntary Service and supplied through donations from Veteran Groups. The volunteers welcome each in-patient leaving them with items such as a crocheted lap blanket, books, crossword puzzles, toiletries, and other small items.
- ENTERTAINMENT – Coordinated through Music Therapy, this service provides musicians that perform in the main lobby creating a welcoming feel to the space.

VA Site Reference: VAMC Albany, NY

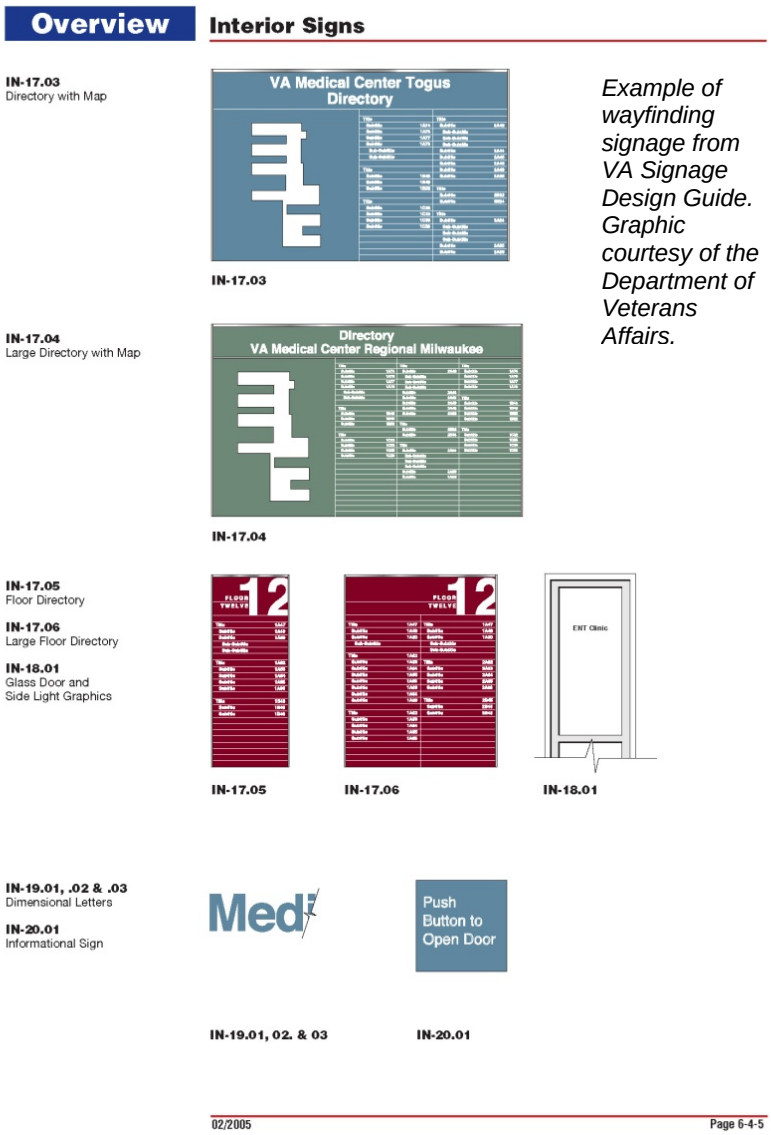
Amenities can describe architectural elements and services available in a building such as phone alcoves, welcome carts, drinking fountains, public and family assist toilets, ATMs, discrete drop off and pick up, concierge, mail and laundry services, and retail shops (including staff uniform shops), among others.

Wayfinding - "Wayfinding" consists of two main elements: orientation ("Where am I?") and navigation ("How do I get there?"). Signs play an active role in the wayfinding process by providing the primary form of communication. Wayfinding in built environments creates a people movement system that is simple to understand and promotes a friendly ease of movement.

Wayfinding should be planned around an intuitive **Orientation to Spaces**. VA staff participating in the development of interior design projects can impact orientation by providing views to the outside whenever possible. These views create a sense of direction for all users, patients, visitors, and staff inside the building.

Wayfinding is the relationship between landmarks and recall. All healthcare journeys start outside the building in parking lots or structures and continue into buildings. Patients and families can use these landmarks as a meeting place or to assist in giving directions.

Wayfinding should have **Consistent Destination Labels**. VA staff participating in the development of interior design projects should partner with their project team, environmental graphic consultants, administration, and management staff to create messaging. Provide consistent, easy to understand destination labels.

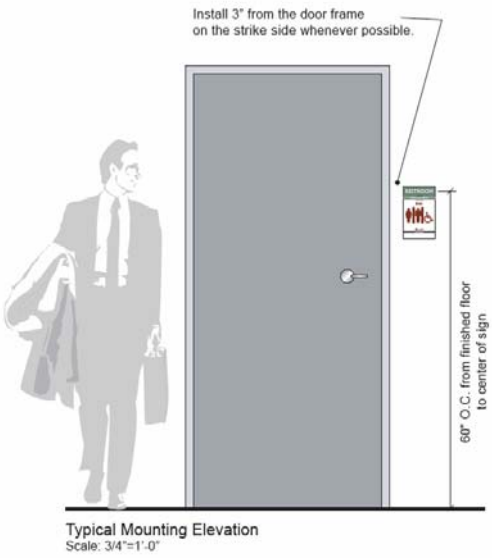


Example of wayfinding signage from VA Signage Design Guide. Graphic courtesy of the Department of Veterans Affairs.

Wayfinding should incorporate the needs of staff and material management movements as well.

Physical building signs are a key element of wayfinding. Wayfinding is partly achieved through signs that are overhead or hung on the wall. VA staff participating in the development of interior design projects should work with the project team and environmental graphic consultants to verify that the signage systems are integrated into the architectural design per the VA Signage Design Guide (http://www.va.gov/facmgt/standard/signage.asp). Signage concepts should limit messaging and avoid visual clutter to minimize confusion.

The VA Signage Design Guide provides signage design and systems guidelines. The guide describes how signage should assist VA customers, visitors, and others as they approach the property, locate buildings, and proceed to functions. Signage should inform in a direct and simple manner.



Example of consistent destination labels. Graphic courtesy of HOK.

Material Appropriateness – All projects should follow the schedule for finishes found in Division 9 of the VA Master Specifications (www.va.gov/facmgt/standard/spec_9.asp).

Occasional deviation for the VA Master Specifications may be required. VA staff participating in the development of interior design projects should justify the deviation and build the evidence to support the modification.

Example:

Rubber floors, which do not require striping and waxing and have cushioning comfort qualities plus acoustical properties, are good for Emergency Departments. The resulting reduction in noise leads to higher patient stratification, under foot comfort qualities, higher staff satisfaction levels, and potentially lower staff injury rates. Life-cycle maintenance costs and long warranties strongly support the consideration of using this type of product.

VA Site Reference: VAMC Chicago

Material deviations should follow VA Codes, Standards, and Executive Orders. See the Design and Construction Procedures, Topic 1, "Codes, Standards and Executive Orders" (www.va.gov/facmgt/standard/cpro/cp_top01.doc).

Materials board, VAMC Biloxi Mental Health Facility Biloxi, Mississippi. Photo courtesy of the Department of Veterans Affairs.

Material deviations should also be coordinated with the local facilities environmental maintenance abilities, facility site and local repair abilities, local manufacturer relationships, and project budget.

Material modifications would be expected if the deviation was to support Sustainable or Green Guidelines. Reference VA Master Specifications for sustainable issues (http://www.va.gov/facmgt/standard/spec_idx.asp), as well as the VA Sustainable Design Manual (http://www.va.gov/facmgt/standard/energy.asp).

Discuss the proposed deviation with the VA Office of Construction and Facilities Management and your project team. Provide all back up material to support the rationale of the deviation.

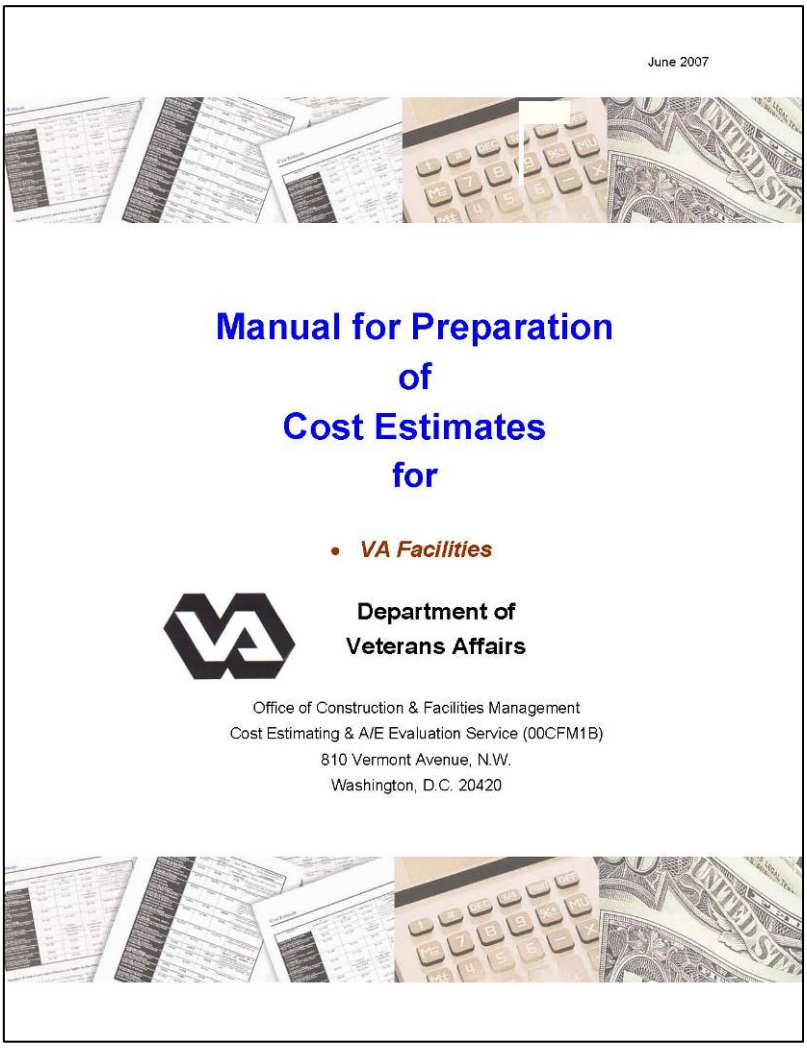
Budget Realism

At the beginning of every project the designer should request an interior finish budget. This budget number should include all finishes applied to the floors, walls and ceilings. The designer is responsible for distributing the budget over the public, patient, staff and service areas. The Designer is responsible for designing to the established budget. The VA Cost Estimating Index can be found online at http://www.va.gov/facmgt/cost-estimating/.

All material choices should be decided with the overall project budget in mind. Break the budget down into floors, walls and ceiling cost. Factor in price escalation for future material purchases. Talk with your estimator, project team or contractor to understand the percent per year they are estimating.

Cost Analysis:

- Purpose: Create a cost analysis for each colored plan (by room). This can be as easy as coloring your rooms finish schedule document.
- Audience: This is a good graphic way to understand the distribution of materials. This is a nice visual to share with the users for them to understand what materials are going to be installed in what rooms.



Cover of Cost Estimating Manual. Graphic courtesy of the Department of Veterans Affairs.

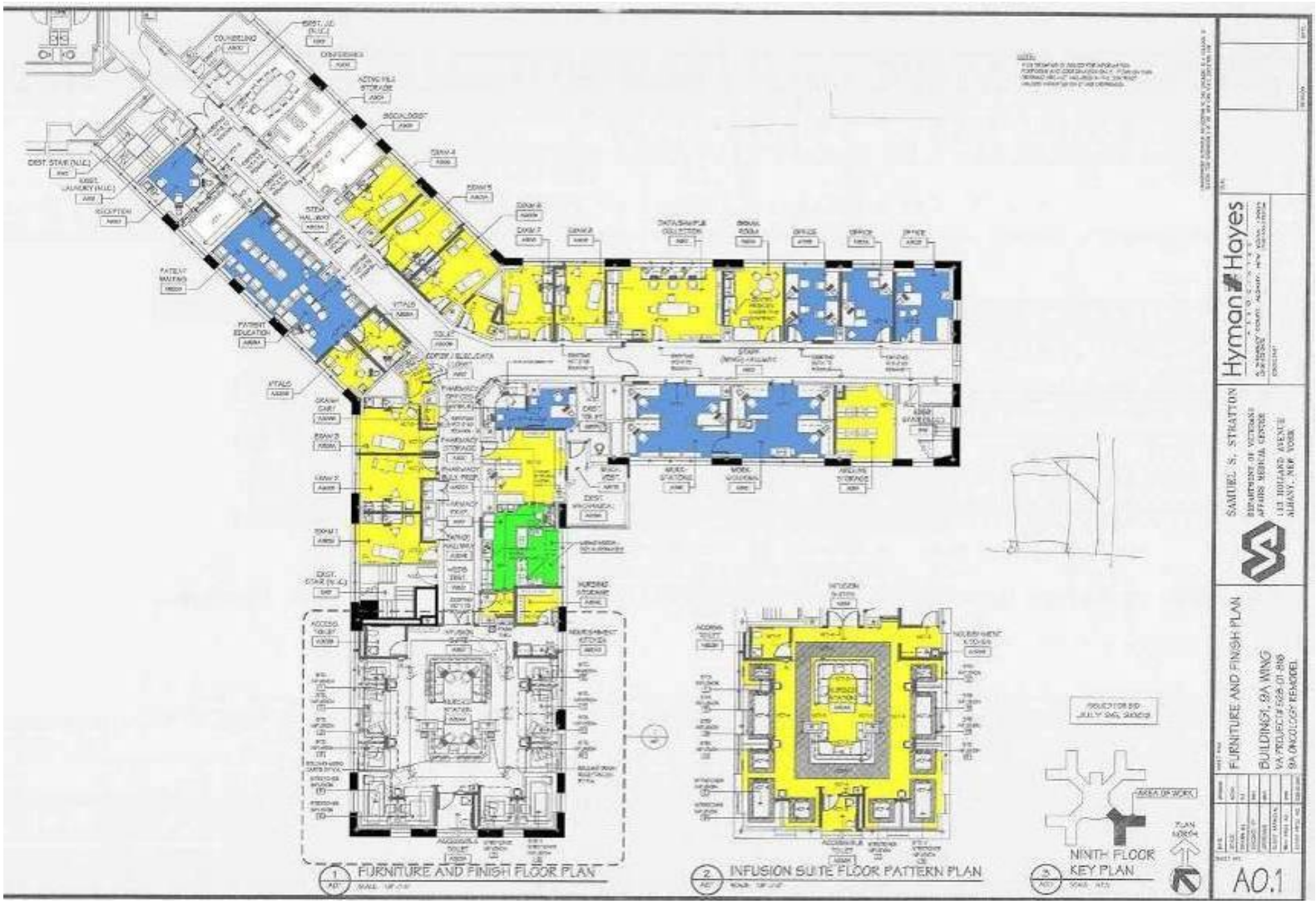
Sample Cost Analysis:

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING			NOTES
				MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	HEIGHT	
A800	COUNSELING	XVCT	B-1		PT-2		PT-2		PT-1		PT-1	E-MSC		9'-0"	
A802	CONFERENCE	XVCT	B-1		PT-1		PT-1		PT-1		PT-1	E-MSC		9'-0"	
A804	ACTIVE FILE STORAGE	XVCT	B-1		PT-1		PT-1		PT-1		PT-1	E-MSC		9'-0"	
A806	SOCIALOGIST	XVCT	B-1		PT-1		PT-1		PT-1		PT-1	E-MSC		9'-0"	
A806	EXAM 4	VCT-3	B-1	E-GWB	PT-2	GWB	PT-2	E-GWB	PT-2	E-GWB	PT-2	E-MSC		9'-0"	
A807A	EXAM 5	VCT-3	B-1	E-GWB	PT-2	GWB	PT-2	GWB	PT-2	GWB	PT-2	E-MSC		9'-0"	
A807B	EXAM 6	VCT-3	B-1	E-GWB	PT-2	E-GWB/GWB	PT-2	GWB	PT-2	GWB	PT-2	E-MSC		9'-0"	
A807B1	TOILET	VCT-3	B-1	E-GWB	FRP/PT-2	E-GWB/GWB	FRP/PT-2	E-	PT-2	E-GWB/GWB	PT-2	E-MSC		9'-0"	
A808	EXAM 7	VCT-3	B-1	E-GWB	PT-2	GWB	PT-2	E-	PT-2	E-GWB/GWB	PT-2	E-MSC		9'-0"	
A808	EXAM 8	VCT-3	B-1	E-GWB	PT-2	E-GWB/GWB	PT-2	E-	PT-2	E-GWB/GWB	PT-2	E-MSC		9'-0"	
A810	DATA/ SAMPLE COLLECTION	VCT-2	B-1	E-GWB	PT-3	E-GWB/GWB	PT-3	E-GWB/GWB	PT-3	E-GWB/GWB	PT-3	E-MSC		9'-0"	
A814	BREAKROOM	VCT-2	B-1	E-GWB	PT-3	GWB	PT-3	E-GWB	PT-3	E-GWB/GWB	PT-3	E-MSC		9'-0"	
A816	OFFICE	CPT-2	B-1	E-GWB	PT-3	E-GWB/GWB	PT-3	E-GWB/GWB	PT-3	GWB	PT-3	E-MSC		9'-0"	
A816A	OFFICE	CPT-2	B-1	E-GWB	PT-3	GWB	PT-3	E-GWB	PT-3	E-GWB/GWB	PT-3	E-MSC		9'-0"	
A816B	OFFICE	CPT-2	B-1	E-GWB	PT-3	E-GWB	PT-3	E-GWB	PT-3	GWB	PT-3	E-MSC		9'-0"	
A84	ARCHIVE STORAGE	VCT-1	B-1	E-GWB/GWB	PT-3	E-GWB	PT-3	E-GWB	PT-3	GWB	PT-3	E-MSC		9'-0"	
A895	WORKSTATIONS	CPT-1	B-1	GWB	PT-3	GWB	PT-3	E-GWB	PT-3	E-GWB/GWB	PT-3	E-MSC		9'-0"	
A896	WORKSTATIONS	CPT-1	B-1	E-GWB/GWB	PT-3	E-GWB/GWB	PT-3	E-GWB	PT-3	E-GWB	PT-3	E-MSC		9'-0"	
A898A	PHARMACY OFFICE	CPT-2	B-1	E-GWB/GWB	PT-3	E-GWB/GWB	PT-3	E-GWB/GWB	PT-3	E-GWB	PT-3	E-MSC		9'-0"	
A898B	PHARMACY OFFICE	CPT-2	B-1	E-GWB/GWB	PT-3	E-GWB/GWB	PT-3	E-GWB/GWB	PT-3	E-GWB	PT-3	E-MSC		9'-0"	
A900	PHARMACY STORAGE	VCT-3	B-1	E-GWB/GWB	PT-3	E-GWB/GWB	PT-3	E-GWB/GWB	PT-3	E-GWB	PT-3	E-MSC		9'-0"	
A900A	PHARMACY BULK PREP.	VCT-3	B-1		PT-3	E-GWB/GWB	PT-3		PT-3	E-GWB	PT-3	E-MSC		9'-0"	
A901	PHARMACY PREP.	SAT	B-1	E-GWB/GWB	PT-3	E-GWB/GWB	PT-3	GWB	PT-3	E-GWB/GWB	PT-3	E-MSC		9'-0"	
A902	MEDS. DISTRIBUTION	VCT-3	B-1	GWB	PT-3	GWB	PT-3	E-GWB/GWB	PT-3	E-GWB/GWB	PT-3	E-MSC		9'-0"	
A903	ACCESSIBLE TOILET	VCT-3	B-1	GWB	PT-2	GWB/WR/GWB	CT-1/PT-2	E-GWB/WR/GWB	CT-1/PT-2	GWB	PT-	E-MSC		9'-0"	
A903A	ACCESSIBLE TOILET	VCT-3	B-1	E-GWB	PT-	GWB/WR/GWB	CT-1/PT-2	GWB/WR/GWB	CT-1/PT-2	GWB	PT-	E-MSC		9'-0"	
A904	INFUSION SUITE	VCT-	B-1	E-GWB/GWB	PT-	E-GWB/GWB	PT-	E-GWB/GWB	PT-	E-GWB/GWB	PT-	E-MSC/ACT		9'-0"	* SEE ADJ FOR VCT TILE COLORS AND PATTERN
A904A	NURSING STATION	VCT-	B-1	E-GWB/GWB	PT-	E-GWB/GWB	PT-	E-GWB/GWB	PT-	E-GWB/GWB	PT-	E-MSC/ACT		9'-0"	* SEE ADJ FOR VCT TILE COLORS AND PATTERN
A904B	NOURISHMENT/KITCHEN	VCT-	B-1	GWB	PT-	E-GWB	PT-	GWB	PT-	GWB	PT-	E-MSC		9'-0"	* SEE ADJ FOR VCT TILE COLORS AND PATTERN
A904C	NURSING STORAGE	VCT-	B-1	GWB	PT-	E-GWB	PT-	GWB	PT-	GWB	PT-	E-MSC		9'-0"	
A905A	EXAM 1	VCT-3	B-1	E-GWB/GWB	PT-2	E-GWB	PT-2	E-GWB	PT-2	E-GWB	PT-2	E-MSC		9'-0"	
A905B	EXAM 2	VCT-3	B-1	GWB	PT-2	E-GWB	PT-2	E-GWB/GWB	PT-2	E-GWB	PT-2	E-MSC		9'-0"	
A906A	EXAM 3	VCT-3	B-1	E-GWB/GWB	PT-2	E-GWB/GWB	PT-2	GWB	PT-2	E-GWB	PT-2	E-MSC		9'-0"	
A906B	CRASH CART	E-VCT	B-1	E-GWB	PT-2	E-GWB	PT-2	GWB	PT-2	GWB	PT-2	E-MSC		9'-0"	
A907	COFFEE/ BLEED/ IV CLOSET	E-VCT	B-1	E-GWB/GWB	PT-1	E-GWB	PT-1	E-GWB/GWB	PT-1	GWB	PT-1	E-MSC		9'-0"	
A908A	VITALS	VCT-3	B-1	GWB	PT-1	E-GWB	PT-1	GWB	PT-1	GWB	PT-1	E-MSC		9'-0"	
A908B	VITALS	VCT-3	B-1	GWB	PT-1	E-GWB	PT-1	E-GWB	PT-1	GWB	PT-1	E-MSC		9'-0"	
A909A	PATIENT EDUCATION	CPT-2	B-1	E-GWB	WC-1	GWB	PT-1	E-GWB	WC-1			E-MSC		9'-0"	
A909B	PATIENT WAITING	XVCT	B-1	E-GWB/GWB	WC-1		*	E-GWB	PT-1	GWB	*WC-1	E-MSC		9'-0"	* SEE ADJ FOR VCT PATTERN, ** SEE ELEVATION XXXX
A930	RECEPTION	CPT-1	B-1	GWB	PT-1	GWB	*	E-GWB	PT-1	E-GWB	PT-1	E-MSC		9'-0"	* SEE ELEVATION XXXX
A930	RECEPTION	CPT-1	B-1	GWB	PT-1	GWB	*	E-GWB	PT-1	E-GWB	PT-1	E-MSC		9'-0"	* SEE ELEVATION XXXX

Sample Room Finish Schedule. Graphic courtesy of the Department of Veterans Affairs.

Sample wall and ceiling material diagram:



Wall and Ceiling Materials Purpose: Create colored plans by room for floor, wall and ceiling materials.

Audience: This is a good graphic way to understand the distribution of materials. This is also a nice visual to share with the users to help them to understand what materials are going to be installed in what rooms.

Methods used to create these materials may include:

- *Electronic*: Adobe Photoshop, Illustrator, or InDesign; AutoCAD; Microsoft PowerPoint
- *Manual*: Printed plans colored by hand in marker or other medium and scanned for electronic archives.

VA staff participating in interior design projects project needs access to construction budgets for wall protection, lighting, and specialty millwork for every project. The designer should design to each of these budgets. Reference the Cost Estimating documents found online at http://www.va.gov/facmgmt/cost-estimating/.

Wall Protection:

Create wall protection type distribution plans to track how and where budget dollars are being spent.

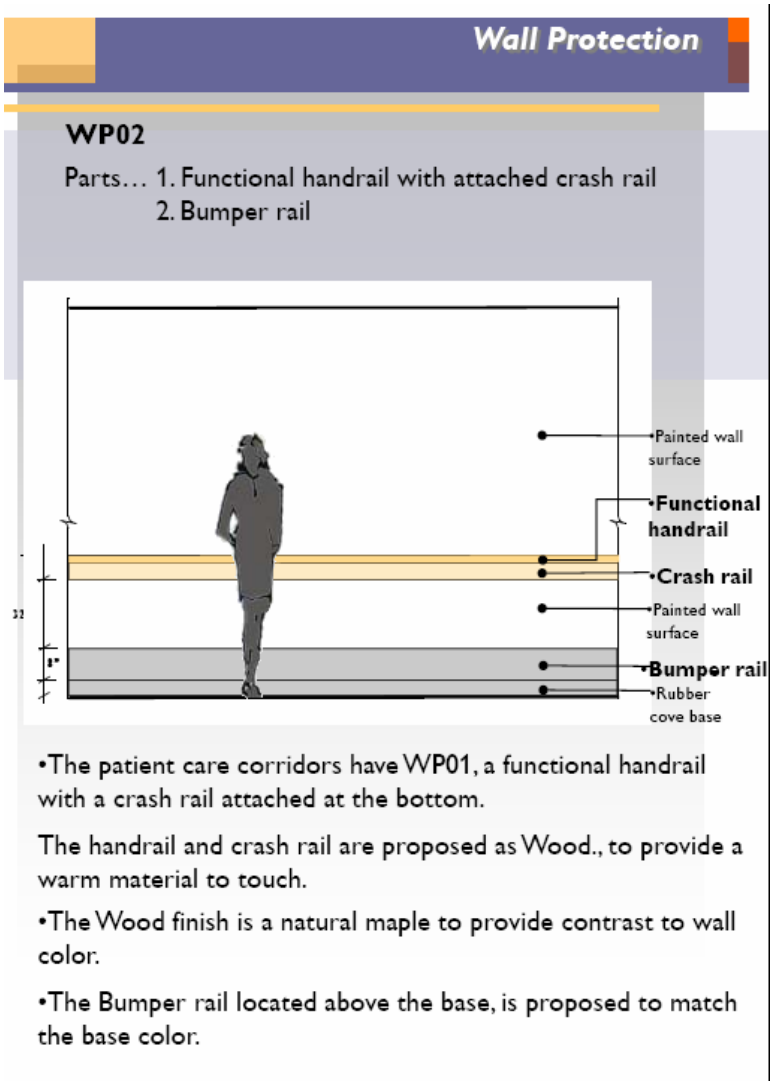
Methods used to create these materials may include:

- *Electronic*: Adobe Photoshop, Illustrator, or InDesign; AutoCAD; Microsoft PowerPoint
- *Manual*: Printed plans colored by hand in marker or other medium and scanned for electronic archives

Ask early on in each project what the trade demands and geographical cost effects are on your project material and labor pricing. This could impact unit material cost.

Funding Structure - VA has four levels of funding construction projects. Each level is defined by size and cost. VA staff participating in interior design projects should be aware that some or all of the funding structures may be affected.

Station Level Projects - Construction, renovation or nonrecurring maintenance and repair projects where the minor improvement (MI) costs are less than $25,000. Total project costs must be less than $150,000. Station level projects are funded as a lump sum figure in the non-recurring maintenance program.



Wall protection direction.
Graphic courtesy of HOK.

Non-Recurring Maintenance (NRM) - NRM projects provide for replacement or repair of major building systems, structural components of buildings and building service equipment where MI exceeds $25,000. There is no upper cost limitation on NRM projects except that the MI must be less than $500,000. NRM funds are a part of the Medical Care Appropriation and are allocated by the Veterans Integrated Service Network (VISN).

Minor Projects - Work that encompasses structural changes or alterations, additional space, new or expanded utilities, fixed equipment, modernization and space utilization changes to buildings, structures or grounds. Includes maintenance and repair projects where the minor improvement exceeds $500,000. Minor funds are a specific congressional appropriation and are allocated by the VISN.

Major Projects - All projects where the estimated total project costs exceed $7,000,000. Major projects require a line item congressional appropriation.

SICU of the VA Jesse Brown Medical Center, Chicago, Illinois. Photo courtesy of the Department of Veterans Affairs.

CHECK LIST

DEPARTMENT OF VETERANS AFFAIRS
Office of Facilities Management
Interior Design Manual

		Conceptual Design Considerations	reference
		Design Considerations	
1	●	Design Story	
2	●	Patient Profile	
3	●	Demographics	
4	●	Healing Environment	
5	●	Physical Environment	
6	●	Organizational Planning Understanding	
7	●	Amenities	
8	●	Wayfinding	
9	●	Material Appropriateness	
10	●	Budget Realism	

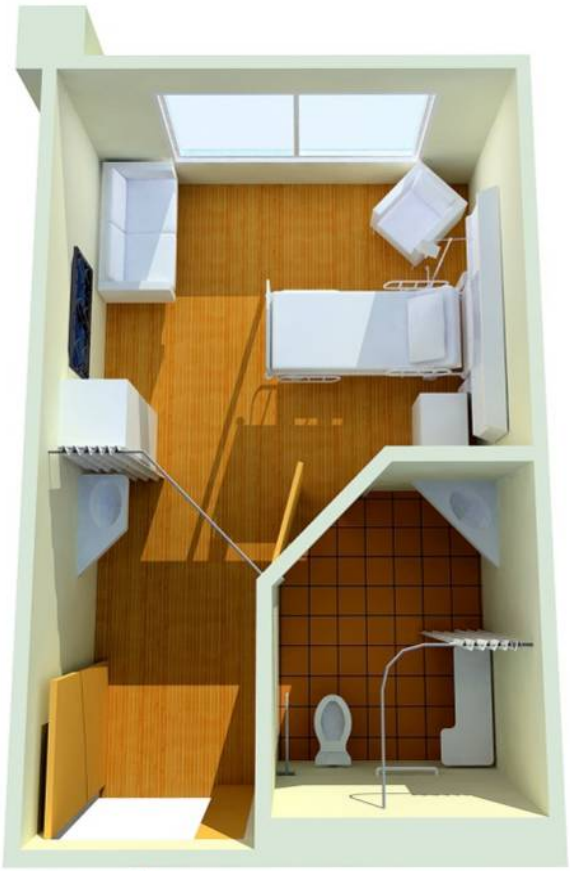
EMERGING HEALTHCARE DESIGN

It is important for Designers to understand the difference between designs fads and trends. Design fads come and go, but trends typically surface and become new way of doing design. Healthcare trends evolve with new products and technology. This section is intended to be a "Living Document" and content should be regularly reviewed and updated as required.

FUTURE FLEXIBILITY

Acuity Adaptable Patient Rooms - A patient room that can swing from Med-Surg to ICU with minimal equipment cost and no construction.

Intensive Care Room. Image courtesy of Canon Design.



Standard Room. Image courtesy of Canon Design.

Universal Patient Rooms – A patient room that can immediately swing from Med-Surg to ICU with no equipment or construction cost.

PATIENT ROOM DESIGN

Single Patient Rooms – Single Patient Rooms have a maximum occupancy of a single patient. In 2006 VA studied the adoption of single bed patient room for all future VA construction projects. In 2007 the single bed patient room study results will be available on line. Reference http://www.va.gov/facmgt/standard/dg_idx.asp. The AIA endorsement of the single handed patient room came in 2006 and the endorsement is available at www.aia.org.

Inboard versus Outboard Toilet – This refers to the location of the toilet with relation to the room. Inboard means the toilet is just inside the footprint of the room and the outboard toilet means the toilet is on the outside of the room or exterior wall. The location of the toilet affects the footprint of room, visibility into the room, and the function of the room.

Same Handed Patient Rooms – All same handed patient rooms have the same footprint and do not share plumbing or medical gas lines. Furniture and utility placement is the same in all rooms. This technique is used to reduce medical errors.

Isolation Room. Image courtesy of Canon Design.

Lobby rendering. Image courtesy of Canon Design.

QUALITY IMPROVEMENT (IHI)

Safety - Safety is a major concern in all healthcare facilities. Safety includes both the safety of patients and staff. One example of a patient safety concern is patients falling when getting out of bed to go to the bathroom, where most patient slips and falls occur. One example of a staff safety concern is injury at work while pushing carts or patient beds on carpeting.

VA Article Reference: The article highlighted in *Business Week's* July 17, 2006 issue, "The Best Medical Care in the US" shared some of the technology currently being used by VA.

Patient Safety - VA has many resources available on the topic of patient safety from facilities development to providing information and tools that urge veterans and their families to become part of the VA patient safety team. Reference the following web sites: http://www.va.gov/ncps/patients.html and http://www.va.gov/ncps/vision.html.

HIGH-PERFORMANCE HEALTHCARE FACILITIES

VA provides the same patient care services as the private sector plus more unique services not offered by the private sector. Veterans require unique patient care services including but not limited to Post Traumatic Stress Disorder (PTSD), specialty rehabilitation, comprehensive domiciliary care, spinal cord injuries, cardio thoracic and homeless rehabilitation.

Staff recruitment/retention - Healthcare facilities that are partnered with a teaching and/or research component are very focused on staff recruitment and retention. These partners bring modern medicine advances, accreditations, and patients.

VA staff participating in the development of interior design projects should reference the Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding (MOU) (http://www.va.gov/facmgt/standard/etc/moufinal.pdf). The goal and objective of the MOU was to seek, establish, and follow a common set of sustainable guiding principles for integrated design, energy performance, water conservation, indoor environmental quality, and material selection aimed at helping Federal agencies and organizations build and operate more sustainable facilities.

HOSPITAL'S MARKET COMPETITIVENESS

VA hospital market competitiveness is very different from the private sector institutions in many ways. The following is not comprehensive, but offers a sample comparison of those differences.

Reduce Operations Cost

Private Sector Response: The healthcare costs grow every year and the industry is very aware of the need to be able to pass on savings to their customers. Not-for-profit systems watch how building dollars are spent and want to build comfortable healing spaces for the least amount of money.

VA Response: "Significant changes in healthcare delivery over the past decade have created the need to revitalize and reorganize VA healthcare infrastructure to better serve the nations veterans. VA is one of the largest integrated healthcare delivery systems in the world; VA faces intuitional and cultural challenges to keep pace with the

demand associated with delivering care to veterans. These challenges drive the CARES process, which is the most comprehensive review of VA healthcare infrastructure

ever conducted. As such, it provides an unprecedented opportunity to enhance healthcare for veterans." Reference CARES commission report 3 of 7 (http://www.carescommission.va.gov/ReportFull.asp).

Market Share

Private Sector Response: The private sector healthcare market share is very competitive. The market is affected by people, including staff, physicians, and the educated public. Competition is heightened by the demands of the educated public, patient, and family. They have choices in provider locations and self selections by patients are common.

VA Response: The number of veterans is projected to decline 16 percent by FY 2012, from approximately 25 million in FY 2002 to fewer than 21 million by FY 2012. The number of veterans enrolled in VA healthcare is projected to increase from 6 million enrollees in FY 2001 to 6.3 million by FY 2012, and then to decreases to 5.7 million by FY 2022.

Care Delivery Models

Private Sector Response: The private sector healthcare delivery model is reactive to patient illness and driven by reimbursements.

VA Response: VA maintains its leadership role and dedication to excellence in providing specialized services and groundbreaking research in such areas as treatment of spinal cord injury and rehabilitation for the blind.

CODES AND STANDARDS

HIPAA – This is the Health Insurance Portability and Accountability Act of 1996 Standard for Privacy of Individually Identifiable Health Information Federal Register-45 CFR Parts 160/164.

Designers should be aware that there are some HIPAA elements that affect the architecture. These include:

- *Physical Safeguards* - building response to patient information
- *Structural Barriers (walls)* - response to patient confidentiality between rooms
- *Sound Masking (music, white noise, baffled ceiling, or wall coverings)* – building response to patient information being over heard by others
- *Placement of Computer Screens, Printers and Faxes* – building response to patient information being visible to others
- *Storage Device* – building response to patient records being stored safety and out of reach of others
- *Disposal Programs* - building response to patient information being destroyed so not accessible to others

VA has participated in a study at the Ann Arbor Healthcare System. The objective of this study was to elicit informed input from veterans using a deliberative democracy approach. The background/rationale was: The HIPAA privacy rule went into effect in spring 2003 and included new regulations regarding when and by whom individually identifiable health information (PHI) can be used and disclosed. Under the rule, individual authorization to access PHI is required from every study participant, even for minimal-risk research, unless three criteria are met. However, the three criteria include non-specific language, allowing wide latitude for Institutional Review Board (IRB) interpretation. For further information, reference http://www.hsrd.research.va.gov/research/abstracts.cfm?Project_ID=2141692650&UnderReview=no.

Honor/Pride of the Military – VA staff participating in the development of interior design projects should be able to balance the honor and pride of the military while being sensitive to emotions of veterans and creating good design.

Military Images – The use of military images can be done well if the designer works with a team. For example, include PTSD staff in art selection. Their input is important because they are talking with patients. A general rule for use of military images is to avoid using images that represent acts of war.

Memorabilia Gallery, Wilkes-Barre VAMC, Wilkes-Barre, Pennsylvania. Photo courtesy of the Department of Veterans Affairs.

Dedications and Recognition Walls – VA staff participating in the development of interior design projects should help to promote local area veterans.

Quotes – Some VA facilities display these two quotes as inspiration:
"To care for him who shall have borne the battle and for his widow and his orphan"

- Abraham Lincoln, 1885

"The price of freedom is visible here"

- Unknown

TOPIC 1 – CODES, STANDARDS AND EXECUTIVE ORDERS

PURPOSE: The Public Buildings Amendment Act of 1988, Public Law (Pub. L.) 100-678 requires Federal agencies to follow national recognized "model" building codes. The Federal Participation in the Development and Use of Voluntary Standards, Office of Management and Budget (OMB) Circular A-119, requires all executive agencies to rely on voluntary standards, both domestic and international, whenever feasible, and to participate in voluntary standard bodies.

GENERAL: VA has adopted the latest edition of the following codes and standards as a minimum for all projects performed in the modernization, alteration, addition, or improvement of its real property and the construction of new structures. VA design Manuals and Master Specifications specify other codes and standards that VA follows on its projects:

- VA Directives, Design Manuals, Master Specifications, VA National CAD Standard Application Guide, and other Guidance on the Technical Information Library (TIL) (http:\\www.va.gov/facmgt/standard/).
- Occupational, Safety and Health Administration (OSHA) Standards.
- International Building Code (IBC)
- VA Seismic Design Requirements, H-18-8
- National Electrical Code (NEC)
- National Fire Protection Association (NFPA) Codes, with the exception of NFPA 5000 and NFPA 900
- National Standard Plumbing Code (NSPC)
- Safety Code for Elevators and Escalators, American Society of Mechanical Engineers (ASME) A 17.1.
- ASME Boiler and Pressure Vessel Code
- ASME Code for Pressure Piping
- Uniform Federal Accessibility Standards (UFAS) including VA Supplement, Barrier Free Design
- Building Code Requirements for Reinforced Concrete, American Concrete Institute (ACI 318 – 2) and Commentary (ACI 318 – R2)
- Manual of Steel Construction, Load and Resistance Factor Design Specifications for Structural Steel Buildings, American Institute of Steel Construction (AISC)
- Energy Code for New Federal Commercial and Multi-Family High Rise Residential Buildings: Final Rule. Mandatory for New Federal Buildings, Department of Energy (DOE) regulations, 10 Code of Federal Regulations (CFR) Parts 434 and 435.
- The Provisions for Construction and Safety Signs. Stated in 01 00 00 General Requirements (previously Section 01010) of VA Master Construction Specification.
- Greening the Government through Efficient Energy Management – Executive Order 13123.
- Greening the Government through Leadership in Environmental Management – Executive Order 13148.
- Ventilation for Acceptable Indoor Air Quality – ASHRAE Standard 62.1- 2004.
- Safety Standard for Refrigeration Systems – ASHRAE Standard 15 – 2004.
- Conflicts between Nationally Recognized and Standards and VA Requirements – Should a conflict exist between VA requirements and VA adopted nationally recognized codes and standards, the conflict shall be brought to the attention of VA. The resolution of the conflict shall be made by the authority having jurisdiction for VA to ensure a consistency system wide.

Local Codes: As an agency of the federal government, VA is not subject to local imposition of code enforcement procedures (drawing reviews, building permits, inspections, fees, etc.) It must function as the Authority Having Jurisdiction (AHJ) and thus has the responsibility to guard public health and safety through enforcing its adopted codes. However, local authorities should be notified about planned projects and given opportunity to review drawings without paying review or inspection fees.

TECHNOLOGY – Technology is constantly changing the healthcare environment. Technology is a driver for healthcare design. This is not only because the equipment changes (resulting in different spatial requirements), but also the process of patient care evolves.

VA article reference: The articles highlighted in *Time Magazine's* September 4, 2006 issue, "How VA Hospitals Became the Best" as well as in *Business Week's* July 17, 2006 issue, "The Best Medical Care in the US" shared some of the current VA technology being used.

Entertainment – Entertainment software is intended to educate or entertain customers and can provide a service such as food ordering, educational videos, or a calendar for patients and families to see when treatments are scheduled. Entertainment software can be used to provide a positive distraction for patients.

Robots – A robot is a mechanical device which performs automated physical tasks, either according to direct human supervision, a pre-defined program, or a set of general guidelines using artificial intelligence techniques. Robots are typically used to do the tasks that are too dirty, dangerous, difficult, repetitive or dull for humans. For example, VA sites may use robots for counting medication. Verify with IT any departments looking into using this technology. Robots may affect corridor widths and floor material specifications, and may have acoustical impacts.

VA article reference: The article in *Business Week's* July 17, 2006 issue, "The Best Medical Care in the US," shared some of the current VA technology being used.

> "Technology is constantly changing the healthcare environment. Technology is a driver for healthcare design."

Television – Television is a telecommunication system for broadcasting and receiving moving pictures and sound over a distance. The industry is always changing the technology. Most VA sites offer a health care channel that patients can access on the TVs in their room. Some channels offer an educational menu that patients can use to educate themselves on their medical condition.

Computer Terminals – Computer monitor terminals can be either a flat screen monitor or the typical box terminals. For local preferences, coordinate with the IT department. The keyboard location should be coordinated with any ergonomic information the facility supports.

Mobile Technology – Computers on Wheels (COW) are the most common form of mobile technology in hospitals. Coordinate what technology the nursing and IT staffs are planning, as this may affect the planning of corridors and require an alcove for docking and electrical for charging.

Wireless Technology – The term wireless technology is generally used for mobile information technology equipment. It encompasses cellular telephones, personal digital assistants (PDAs), and wireless networking. Coordinate with the IT department

Doctor interacting with patient at Veterans Affairs North Texas Health Care System and Texas Tech Health Sciences Center School of Pharmacy in Dallas, Texas. Image courtesy of the Department of Veterans Affairs.

if wireless technology is being planned. House phones may not be required throughout staff spaces. Also understand what areas of the hospital wireless will not be available to the patients and families.

EVIDENCE-BASED DESIGN

VA staff participating in interior design projects should be familiar with the term Evidence-Based Design. Definition from the Center for Health Design: Evidence-Based Design (EBD) is the design of healthcare facilities based on researched and documented evidence and applied to the environment of care to make it more supportive of healing and well-being.

VA staff participating in interior design projects should understand the effects of Evidence-Based Design on design decisions. Healthcare environments that use research data to improve medical outcomes focus on:

- Control of one's own environment – Empowers patients to reduce stress and increase satisfaction.
- Social support – Speeds recovery with the support of loved ones
- Access to nature – Use natural light to reinforce diurnal cycles
- Use of positive distractions and elimination of environmental stressors – Use of color, art, views

VA staff participating in interior design projects should know the key players in the research of Evidence Based Design. They include The Center for Health Design, The Institute of Healthcare Improvements (IHI), The Institute of Medicine (IOM), and Pebble Partners, among others.

VA staff participating in interior design projects should know the topics of improving the hospital environment and why the project should support Evidence-Based Design. Although the premise that physical environment affects well-being reflects common sense, evidence-based design is poised to emulate evidence-based medicine.

Safety – Design to increase safety by applying the following factors:

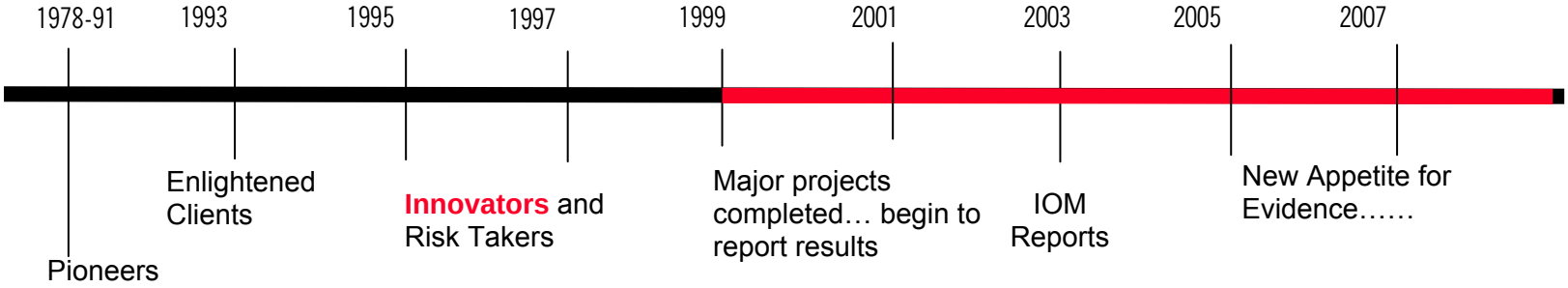
- Reduce noise sources and improve acoustics
- Reduce the need for patient transfers
- Provide rapid access to care (e.g. reduce wait times and bottlenecks)
- Reduce likelihood of falls
- Provide intuitive wayfinding
- Ergonomics of handling patients and materials

> “VA staff participating in interior design projects should be familiar with the term Evidence-Based Design.”

Infection Control – Design to prevent patient infections by increasing infection control measures because hospital-acquired infections, or nosocomial infections, are one of the leading causes of death in the United States, killing more Americans than AIDS, breast cancer, or automobile accidents. In 1995 alone, nosocomial infections contributed to more than 88,000 deaths (one death every six minutes) and cost $4.5 billion. Airborne infections are transmitted when pathogens, such as Aspergillums, that survive well in the air, or dust and moisture present in healthcare facilities are released into the air. This usually happens during hospital renovation and construction activities and is due to contamination and malfunction of the hospital ventilation system. Refer to website: www.healthdesign.org/research/reports/infections.php.

Minimizing Stress – Design to minimize stress and humanize the environment by applying the following factors:

- Provide control of temperature and lighting
- Give patients the ability to control social interactions and privacy
- Control smells in the environment
- Provide a safe and secure environment
- Provide a warm, friendly, relaxing environment
- Create positive distractions and escapes
- Minimize noise levels
- Provide an environment that promotes quality sleep for patients
- Provide an environment that feels close to nature with access to the outside world



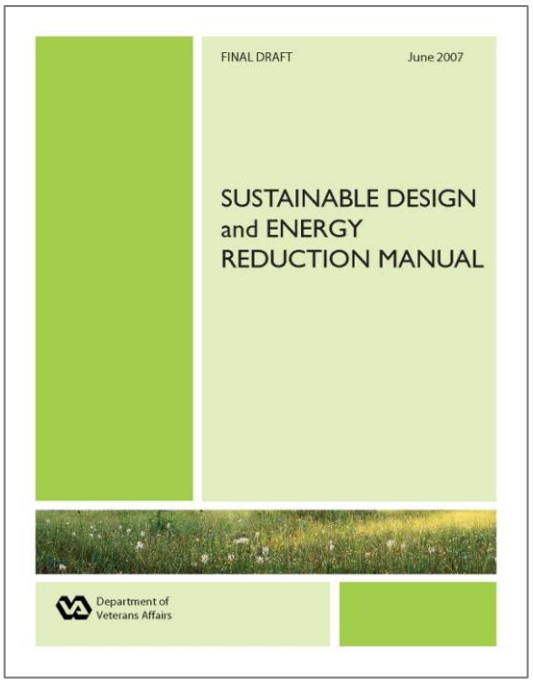
- Provide access to information (health records, internet, and patient education centers)
- Provide exercise accommodations
- Create an environment that makes people want to work there
- Provide access to gardens when possible
- Increase quantity and size of windows
- Create comfortable size rooms
- Create family zones in patient rooms and on the unit
- Provide decentralized, barrier-free nursing stations

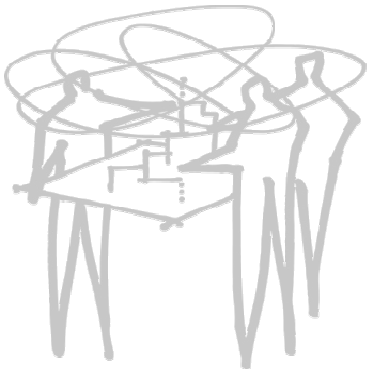
The design research and its evolution are described in a snap shot in the following timeline. Research information is available on the internet, in articles and books, and also through attending healthcare industry conferences and symposiums.

SUSTAINABILITY

All VA staff should reference the VA Sustainable Design Manual (http://www.va.gov/facmgt/standard/energy.asp) to understand the goals and integrate key material elements into the Interior Design and material selection process. The following areas of sustainable design should be explored:

- Recycled Content
- Resource Reuse
- Regional Materials
- Certified Wood
- Furniture and Medical Furnishings: Resources and Reuse
- Low Emitting Materials: Adhesives and Sealants, Wall and Ceiling Finishes, Flooring Systems,
- Composite Wood and Insulation, Furniture and Medical Equipment



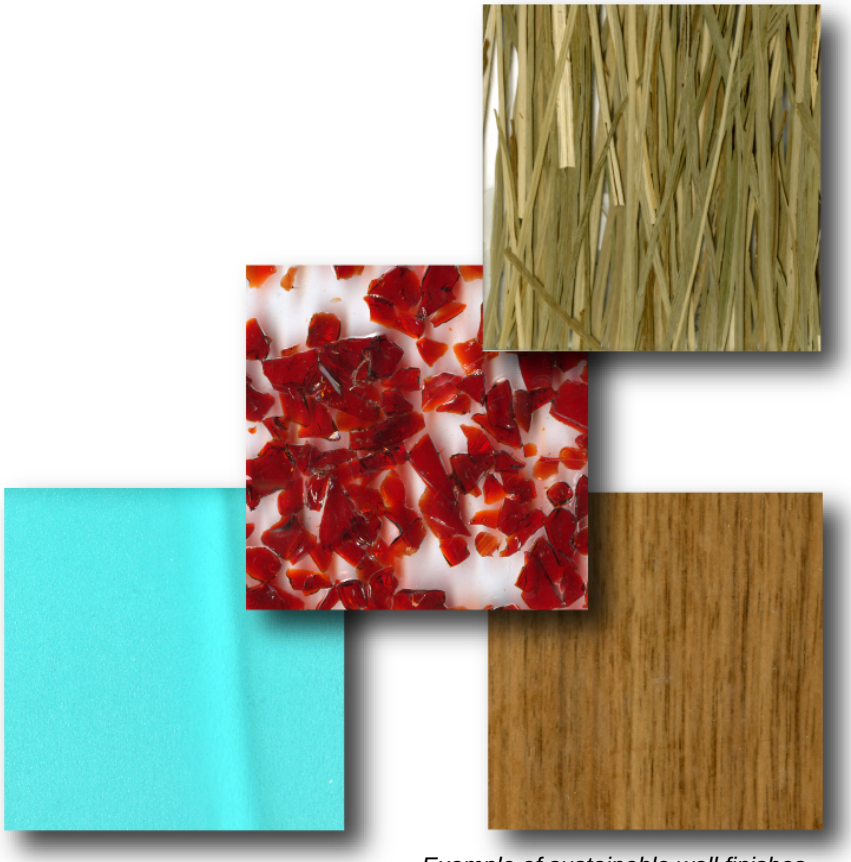


VA staff participating in the development of interior design projects should reference Executive Order 13423: Strengthening Federal Environmental, Energy, and Transportation Management (www.ofee.gov/eo/EO-13423.pdf).

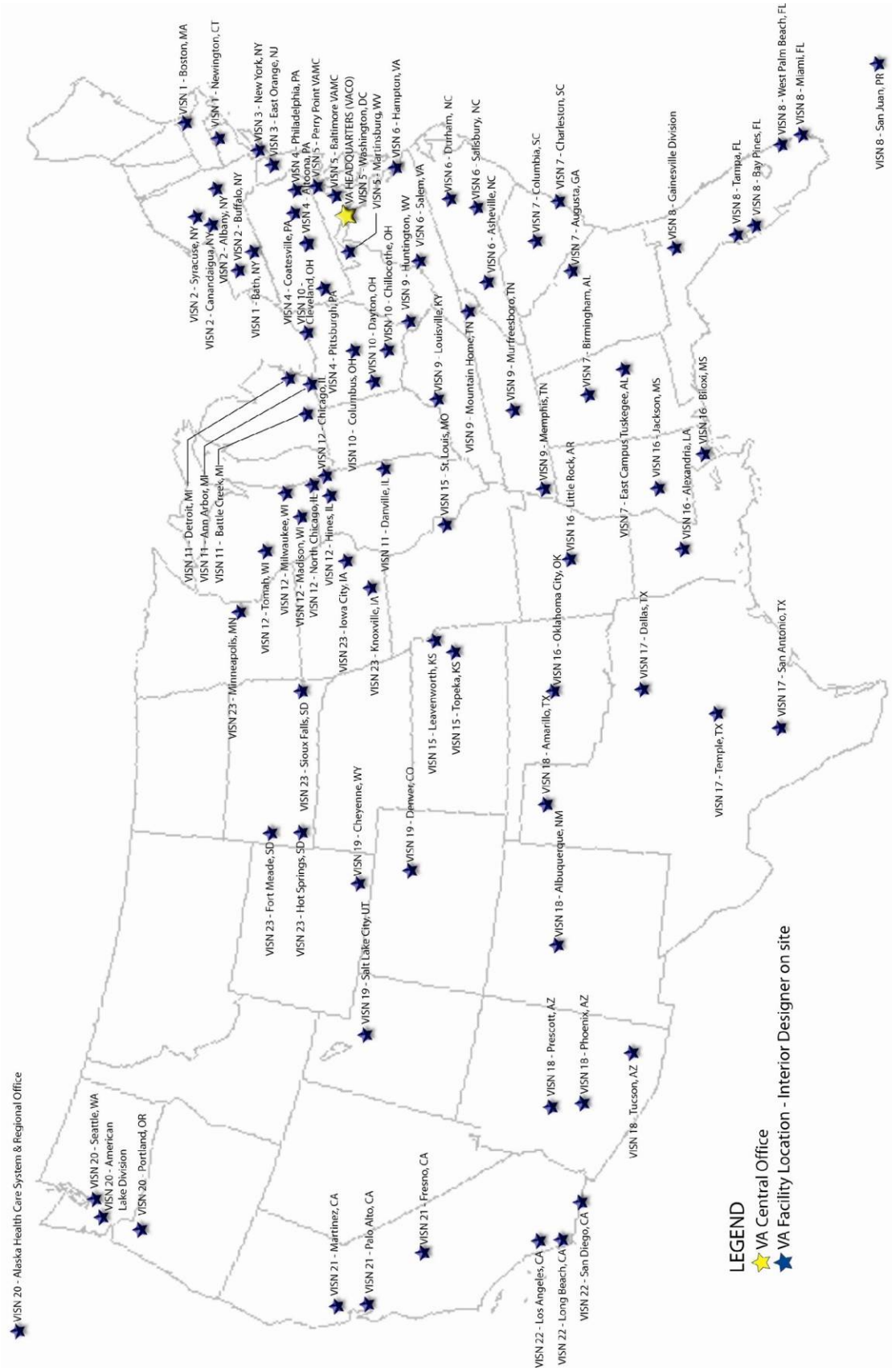
COLLABORATIVE RESOURCES

VA Central Office would like all VA staff participating in the development of interior design projects to collaborate by sharing project lessons learned, both successes and failures. The VA design system consists of 109 designers at Healthcare sites across the United States. Opening dialogue between neighboring sites and/or recently opened or near future opening sites will improve design across all VA facilities.

Refer to the map on the following page for information regarding VA Interior Design staff locations.



Example of sustainable wall finishes materials by 3Form.


VISN 1 - Boston, MA
VISN 1 - Newington, CT
VISN 3 - New York, NY
VISN 3 - East Orange, NJ
VISN 4 - Philadelphia, PA
VISN 5 - Perry Point VAMC
VISN 5 - Baltimore VAMC
VA HEADQUARTERS (VACO)
VISN 5 - Washington, DC
VISN 5 - Martinsburg, WV
VISN 6 - Hampton, VA
VISN 6 - Durham, NC
VISN 6 - Salisbury, NC
VISN 7 - Columbia, SC
VISN 7 - Charleston, SC
VISN 7 - Augusta, GA
VISN 8 - Gainesville Division
VISN 8 - Tampa, FL
VISN 8 - Bay Pines, FL
VISN 8 - West Palm Beach, FL
VISN 8 - Miami, FL
VISN 8 - San Juan, PR
VISN 2 - Syracuse, NY
VISN 2 - Canandaigua, NY
VISN 2 - Albany, NY
VISN 2 - Buffalo, NY
VISN 1 - Bath, NY
VISN 4 - Coatesville, PA
VISN 4 - Altoona, PA
VISN 10 - Cleveland, OH
VISN 4 - Pittsburgh, PA
VISN 10 - Dayton, OH
VISN 10 - Chillicothe, OH
VISN 9 - Huntington, WV
VISN 6 - Salem, VA
VISN 6 - Asheville, NC
VISN 9 - Murfreesboro, TN
VISN 7 - Birmingham, AL
VISN 7 - East Campus Tuskegee, AL
VISN 16 - Jackson, MS
VISN 16 - Biloxi, MS
VISN 16 - Alexandria, LA
VISN 11 - Detroit, MI
VISN 11 - Ann Arbor, MI
VISN 11 - Battle Creek, MI
VISN 12 - Chicago, IL
VISN 10 - Columbus, OH
VISN 9 - Louisville, KY
VISN 9 - Mountain Home, TN
VISN 9 - Memphis, TN
VISN 16 - Little Rock, AR
VISN 12 - Tomah, WI
VISN 12 - Milwaukee, WI
VISN 12 - Madison, WI
VISN 12 - North Chicago, IL
VISN 12 - Hines, IL
VISN 11 - Danville, IL
VISN 15 - St. Louis, MO
VISN 16 - Oklahoma City, OK
VISN 17 - Dallas, TX
VISN 17 - San Antonio, TX
VISN 23 - Minneapolis, MN
VISN 23 - Iowa City, IA
VISN 23 - Knoxville, IA
VISN 15 - Leavenworth, KS
VISN 15 - Topeka, KS
VISN 18 - Amarillo, TX
VISN 17 - Temple, TX
VISN 23 - Sioux Falls, SD
VISN 23 - Fort Meade, SD
VISN 23 - Hot Springs, SD
VISN 19 - Cheyenne, WY
VISN 19 - Denver, CO
VISN 18 - Albuquerque, NM
VISN 19 - Salt Lake City, UT
VISN 18 - Prescott, AZ
VISN 18 - Phoenix, AZ
VISN 18 - Tucson, AZ
VISN 20 - Alaska Health Care System & Regional Office
VISN 20 - Seattle, WA
VISN 20 - American Lake Division
VISN 20 - Portland, OR
VISN 21 - Martinez, CA
VISN 21 - Palo Alto, CA
VISN 21 - Fresno, CA
VISN 22 - Los Angeles, CA
VISN 22 - Long Beach, CA
VISN 22 - San Diego, CA
LEGEND
VA Central Office
VA Facility Location - Interior Designer on site

If you are a new interior designer or acting in the interior design role, please contact VA's Principal Interior Designer at VA Central Office to get added to the e-mail group. To reach other VA interior designers reference VA's intranet phone book at http://vaww1.va.gov/med/directory?index.cfm. The interior designer email group is a resource that can be used to discuss project successes and failures, experiences with vendors and/or products (both positive and negative), or to reach other VA designers to use as collaborative resources.

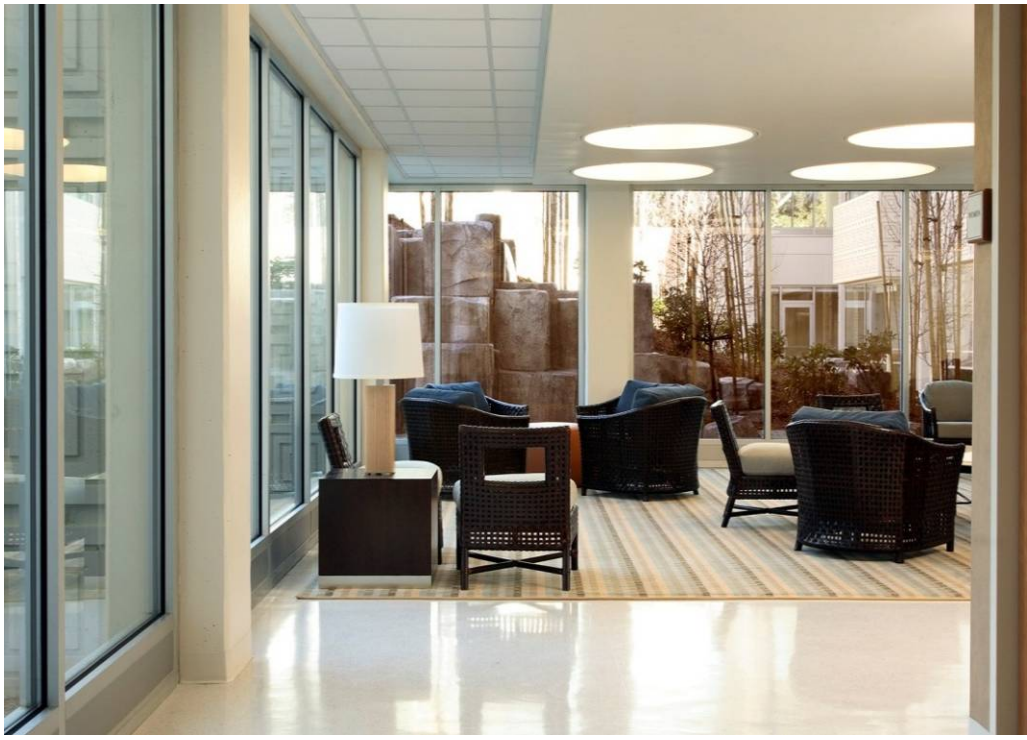
> "To create a VA environment that is patient-centered, world-class, forward-looking and supportive of all veteran patients, families, care givers, and researchers."

ARCHITECTURAL RULES

Architectural Rules have three core elements: the Vision and Intent Statement, the Design Concept, and the Decision Criteria. These core elements should be defined in the early stages of every design project. VA staff participating in interior design projects project should be responsible for taking the lead in coming up with the information, sharing the information with the team and user, and ultimately getting the Architectural Rules approved.

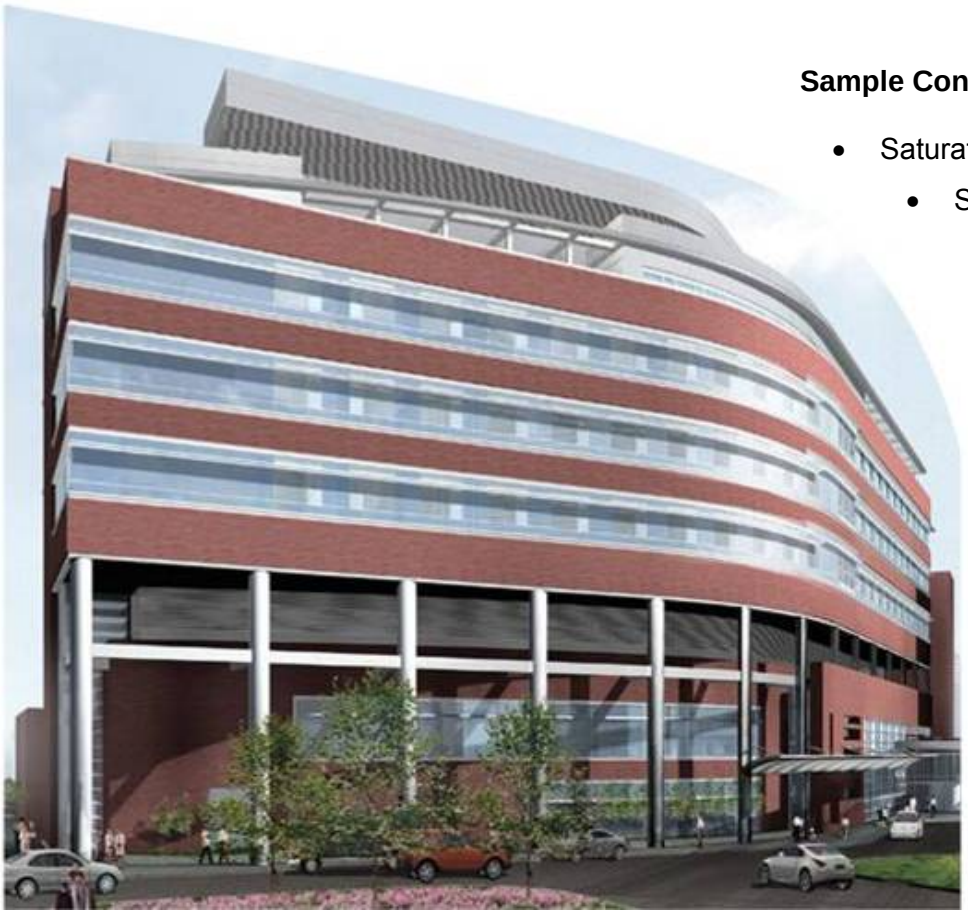
VISION AND INTENT

VA staff participating in interior design projects project should write a Vision and Intent Statement for every sizable design project. It is very important to create a sense of ownership from within the decision-making body. It minimizes personal opinions through a goal and mission driven process.



Evidence based design – Interaction with the outside world. Photo courtesy of HOK.

Left:
New patient Bed Tower at the VA Jesse Brown Medical Center, Chicago, Illinois. Image courtesy of the Department of the Veterans Affairs.



Sample Concepts

- Saturated color with a clean white base
  - Supported by earth-tone neutrals with organic shapes influenced by nature
    - Timeless architecture with no sense of Interior design fads

DECISION CRITERIA

Decision Criteria is the development of the five major points that all design ideas can be judged against. VA staff participating in interior design projects project should define five criteria points for every project. Each criteria point should have clear descriptions as to what the point is to achieve.

CONCEPTS

Concepts explore design ideas with different ways of executing the Vision and Intent. VA staff participating in interior design projects should provide the end user with three concepts in every sizable project. Each concept should have a descriptive title to better remember and describe the concept. The approved Concept will anchor the project and sell the final design idea. The designer should document the approved concept and share with others to build consensus and gain design understanding.

Sample Decision Criteria

- Create an Emotional Supportive Environment …Calm, healing environment that is patient-friendly, designed to a human scale and gives the users a confident experience.
- Create a Memorable Experience …
  The use of architectural elements, finishes, imagery or plant life creates a memorable experience.
- Facilitate People Movement …
  Promote wayfinding, orientation, ease of movement, through an understanding of streets as corridors, definition of town square and destinations as arrival points.
- Create an Intuitive Orientation to Spaces …
  Providing visibility to the outside creates sense of direction.
- Establish Unique Identities …
  Out-patient facility versus hospital.
  Sense of academic knowledge and strength of VA.
- Create Spaces which are Durable and Easily Maintained…
  Appropriate materials palette selected.

CHECK LIST

DEPARTMENT OF VETERANS AFFAIRS
Office of Facilities Management
Interior Design Manual

		Design Approach Check List	reference
		Once the Vision and Intent, Concept and Criteria are approved, drawings need to be created to take these words and provide two or three dimensional illustrations of the Design.	
		Team Structure	
		Ideas & Innovation	
		Studies	
		Innovation	
		Solutions & Final Presentations	
		Solution	
		Final Presentation	
		Reporting & Approval Structure	
		Reporting Structure	
		Approval Structure	

DESIGN APPROACH

Once the Vision and Intent, Concept and Criteria are approved, drawings need to be created to take these words and provide two or three dimensional illustrations of the design. Three-dimensional drawings, sketches or renderings can make the design concept come to life. Some audiences may understand of the design story better with sketches/renderings and they should be developed for greater clarity in communicating the design direction.

TEAM STRUCTURE

The structure of the VA project team is important to understand. The designer or VA staff involved in the design process has a very important role on the project team. The role is different for the different project types. The following is a list of project types and the team associated with each project:

In House Project

The project team is made up of the VA Interior Designer, the Project Engineer, the Departmental User Client, and the Approving Official.

Non-Recurring Maintenance (NRM)

The project team is made up of the VA Interior Designer, the Project Engineer, the Departmental User Client, and the Approving Official.

Station Level Project

This project type may or may not include an interior designer. It is dependent on the scope and type of the project.

Minor Construction

The project team is made of the Medical Center Administration, contracted Architectural/Engineering firm, VA Interior Designer, Central Office, Resident Engineer, and the Departmental User Client.

Major Construction

The project team is made of the Medical Center Administration, contracted Architectural/Engineering firm, VA Interior Designer, Central Office Resident Engineer, and the Departmental User Client.

Senator Santorum shakes hands with the team at a groundbreaking ceremony for a major construction project at VA Pittsburgh Healthcare System, Pittsburgh, Pennsylvania. Image courtesy of the Department of Veterans Affairs.

IDEAS AND INNOVATION

VA staff participating in interior design projects should strive for innovation and the exploration of new ideas as well as look for continuing education opportunities in the healthcare and design industry. Refer to VA Design Guides (http://www.va.gov/facmgt/standard/dg_idx.asp) for additional information.

Healthcare design is becoming more sophisticated in many areas: from execution of details to application of studies and theories. Innovation requires research such as studying the availability of local materials and new execution of detail methods.

OPTIONS AND PRESENTATION

Design options should be explored as a part of the design process. Finding the best design solution requires study. VA staff participating in interior design projects project should provide two or three options in presentations. Design options may also be required to simplify design execution or cut project cost as the project progresses.

Presentations are the key to selling design ideas. VA staff participating in interior design projects project should be prepared. Refer to the Design Guides for presentation outlines. (http://www.va.gov/facmgt/standard/dg_idx.asp).

SOLUTIONS AND FINAL PRESENTATION

Solutions

A design solution is the outcome that results from exploring design options and building approval consensus.

Sample Finishes

In the final design presentation, always provide larger samples of all finish materials. Refer to the Design Guides (http://www.va.gov/facmgt/standard/dg_idx.asp) for additional information.

REPORTING AND APPROVAL STRUCTURE

Every facility interior designer must understand and follow the unique approval structure within their facility for the various project types.

Approval Structures

This refers to the audience from which approval must be obtained in order to implement the design direction. The consensus may affect final approval to implement the design direction. The consensus may affect final approval to implement. Each VA facility may have a different approval structure which may also be different from the designer reporting structure. Get document approval as final sign-off. This can be used as a reference in the future, either when the team has changed or when a working team is successful.

> “Presentations are the key to selling design ideas.”

CHECK LIST

DEPARTMENT OF VETERANS AFFAIRS
Office of Facilities Management
Interior Design Manual

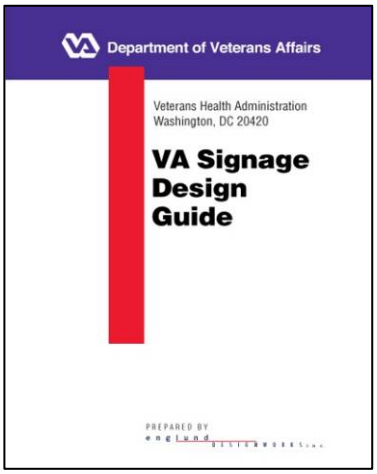
		Architectural Rules Check List	reference
		The architectural rules are intended to provide the justification of "why" decisions are made.	
	☐	Vision and Intent	
	☐	Concept	
	☐	Design Criteria	
		1	
		2	
		3	
		4	
		5	

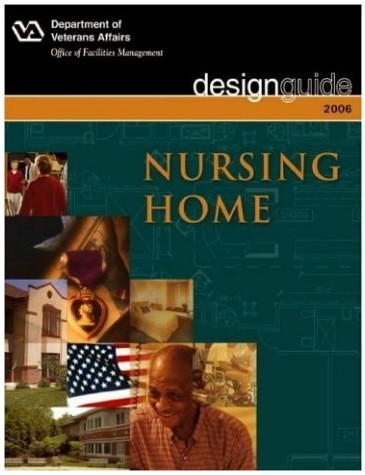
STANDARDS

DESIGN GUIDES VS. DESIGN MANUALS

Design Guides are intended to help speed the design process, control cost, avoid errors and omissions, and get value for dollars spent. The Design Guides were developed in partnership with the using service and are benchmarked with similar private sector guides. They are to be applied flexibly, not as rigid standards. Design Guides can be found in the Technical Information Library (http://www.va.gov/facmgt/standard/) on the Design Guides page (http://www.va.gov/facmgt/standard/dg_idx.asp).

Design Manuals are intended to provide information relevant to specific building types. These provide information related to architecture, electrical, HVAC, plumbing, sanitary, auto transport, interior design and structural elements of each building type. Design Manuals can be found in the Technical Information Library (http://www.va.gov/facmgt/standard/) on the Design Manuals page (http://www.va.gov/facmgt/standard/manuals.asp).





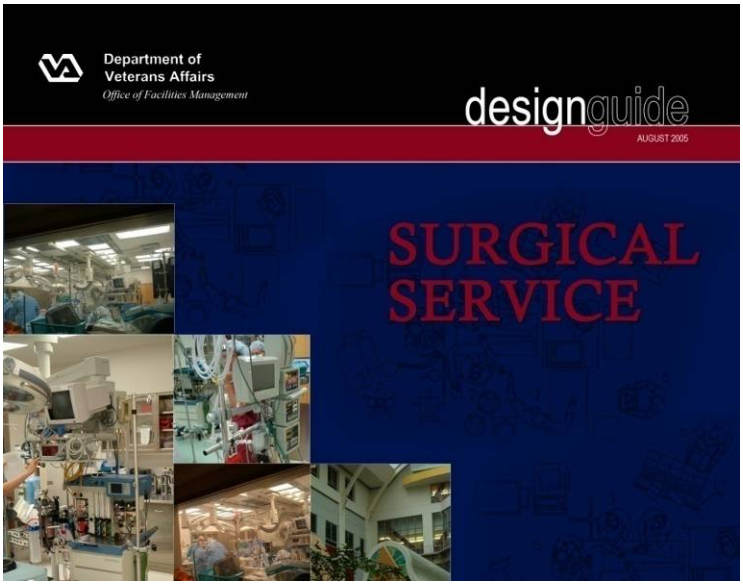
STANDARD DETAILS

Developing standard Details, presentation formats and specifications will allow more time for design. VA's standards can be found in the Technical Information Library (http://www.va.gov/facmgt/standard/) on the Master Specifications page (http://www.va.gov/facmgt/standard/spec_idx.asp).

KIT OF PARTS

A kit of parts should be developed for the five major building components of each project. The building components include Wall Protection, Ceilings and Fixtures, Colors, Patterns, Materials, and Casework/Millwork. These are rules that describe the feature of the building component, as well as where and when to use the component.

Wall Protection



Wall protection rules can be developed by simple line elevations along with descriptions of where and when to use them. Each elevation should display the components that make up the rule.

Example:

Refer to Wall and Door Protection in Division 10 - Specialties of the Master Construction Specifications (http://www.va.gov/facmgt/standard/spec_10.asp)

Refer to the Master Specifications for additional wall protection standards, Division 10 - Specialties (http://www.va.gov/facmgt/standard/spec_10.asp).

Ceilings and Fixtures

Branding ceiling and light fixture types in public, patient and staff areas can create a sense of place for all users of the buildings.

Evidence based design – lighting. Photo courtesy of HOK.

Lighting

Lighting needs to be functional and it should enhance the visual appeal of the built environment. Well-planned layering of ambient, task and accent lighting is critical in creating effective, efficient and aesthetically pleasing lighting. Keeping current with the fast-changing lighting technology is most important for practicing interior designers.

Example:

Public area lighting can be more decorative and can be image-building.

Patient area lighting needs to be planned with adjustability and flexibility. Patient rooms should have lighting planned for various settings. Lighting must be sufficient to allow medical exams to be performed, but a more home-like setting with dimmed light must also be an option.

Lighting in staff offices and areas needs to be functional and task-oriented.

Refer to the Master Specifications for additional standards, Division 9 - Finishes (http://www.va.gov/facmgt/standard/spec_9.asp), and for VA's general drawing requirements, including organization, size, scales, and CAD format, see Design and Construction Procedures, Topic 2, "Drawings" (http://www.va.gov/facmgt/standard/proc_idx.asp).

Colors

Color theory is an important aspect of design for Patient Care. Understanding the appropriateness of colors and applications and how they affect patients is vital. When selecting color for a specific design challenge VA staff participating in the development of interior design projects should consider the following elements:

- Color impact on space
- Obtaining technical knowledge
- Acknowledging personal bias
- Addressing "emotional" impact from different color combinations
- Knowing physical and psychological affects

Pattern

Pattern and texture are important in the development of the design for healthcare facilities. Patient conditions can make them sensitive to various patterns and textures. The environment should support a sense of stability and visual clarity.

Materials

Material rules can be developed by creating colored plans for floors, walls, and ceilings. These plans will define the standards for every room type in the building. The finish materials should be selected by using the following criteria:

- Meets project interior design concepts and intentions, while supporting the exterior design
- Follows application/code requirements/JCAHO
- Provides durability and maintenance
- Supports sustainability and/or evidence based design principles
- Minimizes initial costs/life cycle cost
- Refer to the Master Specifications for additional material standards, Division 9 - Finishes (http://www.va.gov/facmgt/standard/spec_9.asp), and for VA's general drawing requirements, including organization, size, scales, and CAD format, see Design and Construction Procedures, Topic 2, "Drawings" (http://www.va.gov/facmgt/standard/proc_idx.asp).

Casework, Milled and Modular

Designing casework should be a team effort between the Designer, VA staff participating in the development of interior design projects, users, engineers and architects. User input is valuable to understand the function needs of the casework. The engineer can help with understanding the maintenance and clean-ability needs of the casework details. The architect will provide structural assistance.

Nursing home millwork. Photo courtesy of the Department of Veterans Affairs.

Casework (either milled or modular) has various construction types. These construction types should be coordinated with the functional location of the casework. VA staff participating in interior design projects project should study the specification sections and choose the appropriate type and each casework location and discuss with the design team.

Milled casework refers to wood veneer casework and plastic laminate casework. This type of casework construction offers more design innovation but offers very little user flexibility and is typically not reused. Refer to the Master Specifications for additional casework standards, Division 12 - Furnishings. (http://www.va.gov/facmgt/standard/spec_12.asp)

Modular plastic casework is typically more expensive then transitional milled casework, but it has many benefits that can, over the lifecycle, outweigh the initial first cost. Modular casework can be reused and is a great choice for areas that are temporary. This casework also has the flexibility of being reconfigured in the field with no construction mess.

Refer to VA's general drawing requirements, including organization, size, scales, and CAD format, see Design and Construction Procedures, Topic 2, "Drawings" (http://www.va.gov/facmgt/standard/proc_idx.asp).

Refer to Section 09 06 00 (previously Section 09050) - Interior/Exterior Finishes, Materials and Finish Schedule in Division 6 – Wood, Plastics and Composites (previously Wood and Plastic) for helpful documentation charts (http://www.va.gov/facmgt/standard/spec_6.asp).

Furniture/Fabric
Choosing the appropriate furniture and fabrics can be very challenging for the many healthcare environments with the many options that the product industries offer. VA staff participating in the development of interior design projects should test fabrics and ask manufacturers to provide samples for in-house testing and mock-ups.

Furniture Attributes

- Scale/Size
- Finishes
- Seat Options
- Back Height
- Style - Look and Feel
- Arm or Armless
- Weight Capacity
- Width Capacity
- Single or Double Seat
- Gang or Tantum Style

Fabric Attributes

- Moisture Barrier
- Cleanable
- Antimicrobial
- Abrasion Resistance
- Color Fastness
- Warranties
- Recycled Content / Recyclability

VA MASTER SPECIFICATIONS

VA has provided Master Specifications (http://www.va.gov/facmgt/standard/spec_idx.asp) for VA staff participating in the development of interior design projects to use as resources. There are over 319 master specifications that are used for a variety of building construction projects. These range from new medical, office, and utility buildings to cemeteries and minor renovation and remodeling jobs. These specifications are best practices which will aide VA staff participating in the development of interior design projects in the execution of their projects. All VA projects should refer to these specifications. For a complete listing of VA Master Specifications, please refer to Internal Resources section in this document.

Left and above:

Mental Health facility at VAMC Palo Alto, California. Courtesy of the Department of Veterans Affairs.

TOOLS FOR TRACKING COST

Material Disbursement

Tracking the allocation of materials throughout a space or building is important for maintenance and cost analysis. Methods include:

- Track the initial materials budget allowance by product.
- Track the installation and final product cost.
- Track the initial cost and final cost difference of each product to watch inflation and budget targets.

Cost per Square Foot

- Track project installation costs per project.
- Track the means of material constructions. This helps VA staff participating in the development of interior design projects to budget correctly for material allowances in the beginning of a project.

Life Cycle Costs

- Track the initial cost and final cost difference of each product to watch inflation and budget targets.
- Collaborate with housekeeping, maintenance, and construction and facilities management to understand cleaning, maintenance and repair costs.

TOOLS FOR TRACKING FURNITURE

Warranty

Tracking a copy of the warranty for finishes and furniture is very important to collect on the guarantee given to the purchaser by a company stating that a product is reliable and free from known defects and that the seller will, without charge, repair or replace defective parts within a given time limit and under certain conditions.

Copy Purchase Orders

Tracking a copy of the Purchase Order will give the designer the information on who supplied the product and provided specifications and quantities.

Bar Coding

Tracking furniture using bar coding equipment and scanner hardware would help VA staff participating in the development of interior design projects locate specialty furniture such as bariatric seating, office and patient care items.

PROJECT DOCUMENTATION

DOCUMENTATION

For VA's general drawing requirements, including organization, size, scales, and CAD format, see Design and Construction Procedures, Topic 2, "Drawings" (http://www.va.gov/facmgt/standard/proc_idx.asp).

For abbreviations related to finishes and doors see Room Finishes, Door and Hardware Schedule, Section I "General" (http://www.va.gov/facmgt/standard/rooms/rooms.doc). For other design abbreviations, see Section 1 of any of the VA Design Guides (http://www.va.gov/facmgt/standard/dg_idx.asp).

PRESENTATION

VA has provided Presentation Standards for VA staff participating in the development of interior design projects to use as resources. These standards are best practices:

- A/E Information (http://www.va.gov/facmgt/ae/des_sub.asp)
- Design and Construction Procedures (http://www.va.gov/facmgt/standard/proc_idx.asp)

SPECIFICATIONS

VA has provided Specification Standards for VA staff participating in the development of interior design projects to use as resources. These Standards are best practices:

- A/E Information (http://www.va.gov/facmgt/ae/des_sub.asp)
- Master Specifications (http://www.va.gov/facmgt/standard/spec_idx.asp)

DRAWINGS

VA has provided Drawing Standards for VA staff participating in the development of interior design projects to use as resources. These Standards are best practices:

- A/E Information (http://www.va.gov/facmgt/ae/des_sub.asp)
- A/E Review Checklists (http://www.va.gov/facmgt/standard/ae_checklist.asp)
- Design and Construction Procedures (http://www.va.gov/facmgt/standard/proc_idx.asp)
- National CAD Standards and Details (http://www.va.gov/facmgt/standard/details.asp)

RESOURCE EXAMPLES

The following list gives examples of VA projects that support the organization's strategic goals:

- Baltimore Rehabilitation and Extended Care Center, Baltimore, Maryland – Opened in August 1996
- CARES Consolidation (Ambulatory Care, Administration, Domiciliary), VAMC Pittsburgh
- New Medical Facility, Las Vegas
- New Bed Building, San Juan, Puerto Rico – Groundbreaking held in October 2006
- New Medical Center, Orlando, Florida – Concept approved in September 2006
- Operating Suite Replacement, VAMC Columbia, MO
- (200) Patient Bed Tower, VAMC Chicago - 2007
- (120) Patient Bed Gero-Psychiatric Replacement Facility, VAMC Palo Alto
- Replacement Medical Facility, VAMC Denver
- Spinal Cord Injury, Syracuse, NY – Schematic design peer review completed in October 2006
- State Veterans Home at Fitzsimmons, Aurora, Colorado – Opened in October, 2002
- Washington Veterans Home, Retsil, Washington – Opened March 2005, Achieved LEED Gold Certification

Above and right:

Washington Veterans Home. Retsil, Washington. Photos courtesy of the Department of Veterans Affairs.

VA DESIGN PORTFOLIO

The VA Design Portfolio section is intended to be a resource of exemplary design sites and projects. All VA staff members participating in the development of interior design projects are encouraged to submit completed design work to be included in this section. A submittal form is available at the end of this section. The form includes a place for images, design description and project information. Submissions can be forwarded throughout the year to the VA Principal Interior Designer.

Projects are shown by the following categories:

- Hospitals – New Construction, Additions and Renovations
- Clinics – Outpatient and Community Based Outpatient Clinic
- Nursing Home and Long-Term Care

VAMC Food Court, West Palm Beach, Florida. Photo Courtesy of the Department of Veterans Affairs.

HOSPITALS – NEW CONSTRUCTION, ADDITIONS, AND RENOVATIONS: Physical Medicine and Rehabilitation Service

> “crisp lines, patterns and cheerful colors are repeated throughout the project”

Design Inspiration:

Two ArcCom borders…Aspen and Harlequin… were the inspiration for this renovation. Their crisp lines, patterns and cheerful colors are repeated throughout the project. The color palette was developed to coordinate with the colors of the borders, but not to be strictly limited by them. The leaf pattern of Aspen was loosely interpreted in the water-cut tiles on the walls of the elevator lobby and in a metal sculpture designed for the waiting area. Four pieces of the border itself were framed to further emphasize the leaf design, and designers gathered to assemble leaf and tree themed collages which were framed and hung in the exam rooms.

The Harlequin border led to the design of two metal sculptures used to solve way-finding problems: turn right at the clown and turn left at the pointing finger.

Physical Medicine and Rehabilitation Service (PM&R) had been housed in the windowless basement in one of the oldest buildings on campus. The space was overcrowded and had become dysfunctional through the years as spaces were added with no particular thought to efficiency as a whole. The staff were divided spiritually and mentally and needed to work together to better serve the veterans.

When one visits PM&R now, there is no sense that the space remained in one of the oldest hospital buildings. The move to the second floor added natural light to the space, and the color palette borrowed from the borders is bright and modern. Slight variations in the finishes add variety to the space, but the limited color palette gives a visual cue that PM&R is no longer composed of separate groups…this is one cohesive unit.

Project Name:
Physical Medicine and Rehabilitation Service

Project Service Description:
Renovate second floor of Building 2 for PM&R

Location:
Second Floor, Building 2, Dallas, TX

Project Size:
48,000 SF

Date Competed:
December 2005

Major Products:
ArcCom Borders; Marham Wallcovering; National Wallcovering; Milliken Carpet; Johnsonite Rubber Flooring; Metroflor Solid Vinyl Tile; Daltile Mosaic Tile; American Olean Water-cut Porcelain Tile; Wilsonart Laminates

Major Furniture Vendors:
Nemschoff; Wieland; Herman Miller; Haworth; Spec; Peter Pepper; Baker Tables

Designer:
Mary Alice Ayers

HOSPITALS – NEW CONSTRUCTION, ADDITIONS, AND RENOVATIONS: Day Surgery Renovation

Design Inspiration:

The existing Day Surgery unit at the Dallas campus was in desperate need of a renovation. The service had long ago outgrown their small space on the third floor of Building 2. The overcrowded existing area forced many patients and family members to use the corridor as their waiting area. Several rooms were used for both anesthesiology evaluation and prep/recovery of surgical patients. As we planned the new space, I envisioned a warm, invigorating area focused on both efficient patient care and consideration for family members

The renovation, completed in 2005, involved completely gutting the existing 19,000 square foot "B-Wing" (old OR suite). In this wing we introduced a new Day Surgery unit with modern finishes, fixtures and equipment. The new unit includes a large space with 28 prep/recovery beds, most of which can be visualized from the centralized nurses station. We have a set of existing elevators dedicated for patients arriving for surgery. Patients who are being evaluated by anesthesiology prior to surgery access the same unit from a separate set of elevators and entrance. The separation, complimented by visual communication, keeps gridlock and confusion to a minimum.

> "...warm, invigorating area focused on both efficient patient care and consideration for family members."

Finishes were carefully selected for aesthetic value and durability. The selections include the use of neutrals in most areas with splashes of bright hues on columns, floors and fabrics. An example of the attention to selections is the wainscot on the corridor walls. It is covered with resilient wall protection and a type 2 vinyl above to match. This innovative wall protection provides excellent durability while maintaining visual continuity along the corridor. This look cannot be achieved using traditional crash rails.

With this Day Surgery renovation, patients are cared for and family members wait within a beautiful, smooth flowing, and organized space.

Project Name:
Day Surgery Renovation

Project Service Description:
Surgical Service, same day surgery, preoperative evaluation, prep and recovery

Location:
Fourth Floor (old B Wing) Building 2, Dallas, TX

Project Size:
19,000 SF

Date Competed:
March 2005

Major Products:
Rigid wallcovering from Koroguard product called: “Traffic Patterns.” “Thin Brick” in waiting area on walls from Ambrico; VTC – Armstrong; Welded Vinyl Flooring in prep/recovery bays - Gelflor

Major Furniture Vendors:
Nemschoff; Midmark; Herman Miller

Designer:
Katie Willis, VANTHCS

CLINICS – OUTPATIENT AND COMMUNITY-BASED OUTPATIENT CLINIC: Lorain Clinic

Project Name:
Community Based Outpatient Clinic

Location:
Lorain, OH

Project Size:
22,000 SF

Date Competed:
March 2006

Major Products:
Workstations in exam rooms; freestanding desks and file cabinets in offices; lobby seats and task chairs; art works; privacy curtains

Major Furniture Vendors:
Herman Miller, Wieland, Source, Spec ADM, Sitmatic

Designer:
Judith P. Fai

Design Inspiration:

The Lorain clinic is a good example of the saying: “When given a lemon, make lemonade!”

The clinic was designed within the existing shell of a community hospital. The designated space was heavily taxed with structural support beams that made space planning extremely challenging. In the final plan, many of the structural columns were designed to become decorative pillars of the reception counter or ornamental elements of colonnaded hallways.

CLINICS – OUTPATIENT AND COMMUNITY-BASED OUTPATIENT CLINIC: Calcutta CBOC

Design Inspiration:

The choice of interior finishes and the selection of art works were inspired by the famous ceramic industry of the region (Fiesta ware). The ambiance of the clinic reflects the flair and reputation of the region with its pottery studios, antique shops and rolling hills.

Project Name:

Community Based Outpatient Clinic

Location:
Calcutta, Ohio

Project Size:
10,000 SF

Date Competed:
February 2007

Major Products:
Wall hung workstations in exam rooms; freestanding desks, file cabinets in offices; lobby seats, task and guest chairs; privacy curtains; art works

Major Furniture Vendors:
Herman Miller; Wieland; Source; Spec; ADM; Sitmatic; SitmaticSiot

Designer:
Judith P. Fai

NURSING HOME AND LONG-TERM CARE

VA INTERIOR DESIGN MANUAL SUBMISSION FORM

Images

Design Inspiration:

Insert Text

Project Name:

Insert Text

Project Service Description:

Insert Text

Location:

Insert Text

Project Size:

Insert Text

Date Competed:

Insert Text

Major Products:

Insert Text

Major Furniture Vendors:

Insert Text

GLOSSARY OF TERMS

Accommodation: An adjustment in operations that management may be called upon to make in recognition of unique employment-related concerns or needs of employees related to their religious beliefs or practices or physically or mentally handicapping condition.

Accessibility: Features of buildings or spaces that enable use by people regardless of their level of ability. Definition by NCIDQ.

Acuity Adaptable Patient Room: Single-bed patient rooms designed to allow for specialist equipment to be brought to the patient's bedside instead of requiring the patient to be moved to various departments or other rooms. Also referred to as Adaptable Private Room.

Adaptable Private Room: See "acuity adaptable patient room."

Administrative Costs: An estimate of the total cost for VA of personnel compensation and overhead (including all travel, transportation, standard level user charges (SLUC), communication, utilities, printing, supplies, equipment, insurance claims and other services) associated with the acquisition, management and disposition of property acquired under 36.4320.

Admonishment: Informal reprisal of an employee by a supervisor; usually oral, but some agencies require written notice.

Adverse Action: A removal, suspension, furlough without pay for 30 days or less, or reduction-in-grade or pay. An adverse action may be taken against an employee for disciplinary or non-disciplinary reasons.

AFGE: (1) American Federation of Government Employees - A major union of Federal employees including VA employees. (2) The American Federation of Government Employees is a labor union that is recognized as the sole and exclusive representative for all of those previously certified non-professional and professional employees, (full-time and temporary) in units consolidated and certified by the Federal Labor Relations Authority (FLRA).

Alternate Duty Station: A flexible workplace program which permits employees to work out of their home or other approved sites away from the office for all or part of the work week.

Alternative Dispute Resolution (ADR): A dispute resolution process which uses a neutral third party (often a trained peer) to mediate a resolution among disputing parties through development of a voluntary and mutually acceptable agreement. Mediators, unlike arbitrators, cannot make a decision for the disputing parties when they cannot reach agreement. The parties in ADR retain their right to pursue the traditional avenues of dispute resolution (i.e., grievance, EEO complaint, MSPB appeal, etc.).

Alternative Medical Systems: Complementary and alternative medical practices including homeopathy, naturopathy, traditional Chinese medicine, and ayurvedic.

Amenities: This term can refer to the location of the public restrooms and drinking fountains. For example a customer may be told "The public amenities are located…"

Approval Structure: This refers to the audience from whom you are obtaining approval in order to implement the design story. Each VA facility may have a different approval structure.

Arbitration: A process in which a neutral third party (arbitrator) makes a decision after a hearing at which both parties have an opportunity to be heard. Where arbitration is voluntary, the disputing parties select the arbitrator who has the power to make a binding decision. Arbitration is an arrangement for taking and abiding by the judgment of selected persons in some disputed matter instead of carrying it to established tribunals of justice, and is intended to avoid the formalities, the delay, the expense and vexation of ordinary litigation. Agreements to arbitrate have been declared to be valid and fully enforceable by statute (9 U.S.C.A. Section 2). Arbitration is often a tool included in collective bargaining agreements.

Architectural Rules: Policy and best practice.

Area, Building Support: The portion of the floor area that is not usable by an occupant's personnel or furnishings. It consists of the mechanical, toilet, custodial, circulation, and construction areas, including their enclosing walls, and represents the difference between gross area and usable area.

Area, Circulation: That portion of the gross area, both horizontal and vertical, which is for physical access to the space, including lobbies, ceiling-high corridors, and which cannot be removed or to which the public has unrestricted access. This includes stairwells, elevator shafts, and escalators.

Area, Gross: The sum of all floor areas of a building, which have floor surfaces and clear standing headroom of eight feet, including basement (except unexcavated portions), attics, garages, roofed porches, mezzanine, loading platforms, shipping platforms, penthouses, mechanical equipment, floors, lobbies, and corridors. Gross area does not include open courts, light wells, upper portions of rooms, lobbies, etc., which rise above the story being measured, drives, ramps, unroofed areas such as cooling towers and unenclosed portions of ground level, or intermediate stories.

Area, Mechanical: That portion of the gross area designed to house mechanical equipment, including boiler rooms, stacks, cooling towers, machine rooms, wire closets, telephone frame rooms, incinerator rooms and transfer vaults.

Area, Rentable: The space in a building upon which a tenant pays rent. It includes usable area plus the pro rata portion of building support/common areas such as elevator lobbies, building corridors, and floor service area.

Area, Usable: "Usable Area" or "BOMA Usable" means that portion of the gross area that is available for use by an occupant's personnel or furnishings. It is measured to the inside finish of the dominant portion (e.g., window glass line) of permanent exterior walls. It also includes circulation within the space assignment. On October 1, 1996, "BOMA Usable" replaced "Occupiable Area" as the standard measurement for the assignment of space to Federal agencies by the General Services Administration.

Balanced Scorecard: A balanced scorecard includes the four core performance measures to be used throughout the organization. The achievement of these measures result in outcomes that address the need of all stakeholders, including VA Central Office, OMB, GAO, Congress, veterans, service organizations, taxpayers, and employees. A balance of all core measures is more important than determining our success or failure in each category separately; therefore, achievement of these measures should be viewed as a "balanced scorecard."

Bargaining Unit: An appropriate grouping of employees represented on an exclusive basis by a labor organization. "Appropriate" for this purpose means that it is a grouping of employees who share a community of interest. Bargaining units promote effective union and agency dealings and efficient agency operations.

Benchmarking: The technique of comparing an organization's performance against the "best in the business," inside or outside government, to gauge room for improvement and progress toward excellence.

Benefit Cost Analysis: The methodology utilized to compare the relative advantages of procuring the following three interests in real property: (1) a leasehold interest; (2) a fee simple interest in improved real property; and (3) a fee simple interest in unimproved real property which the Government will improve by new construction.

Best Practices: In an era of innovation, this term refers to the identification and dissemination of proven techniques pioneered by various offices that result in improved efficiency and public service.

Biologically-Based Therapies: Complementary and Alternative Medicine practices including vitamins and minerals, herbals and supplements, animal products, special diets, and chelation therapy.

Brand Identity: A unique set of associations that the brand strategist aspires to create or maintain. These associations represent what the brand should stand for and imply a potential promise to customers. It is important to note that a brand identity refers to the strategic goal for a brand; while brand image is what currently resides in the minds of consumers.

Break in Service: The time between separation and reemployment that may cause a loss of rights or privileges. For transfer purposes, it means not being on an agency payroll for one working day or more. For the three-year career conditional period or for reinstatement purposes, it means not being on an agency payroll for over 30 calendar days.

Building Code: Locally adopted ordinance or regulation, controlling the design, construction, alteration, repair, quality of materials, use and occupancy, and related factors of any building or structure within its jurisdiction.

Building Setback: A line fixed at certain distances from the front, sides and back property lines beyond which no building or part of a building can project.

Building Shell: The architecture of the existing building, including the framework, the perimeter/exterior walls, the building core and columns, and other structural, load-bearing elements of the building. Definition by NCIDQ.

Building Standards: A building code is a set of rules that specify the minimum acceptable level of safety for constructed objects such as buildings and non-building structures. The main purpose of the building codes is to protect public health, safety and general welfare as they relate to the construction and occupancy of buildings and structures. The building code becomes law of a particular jurisdiction when formally enacted by the appropriate authority. Building codes are generally intended to be applied by architects and engineers, but are also used for various purposes by safety inspectors, real estate developers, contractors and subcontractors, manufacturers of building products and materials, insurance companies, facility managers, tenants, and other categories of users.

Building Types: This term can describe function or form of a facility; however it is used primarily to describe function of a facility in the Interior Design Manual. Examples of building types in this manual include medical centers, nursing homes, and outpatient clinics.

Buyout: The common term used in the Federal personnel system to refer to the voluntary separation of an employee through financial inducement; the actual legal term is Voluntary Separation Incentive Program (VSIP).

Career-Conditional: Tenure of a permanent employee in the competitive service who has not completed three years of substantially continuous-creditable Federal service.

Center for Health Design: The Center for Health Design is a nonprofit, non-membership organization that is working to make people's lives better by demonstrating that using evidence-based design in hospitals and healthcare facilities can improve the quality of healthcare.

CHAMPVA: Civilian Health and Medical Program of the Department of Veterans Affairs. CHAMPVA is a medical benefits program through which VA provides treatment in a VA facility or helps pay for medical care obtained from civilian sources for eligible dependents and survivors of veterans.

Change in Duty Station: Personnel action that changes an employee from one geographical location to another in the same agency.

Check List: A list of performance criteria for a particular activity or product.

Code of Federal Regulations (CFR): The Secretary's rules and regulations are contained in Title 38 of the Code of Federal Regulations (38 CFR). The Secretary of Veterans Affairs is empowered to prescribe all rules and regulations, consistent with existing law, necessary or appropriate to carry out the laws administered by the Department. (Section 501, Title 38 USC). The Code of Federal Regulations is a codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government Code of Federal Regulations.

Collaborative Resources: Stewardship of people working together, sharing knowledge and resources.

Color Theory: The psychology of color as it affects the viewer through individual associations with color significance such as: white=purity, cleanliness, innocence, new beginnings and spiritual excellence;

black=absence of color, formal affairs, elegance, and mystery; red-bold, energetic, intense, impulsive, daring and pulsating; green=fertility, growth, rebirth, persistence, life, and hope; yellow=enlightenment, loyalty, optimism, idealism and represents a challenge; blue=peaceful, calm, cool, confident.

Compensated Work Therapy/Veterans Industries (CWT/VI) Partnership: This partnership was established in 1993 as a joint venture between the National Cemetery Administration and VA Compensated Work Therapy/Veterans Industries (CWT/VI). Under this venture, national cemeteries provide therapeutic work opportunities to veterans receiving treatment in the program. The partnership is successful, cost effective, and benefits all those involved.

Competitive Status: Basic eligibility of a person to be selected to fill a position in the competitive service without open competitive examination. Competitive status may be acquired by career-conditional or career appointment through open competitive examination, or may be granted by statute, Executive Order, or civil service rules without competitive examination. A person with competitive status may be promoted, transferred, reassigned, reinstated, or demoted subject to the conditions prescribed by civil service rules and regulations.

Complementary and Alternative Medicine (CAM): See Complementary Therapies.

Complementary Therapies: Also known as Complementary and Alternative Medicine (CAM). Many hospitals refer to the use of complementary therapies—along with conventional medicine—as "integrative medicine." These therapies serve as additions to conventional medicine and may help relieve symptoms, reduce stress and enhance well being. Complementary therapies are typically meant to be used in addition to - not in place of - conventional medical treatment.

Compressed Work Schedule (CWS): An 80 hour biweekly basic work requirement that is scheduled for less than ten workdays. Examples of this are eight workdays of 9 hours each plus one workday of 8 hours; eight workdays of 10 hours each; or six workdays of 12 hours each plus one eight hour workday.

Concept: A concept is the general idea behind a design that is later converted into variables to be measured.

Contracting Officer (CO): An individual with the authority to enter into, administer, and/or terminate contracts, and make related findings and determinations.

Contracting Officer's Technical Representative (COTR): The COTR is a qualified member of Engineering Service or a consultant who advises the CO on such matters as the progress of the lessor's alterations and conformance with the Government's plans and specifications.

Cost: Cost is the total spent for goods or services including money, time, and labor.

Criteria: Criteria are the standards, measures, or expectations used in making an evaluation, decision and/or verification.

Culture: The word culture comes from the Latin root colere (to inhabit, to cultivate, or to honor). In general, it refers to human activity; different definitions of culture reflect different theories for understanding, or criteria for valuing, human activity.

Daylighting: Daylighting is the passive solar practice of placing windows or other transparent media and reflective surfaces so that, during the day, natural sunlight provides effective internal illumination.

Decision Criteria: Decision criteria are the standards, measures, or expectations used in making an evaluation, decision and/or verification.

Demographic: A socioeconomic or similar factor that defines a certain group or area.

Design-Build: In the design-build method, a project's design and construction are included within one contract. This allows cost savings on a number of fronts. First, administration costs are lowered as there is only one contract to monitor. This is contrary to more traditional approaches where design, construction and other needs are covered by several contracts. Second, the possibility of costly design changes may be eliminated as construction and design are done simultaneously. When unexpected design changes are needed, it is easier

and less costly to alter the design during the design phase rather than ordering a change once the design phase is completed. In addition, by using a single contract for both design and construction, the owner does not have to coordinate the activities of the designer and builder since one party is responsible for both functions. Design-build also enhances the quality of the work performed. The AIA strongly advocates that qualifications of the design firm, not price, be the determining factor in choosing a design firm for a public project. Design-build incorporates this concept. Definition by AIA.

Design Criteria: Design criteria are the explicit goals that a project must achieve in order to be successful.

Design Response: The design response is a physical solution that meets the criteria set forth during the design process.

Design Story: The design story is a compelling explanation as to how a particular design was developed and how the design meets the goals established at the beginning of the design process.

Disciplinary Action: Action taken to correct the conduct of an employee; may range from an admonishment through reprimand, suspension, reduction in grade or pay, to removal from the service.

Displaced Employee Program (DEP): A system to help find jobs for career and career-conditional employees displaced either through reduction-in-force or by an inability to accept assignment to another commuting area.

Drawings, As-Built: Drawings prepared after construction showing actual placement of partitions and other architectural, structural, and mechanical features.

Drawings, Shell: Reproducible, scaled drawings showing exterior walls and permanent interior features such as columns, lobbies, and core areas, masonry corridor partitions, stairwells, elevator shafts, toilets, mechanical areas, and wire closets.

DUNS Number: The DATA Universal Numbering System (DUNS) Number issued by Dun and Bradstreet, Inc. identifies contractors and provides a link to information about the contractor's business.

Emerging Healthcare Design: The most provocative trends in healthcare design include acuity adaptable patient rooms, universal operating rooms, wait-less emergency departments, single-handed canted patient rooms, translational and personalized medicine as well as facility expansion.

Energy Medicine: Complementary and Alternative Medicine practices including Qi gong, reiki, therapeutic touch, and electromagnetic fields.

Equipment: Machinery designed to aid in the diagnosis and treatment of medical problems. Equipment does not include furniture, such as desks, chairs and tables.

Evidence-Based Design: Design which hypothesizes the expected outcomes of design interventions and subsequently measures the results.

Evidence-Based Medicine: The practice of medicine or the use of healthcare interventions guided by or based on supportive scientific evidence. Also, the avoidance of those interventions shown by scientific evidence to be less efficacious or harmful.

External Resources: Sources of information that are not a part of the Department of Veterans Affairs. External resources cited in the Interior Design Manual include industry associations and institutions, as well as private organizations.

FF&E (Furniture, Fixture and Equipment): Movable furniture, fixtures or other equipment that are have no permanent connection to the structure of a building or utilities.

Flexibility: Characterized by a ready capability to adapt to new, different, or changing requirements.

Fad: A design movement or element that becomes popular relatively quickly, remains popular often for a brief period, and then loses popularity dramatically.

Floor Load: The weight stated in pounds per foot which, if uniformly distributed, may safely be placed upon the floor of a building. This is also known as the live load. The weight of the building itself, including equipment such as boilers and machinery, is known as dead load and is not included.

Footprint: Describes the actual floor area for a function or activity; it does not include circulation space. Also refers to the building floor plate.

Furniture: Furniture is the collective term for the movable objects which support the human body (seating furniture and beds), provide storage, and hold objects on horizontal surfaces above the ground. Furniture also includes items such as desks and tables. Medical equipment is not considered furniture.

General Schedule (GS): The graded pay system as presented by Chapter 51 of Title 5, United States Code, for classifying positions.

Green Guide for Health Care (GGHC): Green Guide for Health Care™ is the healthcare sector's first quantifiable sustainable design toolkit integrating enhanced environmental and health principles and practices into the planning, design, construction, operations and maintenance of their facilities. This guide provides the healthcare sector with a voluntary, self-certifying metric toolkit of best practices that designers, owners, and operators can use to guide and evaluate their progress towards HIGH: performance healing environments. Definition by GGHC.

Goals: Specific objectives which relate to specific time periods, stated in terms of facts.

Grade: AII classes of positions which, although different with respect to kind or subject matter of work, are sufficiently equivalent as to (1) level of difficulty and responsibility, and (2) level of qualification requirements of the work to warrant the inclusion of such classes of positions within one range of rates of basic compensation.

Grievance: A complaint filed by an employee regarding working conditions and for resolution of which there is procedural machinery provided in the union contract. An injury, injustice, or wrong which gives ground for complaint because it is unjust, discriminatory, and oppressive.

Gross Square Feet: Total building gross areas measured from exterior faces of exterior walls.

Healing Environment: The focus of creating a better environment that is less institutional.

High-Tech High-Touch: A facility has the best and latest technology and whose environment is warm and friendly.

House Veterans Affairs Committee (HVAC): The committee in the U.S. House of Representatives that is responsible for veterans' benefits legislation.

Idea: A specific thought or concept that arises in the mind of a person.

Implementation: Taking a change and making it a permanent part of the system. A change may be tested first and then implemented throughout the organization.

In-House Project: In this type of project, the team is typically made of the Designer, the Project Engineer and the Departmental User Client.

Incentive Awards: An all-inclusive term covering awards granted under Part 451 or OPM regulations. Includes an award for a suggestion submitted by an employee and adopted by management; a special achievement award for performance exceeding job requirements, or an honorary award in the form of a certificate, emblem, pin, or other item.

Indoor Air Quality (IAQ): Refers to the quantitative level of contaminations in the air as well as the qualitative level of satisfaction of those exposed to the air. Standards for acceptable IAQ have been developed by the U.S. Environmental Protection Agency.

Indoor Environmental Quality (IEQ): Characteristics of the indoor climate of a building, including the gaseous composition, temperature, relative humidity, and airborne contaminant levels.

Innovation: The process of converting knowledge and ideas into better ways of doing business or into new or improved products and services that are valued by the community.

Institute for Healthcare Improvement (IHI): The Institute for Healthcare Improvement is a non-profit organization driving the improvement of health by advancing the quality and value of healthcare. Its measures of success include improved safety, effectiveness, patient-centeredness, timeless, efficiency and equality.

Institute of Medicine (IOM): The Institute of Medicine is a non-profit organization used for science-based advice on matters of biomedical science, medicine, and health.

Integrated Funds Distribution, Control Point Activity, Accounting & Procurement Package (IFCAP): Provides electronic funds distribution for accounting and procurement activities between regional offices and medical centers.

Interior Design: Interior Design is a multi-faceted profession in which creative and technical solutions are applied within a structure to achieve a built interior environment. These solutions are functional, enhance the quality of life and culture of the occupants, and are aesthetically attractive. Designs are created in response to and coordinated with the building shell, and acknowledge the physical location and social context of the project. Designs must adhere to code and regulatory requirements, and encourage the principles of environmental sustainability. The interior design process follows a systematic and coordinated methodology, including research, analysis, and integration of knowledge into the creative process, whereby the needs and resources of the client are satisfied to produce an interior space that fulfills the project goals. Interior design includes a scope of services performed by a professional design practitioner, qualified by means of education, experience, and examination, to protect and enhance the life, health, safety and welfare of the public. Definition by NCIDQ.

Internal Resources: Documents and sources of support that can be found within the structure of the Department of Veterans Affairs. The majority of Internal Resources referenced in the Interior Design Manual focus on the Technical Information Library, found at VA's Office of Construction and Facilities Management website.

Intuitive Wayfinding: Wayfinding is the organization and communication of one's dynamic relationship to space and the environment. Intuitive wayfinding uses subtle cues and repetition to direct people along the appropriate path.

Labyrinth: A labyrinth is an ancient symbol that relates to wholeness. It combines the imagery of the circle and the spiral into a meandering but purposeful path. The labyrinth represents a journey to our own center and back again out into the world. Labyrinths have long been used as meditation and prayer tools.

Leave without Pay (LWOP): A temporary non-pay status and absence from duty granted at an employee's request. The permissive nature of "leave without pay" distinguishes it from "absence without leave."

Leave, Annual: Time allowed to employees for vacation and other absences for personal reasons.

LEED: The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings. LEED gives building owners and operators the tools they need to have an immediate and measurable impact on their buildings' performance. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. Definition from the U.S. Green Building Council.

Lessee: Tenant. The person(s) holding rights of possession and use of property under terms of a lease.

Lessor: Landlord. The one leasing property to a lessee.

Life Cycle Cost: A measurement of understanding the cost of a product initially, the cost to maintain the product, the life time of replacement cost. Sometimes called a "cradle-to-grave analysis" which is the initial product cost to the final step of returning the product to its original or next use state.

Living Document: Traditional publishing required changes or modifications to content presented in subsequent editions, while a living document is enhanced in a manner producing more frequent versions. Documents of this nature become collections of information, indexed and interwoven like an ecosystem. A website is an example of a living document. In a living document a topic is covered more completely over time, materials are re-indexed, and most often the entire content base is searchable. Source: Center for Strategic Relations.

Like-Atecture: When a design option is based on what a designer or stakeholder personally prefers, rather than on hard evidence.

Maintenance: The ability of a product or material to be kept to its proper condition, and the work required to sustain that condition over the life of the material. Definition from NCIDQ.

Major Construction: In this project type, the Central Office serves as leadership with outside design firm. A local VA designer may collaborate with the outside design firm.

Managed Care: A system of healthcare delivery that influences utilization and cost of services and measures performance. The goal is a system that delivers value by giving people access to quality, cost-effective healthcare.

Manipulative and Body-Based Practices: Complementary and Alternative Medicine practices including chiropractic, massage, reflexology, and osteopathy.

Material Disbursement: Tracking the allocation of materials throughout a space.

Mind-Body Interventions: Complementary and Alternative Medicine practices including yoga, guided imagery, meditation, hypnotherapy, spirituality, art dance, music therapies, and tai chi.

Minor Construction: For minor construction projects, the team is made of the Designer, the Project Engineer and the Departmental User Client and often Administration is involved.

Mission: Enduring statements of purpose. The mission statement should broadly answer the following questions: 1) What is the organization responsible for? 2) Why is it important? 3) How does it discharge those responsibilities? 4) For whom are the activities conducted?

Mobile Technology: Computers on Wheels (COWs) are the most common form of mobile technology in hospitals.

Modular Building: A system of constructing rooms as unit building elements, ready-made both internally and externally, under factory conditions. The room building elements are then combined to form the finished building. They are installed on pre-laid foundations and only the roof needs to be built on the site.

Modularity: A quality of a system where it consists of various parts which separate cleanly and fit together well. High modularity may take longer to design but pays back well through clarity, elegance, maintainability and flexibility.

Net Area: The area of rooms or spaces as measured from inside wall to inside wall and assigned to functional use by occupants.

Net-to-Gross: A measure of the ratio of assignable space to the total space in a building; typically expressed as a percentage.

Needs Assessment: This is a survey tool that is used to determine the personal importance placed on the ten individual needs categories. The second part of this assessment is to rate the ten individual needs categories.

NRM Funds: Funding for projects that provide for replacement or repair of major building systems, structural components of buildings and building service equipment where MI exceeds $25,000. There is no upper cost limitation on NRM projects except that the MI must be less than $500,000. NRM funds are a part of the Medical Care Appropriation and are allocated by the Veterans Integrated Service Network (VISN).

Off-Gassing: The release of chemicals from non-metallic substances used in construction or furnishings. Off-gassing compromises indoor air quality (IAQ). Common sources of off-gassing include interior-grade pressed wood materials and synthetic furnishings such as carpet.

Official Personnel Folder (OPF): The official repository of employment records and documents affecting personnel actions during an employee's Federal civilian service.

Options: One of a number of things from which only one can be chosen.

Outcome Measures: Assessments which gauge the effect or results of treatment for a particular disease or condition. Outcome measures include the patient's perception of restoration of functional status, as well as measures of mortality, morbidity, cost, quality of life, patient satisfaction, and others.

Overtime Work: Under Title 5. U.S. Code, overtime work is officially ordered or approved work performed in excess of eight hours in a day or 40 hours in a week. Under the Fair Labor Standards Act, work in excess of 40 hours in a week by a non-exempt employee.

Partition: A wall which does not support a vertical load of a structure other than its own weight, but may support loads attached to it such as cabinetry, shelving or grab bars, and does not extend further than from the floor of an interior area of a structure to the underside of the deck of that structure. Definition from NCIDQ.

Patient-Centered Care: Patient-centered care emerged as a full-fledged medical model in the 1970s and involves treating patients as partners, allowing them to assist in planning their healthcare and encouraging them to take responsibility for their own health.

Patient-Centered Design: Patient-centered design addresses the needs and priorities of the individual patient and is evidence-based. Patient-centered design features can positively affect social, cognitive, motivational, emotional, and physical processes.

Patient Experience: The journey a patient experiences through a healthcare facility, physician office or treatment center. The spaces they encounter, the things they see and touch, and even the people they meet affect the patient experience.

Patient Profile: A Readily retrievable, centrally located information record that contains patient demographics, treatment history, allergies, and medication profile.

Pay Retention: The right of a General Schedule or prevailing rate employee (following a grade retention period or at other specified times when the rate of basic pay would otherwise be reduced) to continue to receive the higher rate. Pay is retained indefinitely.

Pebble Project: When a pebble is tossed into a pond, it creates a ripple effect. That is the goal of the Center for Health Design's Pebble Project research program, which was initiated with San Diego Children's Hospital and Health Center in 2000. By providing examples of healthcare organizations whose facility design has made a difference in the quality of care - as well as their financial performance, the Pebble Project is already creating ripples throughout the healthcare community. Pebble Project partners are demonstrating that facility design can: improve the quality of care for patients; attract more patients; recruit and retain staff; increase philanthropic, community, and corporate support; and, enhance operational efficiency and productivity. Definition from the Center for Health Design.

Performance Appraisal: The comparison, under a performance appraisal system, of an employee's actual performance against the performance standards previously established for the position.

Performance Measures: These indicate whether progress is being made against the specific problems and issues faced by Federal agencies. These problems and issues are generally surfaced and explained in the agencies strategic plan.

Planetree Model: The Planetree Model is committed to enhancing healthcare from the patient's perspective. It empowers patients and families through information and education, and encourages "healing partnerships" with caregivers to support active participation. Through organizational transformation, the Planetree Model creates healing environments in which patients can be active participants and caregivers are enabled to thrive.

There are ten components of the Planetree Model: human interaction; the importance of family, friends and social support; empowering patients through information and education; architectural design conducive to health and healing; the importance of the nutritional and nurturing aspects of food; healing arts: nutrition for the soul; spirituality: the importance of inner resources; the importance of human touch; complementary therapies: expanding patient's choices; and, healthy communities: expanding the boundaries of healthcare.

Plans and Specifications: Plans and specs include architectural and engineering drawings and specifications for construction of a building or project, including a description of materials to be used and the manner in which they are to be applied.

Position Classification: Analyzing and categorizing jobs by occupational group, series, class, and grade according to like duties, responsibilities, and qualification requirements.

Positive Distraction: The concept of a positive distraction implies that certain types of environmental features are especially effective in reducing patient stress and promoting wellness. A positive distraction is an element that produces positive feelings, effortlessly hold attention and interest, and therefore may block or reduce worrisome thoughts.

Principle: A basic generalization that is accepted as true and that can be used as a basis for reasoning or conduct.

Programming: The scope of work which includes, but is not limited to, conducting research; identifying and analyzing the needs and goals of the client and/ or occupant(s) of the space; evaluating existing documentation and conditions; assessing project resources and limitations; identifying life, safety and code requirements; and developing project schedules and budgets. Definition from NCIDQ.

Purchasing Agent: An in-house VA expert responsible for buying various products, furniture, services, etc. for the facility.

Quality Increase: An additional within-grade increase granted to General Schedule employees for high quality performance above that ordinarily found in the type of position concerned.

Real Property: Real estate. Physical property that is permanent and non-removable in nature. Land and appurtenances, including anything of a permanent nature such as structures, trees, minerals, and the interest, benefits, and inherent rights thereof.

Reduction-in-Force (RIF): A personnel action that may be required due to lack of work or funds, changes resulting from reorganization, downward reclassification of a position, or the need to make room for an employee with reemployment or restoration rights. Involves separating an employee from his/her present position, but does not necessarily result in separation or downgrading.

Re-Engineer: The technique of breaking a process down into basic steps so that these basic steps can be reordered, streamlined or eliminated to achieve greater efficiencies and improved public service.

Reporting Structure: This refers to the audience to whom you report.

Reprimand: An official rebuke of an employee. Normally in writing and placed in the temporary side of an employee's official personnel folder.

Reprisal: Any action taken by one person either in spite or as retaliation for an assumed or real wrong by another.

Resident-Centered Care: Facility design model that focuses care resources around the individual resident (patient). Essential services are near or are brought to the resident as compared to taking the resident (patient) to the point of care.

Resident Engineer: A VA Central Office (Office of Construction and Facilities Management) employee who manages Major/Minor construction projects. An R/E is responsible for contract administration; analyzing and issuing change orders; inspection; and coordination between the VAMC and contractor. This individual is usually located near the job site to oversee day-to-day construction activities.

Residential Model: Design philosophy based on incorporating home-like elements while minimizing institutional aspects.

Responsible Design: Architecture that respects the natural environment and integrates it into the building design, addresses the health of individuals and the community, and is sensitive to the cultural context of the site.

Robot: A mechanical device which performs automated physical tasks, either according to direct human supervision, a pre-defined program, or a set of general guidelines using artificial intelligence techniques. Robots are typically used to do the tasks that are too dirty, dangerous, difficult, repetitive or dull for humans.

Safety: A judgment of the acceptability of risk (a measure of the probability of an adverse outcome and its severity) associated with a given situation, e.g., for a patient with a particular health problem, by a clinician with certain training, or in a specified treatment setting.

Same Handed: Healthcare designs are incorporating the evidence that repetitive actions and standardization cause fewer errors, a concept first applied in manufacturing. This is the impetus behind the same-handed room; i.e., creating the same room orientation throughout to reduce medical errors. No study has yet proven the effectiveness of this application; it is largely intuitive.

Senate Veterans Affairs Committee: The committee in the U.S. Senate that is responsible for veterans' benefits legislation.

Senior Executive Service: A separate personnel system for persons who set policy and administer programs at the top levels of the Government (equivalent to GS-16 through Executive Level IV).

Service Computation Date-Leave: The date, either actual or adjusted, from which service credit is accumulated for determining the rate of leave accrual; it may be different from the service computation date, which determines relative standing in a subgroup for reduction-in-force, or service computation date for retirement.

Service Connected or Service Connection: A disability is considered to be service connected if it was incurred or aggravated during a period of active military service from which the veteran was discharged under conditions other than dishonorable and was not due to willful misconduct of the veteran. A service-connected disability evaluated 10 percent or more disabling by VA entitles a veteran to receive disability compensation.

Sexual Harassment: A prohibited personnel practice when it results in discrimination for or against an employee on the basis of conduct not related to performance (i.e., the taking or refusal to take a personnel action, including promotion of employees who submit to sexual advances, or refusal to promote employees who resist or protest sexual overtures.). Within Department of Veterans Affairs, a supervisor who uses implicit or explicit coercive sexual behavior to control, influence, or affect the career, salary, or job of an employee is engaging in sexual harassment. Similarly, an employee of an agency who behaves in this manner in the process of conducting agency business is engaging in sexual harassment. Sexual harassment occurs when certain behaviors or conduct exists in the work environment that substantially interferes with an employee's ability to work. A hostile environment results where verbal or non-verbal behavior in the work place (1) focuses

on the sexuality of another person or occurs because of the person's gender, (2) is unwanted or unwelcome and (3) is severe or pervasive enough to affect the person's work environment.

Solution: An answer to a problem.

Space Planning: The analysis and design of spatial and occupancy requirements, including, but not limited to, space layouts and final planning. Definition from NCIDQ.

Specialty: The term used to describe the particular field of medicine in which a specialist doctor practices i.e., neurosurgery, ophthalmology, or gynecology.

Specification: A precise statement of a set of requirements, to be satisfied by a material, product, system or service.

Staffing: Use of available and projected personnel through recruitment, appointment, reassignment, promotion, reduction-in-force, etc., to provide the work force required to fulfill the agency's mission.

Stakeholder: Any organization or individual who has a vested interest in the product or the activities of any other organization.

Station Level Project: Construction, renovation or nonrecurring maintenance and repair projects where the MI costs are less than $25,000. Total project costs must be less than $150,000. Station level projects are funded as a lump sum figure in the non-recurring maintenance program.

Stress Reduction: An approach to the recognition and treatment of negative and self-defeating patterns of behavior. It utilizes a variety of modalities such as biofeedback, meditation, visualization, nutritional and addiction counseling.

Sustainable Design: The art of designing buildings to comply with the principles of economic, social, and ecological sustainability. The goal of sustainable design is to provide for current needs without damaging the ability of future generations to provide for themselves.

Therapeutic Environments: Therapeutic Environment theory stems from the fields of environmental psychology (the psycho-social effects of environment), psychoneuroimmunology (the effects of environment on the immune system), and neuroscience (how the brain perceives architecture). Patients in a healthcare facility are often fearful and uncertain about their health, their safety, and their isolation from normal social relationships. The large, complex environment of a typical hospital further contributes to the stressful situation. Stress can cause a person's immune system to be suppressed, and can dampen a person's emotional and spiritual resources, impeding recovery and healing. Healthcare architects, interior designers, and researchers have identified four key factors which, if applied in the design of a healthcare environment, can measurably improve patient outcomes: reduce or eliminate environmental stressors; provide positive distractions; enable social support; and, give a sense of control. Definition from Whole Building Design Guide.

Technology: Human innovation in action that involves the generation of knowledge and processes to develop systems that solve problems and extend human capabilities.

TeleWork: A work place tool that enables employees to work effectively from an alternate location. Whether employees work from home, a satellite office, or a TeleWork center, forward thinking managers, and labor officials agree that telecommuting is effective in blending employees' moral with increased productivity and efficiency.

Term: The period of time between the commencement date and termination date of a note, mortgage, legal document, or other contract.

Tour of Duty: The hours of a day (a daily tour of duty) and the day of an administrative workweek (weekly tour of duty) scheduled in advance and during which an employee is required to work regularly.

Tracking: The detailed noting of patients' healthcare experience throughout their contact with the system. This can automate all steps of the patient management and documentation process from triage to charting and can make for more efficient management of resources.

Trailer: A temporary facility that can be placed on wheels and towed.

Trends: A direction demonstrated through observation of data and/or indicators over time. Trends should not be confused with fads, which become dated quickly and typically go away.

Turnkey: A term used to describe any job or contract in which the contractor agrees to complete the work to a certain specified point and to assume all risk. For leases, a turnkey contract requires the lessor to complete all specified alterations necessary for the Government to occupy the space.

Universal Room: A concept that embraced the idea that a patient room could be designed to adapt to a patient's changing acuity levels, enabling the patient to stay in one room for the duration of their stay.

Value Engineering: An analysis of materials, processes, and products in which functions are related to cost and from which a selection may be made so as to achieve the desired function at the lowest overall cost consistent with performance.

VA Staff: Employees of the Department of Veterans Affairs. Most references to VA Staff in the Interior Design Manual refer to those staff members most intimately involved in the interior design process, both on site and in the Central Office.

Veterans Service Organization (VSO): An organization dedicated to advocating veterans' causes and interests, and assisting veterans in their interactions with VA. Examples include the Disabled American Veterans (DAV), American Legion (AL), and the Veterans of Foreign Wars (VFW).

Vision: A brief description of the desired ideal state. Due to its idealistic nature, it may in fact never be realized by the organization. Rather, the vision should serve to inspire the organization to move towards the ideal state.

Wage Employees: Those employees in trades, crafts, or labor occupations covered by the Federal Wage System, whose pay is fixed and adjusted periodically in accordance with prevailing rates.

Wayfinding: Wayfinding means knowing where you are, knowing your destination, following the best route, recognizing your destination, and finding your way back. Definition by Carpman Grant Associates.

Wellness Environments: The Wellness Environment™ incorporates three distinct areas or zones: patient/family, hygiene, and professional staff. The patient area is arranged for privacy, accessibility and access to natural light. Definition by Wellness Environments.

Within-Grade Increase: A salary increase provided in certain Government pay plans based upon time-in-grade and acceptable or satisfactory work performance. Also known as "periodic increase" or "step increase."

GLOSSARY OF ACRONYMS AND ABBREVIATIONS

A&MM ..... Acquisition and Materiel Management
A/E ..... Architect/Engineer
A/L ..... Annual Leave
AAAH ..... American Academy of Architecture for Health
AABC ..... Associated Air Balance Council
AAHID ..... American Academy of Healthcare Interior Designers
AAMC ..... Association of American Medical Colleges
ACEC ..... American Consulting Engineers Council
ACGIH ..... American Conference of Governmental Industrial Hygienists
ACI ..... American Concrete Institute
ACMD ..... Associate Chief Medical Director
ACO ..... Administrative Contracting Officer
ACOS ..... Associate Chief of Staff
ACRS ..... Accelerated Cost Recovery System
ADA ..... Americans with Disability Act
ADAAG ..... Americans with Disabilities Act Accessibility Guidelines
ADC ..... Air Diffusion Council
ADHC ..... Adult Day Health Care
ADP ..... Automated Data Processing
ADR ..... Alternative Dispute Resolution
ADS ..... Addictive Disorders Section
AEMS/MERS ..... Automated Engineering Management System/Medical Equipment Reporting System
AERS ..... Adverse Event Reporting System
AEU ..... Ambulatory Evaluation Unit
AFBMA ..... Anti-Friction Bearing Manufacturers Association
AFC ..... Austin Finance Center
AHA ..... American Hospital Association
AHJ ..... Authority Having Jurisdiction
AIA ..... American Institute of Architects
AISC ..... American Institute of Steel Construction
AISI ..... American Iron and Steel Institute
AITC ..... American Institute of Timber Construction
ALA ..... American Lung Association

ALOS ..... Average Length of Stay
AMCA ..... American Moving and Conditioning Association
AMMS ..... Acquisition and Materiel Management Series
ANSI ..... American National Standards Institute
AOD ..... Administrative Officer on Duty
ARF ..... Animal Research Facility
ARI ..... American Refrigeration Institute
ASCE ..... American Society of Civil Engineers
ASHE ..... American Society of Hospital Engineers
ASHES ..... American Society of Healthcare Environmental Services
ASHRAE ..... American Society of Heating, Refrigerating and Air Conditioning Engineers
ASID ..... American Society of Interior Designers
ASME ..... American Society of Mechanical Engineers
ASTM ..... American Society of Testing and Materials
AWA ..... American Water Works Association
AWOL ..... Absence without Leave
AWS ..... American Welding Society
BAS ..... Building Automation System
BETEC ..... Building Enclosure Technology and Environmental Council
BIS ..... Biomedical Instrumentation Service
BOMA ..... Building Owners and Managers Association
BPA ..... Blanket Purchase Agreement
BSC ..... Biological Safety Cabinet
BSL ..... Biosafety Level
BVAC ..... Behavioral VA Care
C&P ..... Compensation and Pension
CAB ..... Construction Advisory Board
CAD ..... Computer Aided Design
CAM ..... Complementary and Alternative Medicine
CARES ..... Capital Asset Realignment for Enhanced Services
CARF ..... Commission on Accreditation of Rehabilitation Facilities
CBOC ..... Community Based Outpatient Clinic
CC ..... Contractor Furnished, Contractor Installed
CCU ..... Cardiac Care Unit
CD ..... Construction Document

CDA ..... Copper Development Association
CDC ..... Centers for Disease Control and Prevention
CF ..... Construction Funds, VA Furnished, Installed by VA or Contractor
CFM ..... Office of Construction and Facilities Management
CFMO ..... Chief, Facilities Management Officer
CFR ..... Code of Federal Regulations
CHAMPVA ..... Civilian Health and Medical Program of the Department of Veterans Affairs
CHER ..... Coalition for Health Environments Research
CLO ..... Chief Logistic Officer
CO ..... Contracting Officer
CO ..... Central Office, Headquarters for the Department of Veterans Affairs
COLA ..... Cost of Living Adjustment
COS ..... Chief of Staff
COTR ..... Contracting Officer's Technical Representative
COW ..... Computer on Wheels
CPI ..... Consumer Price Index
CPRS ..... Clinical Patient Records System
CSI ..... Construction Specifications Institute
CSRS ..... Civil Service Retirement System
CT ..... Computed Tomography
CTI ..... Cooling Tower Institute
CWS ..... Compressed Work Schedule
CWT ..... Compensated Work Therapy
DD ..... Design Development
DEP ..... Displaced Employee Program
DFMO ..... Deputy, Facilities Management Officer
DHS ..... Department of Homeland Security
DMMS ..... Decentralized Medical Management System
DOD ..... Department of Defense
DOE ..... Department of Energy
DOM ..... Domiciliary
DUSH ..... (VA) Deputy Under Secretary for Health
EAP ..... Employee Assistance Program
EBD ..... Evidenced Based Design
ECC ..... Extended Care Center

ECHO ..... Echocardiography
ED ..... Emergency Department
EDMS ..... Electronic Document Management System
EDRA ..... Environmental Design Research Association
EEG ..... Electroencephalograph
EEO ..... Equal Employment Opportunity
EES ..... (VA) Employee Education System
EFT ..... Electronic Funds Transfer
EIS ..... Environmental Impact Statement
EKG ..... Electrocardiography
EMG ..... Electromyography
EMI ..... Electromagnetic Interference
EMPO ..... Emergency medical Preparedness Office
EMS ..... Energy Management System
ENT ..... Ear, Nose and Throat
EO ..... Executive Order
EOY ..... End of Year
EPA ..... Environmental Protection Agency
EPACT ..... Energy Policy Act of 2005
EPS ..... Environmental Programs Service
ER ..... Emergency Room
ETA ..... Electronic Time and Attendance
FAR ..... Federal Acquisition Regulation
FDA ..... U.S. Food and Drug Administration
FEHB ..... Federal Employee Health Benefits Program
FEMA ..... Federal Emergency Management Agency
FERS ..... Federal Employee Retirement System
FF&E ..... Furniture, Fixtures and Equipment
FHA ..... Federal Housing Administration
FMOC ..... Facility Maintenance and Operations Committee
FPI ..... Federal Prison Industries
FSC ..... Federal Supply Class
FTE ..... Full Time Employee
FY ..... Fiscal Year
GAO ..... Government Accounting Office

GC ..... General Contractor
GEC ..... Geriatrics and Extended Care
GGHC ..... Green Guide for Health Care
GI ..... Gastroenterology
GPF ..... General Post Fund
GRECC ..... Geriatric Research, Education and Clinical Center
GS ..... General Schedule
GSA ..... General Services Administration
HBHC ..... Hospital Based Home Care
HCC ..... Home and Community Care
HEPA ..... High Efficiency Particulate Air
HIPAA ..... Health Insurance Portability and Accountability Act
HIV ..... Human Immunodeficiency Virus
HR ..... Human Resources
HSR&D ..... Health Systems Research and Development
HUD ..... Housing Urban Development
HVAC ..... Heating, Ventilation and Air Conditioning
HVAC ..... House Veterans Affairs Committee
IBC ..... International Building Code
ICC ..... International Code Council
ICU ..... Intensive Care Unit
IEEE ..... Institute of Electrical and Electronics Engineers
IFCAP ..... Integrated Funds Distribution Control Point Activity, Accountability and Procurement
IFMA ..... International Facility Management Association
IG ..... Inspector General
IH ..... Industrial Hygienist
IHI ..... Institute for Healthcare Improvements
IIDA ..... International Interior Design Association
IMIS ..... Integrated Management Information System
IMS ..... Information Management System
IOM ..... Institute of Medicine
IPCC ..... Intensive Psychiatric Community Care
IRB ..... Institutional Review Board
IRM ..... Information Resources Management
ISA ..... Instrument Society of America

ISO ..... Information Security Officer
IT ..... Information Technology
JCAHO ..... Joint Commission on Accreditation of Healthcare Organizations
JWOD ..... Javits-Wagner-O'Day Program
LAFW ..... Laminar Air Flow Workbench
LEED ..... Leadership in Energy and Environmental Design
LPN ..... Licensed Practical Nurse
LVA ..... Leadership VA
LWOP ..... Leave Without Pay
M&R ..... Maintenance and Repairs
MAS ..... Medical Administrative Service
MCCR ..... Medical Care Cost Recovery
MI ..... Minor Improvements
MICU ..... Medical Intensive Care Unit
MIS ..... Medical Information Section
MMC ..... Multi-hazard Mitigation Council
MOU ..... Memorandum of Understanding
MRI ..... Magnetic Resonance Imaging
MS&N ..... Medical, Surgical and Neurological
MSS ..... Manufacturers Standardization Society
MVAC ..... Medical VA Care
NACE ..... National Association of Corrosion Engineers
NAILM ..... National Association of Institutional Linen Management
NAPHCC ..... National Association of Plumbing and Heating-Cooling Contractors
NASA ..... National Aeronautics and Space Administration
NB ..... National Board of Boiler and Pressure Vessel Inspectors
NCA ..... National Cemetery Administration
NCCAM ..... National Center on Complementary and Alternative Medicine
NCID ..... National Center for Infectious Diseases
NCIDQ ..... National Council Interior Design Qualifications
NEA ..... National Endowment for the Arts
NEC ..... National Electric Code
NEMA ..... National Electrical Manufacturers Association
NEBB ..... National Environmental Balancing Bureau
NFPA ..... National Fire Protection Association

NHCU ..... Nursing Home Care Unit
NIAID ..... National Institute of Allergy and Infection Diseases
NIB ..... National Institute for the Blind
NIBS ..... National Institute of Building Sciences
NIH ..... National Institute of Health
NIOSH ..... National Institute for Occupational Safety and Health
NIST ..... National Institute of Standards and Technology
NMIC ..... National Mechanical Insulation Committee
NRM ..... Non-Recurring Maintenance
NSF ..... National Sanitation Foundation
NSPC ..... National Standard Plumbing Code
NUSF ..... Net Usable Square Feet
NUSIG ..... National Uniform Seismic Installation Guidelines
NSF ..... Program Net Square Feet
NSPE ..... National Society of Professional Engineers
OIG ..... Office of the Inspector General
OMB ..... Office of Management and Budget
OPF ..... Official Personnel Folder
OPM ..... Office of Personnel Management
OR ..... Operating Room
OSHA ..... Occupational Safety and Health Administration
OT ..... Occupational Therapy
OWCP ..... Office of Workers Compensation Program
PAO ..... Public Affairs Officer
PBT ..... Persistent and Bioaccumulative Toxins
PDA ..... Personal Digital Assistant
PET Imaging ..... Positron Emission Tomography
PHI ..... Protected Health Information
PM ..... Project Managers
PM&R ..... Physical Medicine and Rehabilitation
POV ..... Privately Owned Vehicle
PPH ..... Psychiatry Partial Hospitalization
PRRTP ..... Psychiatric Residential Rehabilitation Treatment Program
PT ..... Physical Therapy
PTSD ..... Post Traumatic Stress Disorder

PTSR ..... Post Traumatic Stress Recovery
PVA ..... Paralyzed Veterans of America
RCN ..... Reports Control Number
RE ..... Resident Engineer
RFP ..... Request for Proposal
RIF ..... Reduction in Force
RMS ..... Rehabilitation Medicine Services
RSES ..... Refrigeration Service Engineers Society
SAMA ..... Scientific Apparatus Makers Association
SBA ..... Small Business Administration
SCI ..... Spinal Cord Injury
SCIU ..... Spinal Cord Injury Unit
SD ..... Schematic Design
SDTU ..... Special Diagnostic Treatment Unit
SEPS ..... Space and Equipment Planning Software System
SES ..... Senior Executive Service
SICU ..... Surgical Intensive Care Unit
SL ..... Service Line
SLA ..... Supplemental Lease Agreement
SMACNA ..... Sheet Metal and Air Conditioning Contractors National Association
SOC ..... Satellite Outpatient Clinic
SPD ..... Supply, Processing and Distribution
SSPC ..... Steel Structures Painting Council
TB ..... Tuberculosis
TBI ..... Traumatic Brain Injury
TEMA ..... Tubular Exchanger Manufacturers Association
TIL ..... Technical Information Library
TQI ..... Total Quality Improvement
UBC ..... Uniform Building Code
UFAS ..... Uniform Federal Accessibility Standards
UFGS ..... Unified Facilities Guide Specifications
UL ..... Underwriters Laboratories
UR ..... Utilization Review
USC ..... United States Code
USGBC ..... US Green Building Council

USH ..... (VA) Under Secretary for Health
USP ..... United States Pharmacopeias
UVGI ..... Ultraviolet Germicidal Irradiation
VA ..... Department of Veterans Affairs
VAAR ..... VA Acquisition Regulation
VABOB ..... VA Business Oversight Board
VACO ..... VA Central Office
VAHBS ..... VA Hospital Building System
VAMC ..... VA Medical Center
VARO ..... VA Regional Office
VAV ..... Variable Air Volume
VBA ..... Veterans Benefits Administration
VC ..... VA Furnished and Contractor Installed – Medical Care Appropriation for Equipment and Construction Appropriations for Installation
VCS ..... Veterans Canteen Service
VE ..... Value Engineering
VHA ..... Veterans Health Administration
VISN ..... Veterans Integrated Service Network
VSO ..... Veterans Service Organization
VMU ..... Veterinary Medicine Unit
VV ..... VA Furnished and Installed – VHA Appropriation
WBDG ..... Whole Building Design Guide
WHO ..... World Health Organization

INTERNAL RESOURCES

Accessibility ..... http://www.va.gov/facmgt/standard/accessibility.asp

A/E Information ..... http://www.va.gov/facmgt/ae/des_sub.asp

A/E Review Checklists ..... http://www.va.gov/facmgt/standard/ae_checklist.asp

Asbestos ..... http://www.va.gov/facmgt/standard/asbestos.asp

Construction Project Information ..... http://www.va.gov/facmgt/construction/

Design Alerts ..... http://www.va.gov/facmgt/standard/d_alert.asp

- General
- Architectural
- Automatic Transport
- Electrical Engineering
- HVAC Engineering
- Plumbing Engineering
- Sanitary Engineering
- Site Development
- Steam Generation / Distribution
- Structural Engineering

Design and Construction Procedures ..... http://www.va.gov/facmgt/standard/proc_idx.asp

Design Guides ..... http://www.va.gov/facmgt/standard/dg_idx.asp

Acquisition and Materiel Management Series

- Supply, Processing and Distribution

Clinical Series

- Ambulatory Care (Hospital Based)
- Ambulatory Care Invasive Procedures Suite
- Eye Clinic
- Pharmacy Service
- Pulmonary Medicine Service
- Spinal Cord Injury Center

Imaging Series

- Magnetic Resonance Imaging
- Nuclear Medicine Service
- Radiation Therapy
- Radiology Service

Primary Care Series

Community Based Outpatient Clinic

Satellite Outpatient Clinic

Primer Series

Outpatient Pharmacy

Tuberculosis

Research Series

Research Laboratory

Veterinary Medicine Unit

Surgical Series

Ambulatory Surgery

Surgical Service

Other Design Guides

Lease Based Outpatient Clinic

National Cemetery Administration

Nursing Home Design Guide

VA Signage Design Guide

Veterans Benefits Administration

Design and Construction Procedures ..... http://www.va.gov/facmgt/standard/proc_idx.asp

Design Manuals ..... http://www.va.gov/facmgt/standard/manuals.asp

Architectural

Architectural Design Manual for Ambulatory Care/Outpatient Clinic Projects

Architectural Design Manual for Hospital/Clinical Addition Projects

Architectural Design Manual for Nursing Home Care Units and Domiciliary Projects

Architectural Design Manual for Nursing Home (Design/Build) Projects

Architectural Design Manual for Regional Office Projects

Asbestos Abatement

Asbestos Abatement Design Manual

Automatic Transport

Transport Systems Design Manual for Hospital Projects

Transport Systems Design Manual for Parking Structure/Regional Office Projects

Critical Path Method

Manual for Development of CPM Phasing for Hospital Projects

Electrical

Electrical Design Manual for Hospital Projects

Electrical Design Manual for Regional Office Projects

Estimating

Manual for Preparation of Cost Estimates for Hospital Projects

Equipment

Equipment Design Manual for Hospital Projects

Fire Protection

Fire Protection Design Manual

HVAC

HVAC Design Manual for Domiciliary and Nursing Home Projects

HVAC Design Manual for Hospital Projects (Ambulatory Care/Clinical Addition/Energy Center/Outpatient Clinic)

HVAC Design Manual for Regional Office Projects

HVAC Design Manual Veterinary Medical Unit Projects

Supplement to HVAC Design Manual for Veterinary Medical Unit Projects

Interior Design

Interior Design Manual for Hospital Projects Clinic/Domiciliary/Nursing Home

Interior Design Manual for Regional Office Projects

Plumbing

Plumbing Design Manual for Domiciliary Projects

Plumbing Design Manual for Hospital Projects (Ambulatory Care/Clinical Addition/Energy Center/Outpatient Clinic)

Plumbing Design Manual for Laundry Projects

Plumbing Design Manual for Nursing Home Projects

Plumbing Design Manual for Parking Structure Projects

Plumbing Design Manual for Regional Office/Warehouse Projects

Plumbing Design Manual for Veterinary Medical Unit Projects

Sanitary

Sanitary Design Manual for Hospital Projects

Site Development

Site Development Design Manual

Specifications

Manual for Preparation and Issuance of Construction Solicitation and Contract Documents

Steam Generation/Distribution

Steam Generation Systems Design Manual

Outside Steam Distribution Systems Design Manual

Structural

Structural Design Manual for Ancillary Facilities/Outpatient Clinics/Laundries/Warehouse Projects

Structural Design Manual for Energy Center Projects

Structural Design Manual for Hospital/Replacement Hospital/Clinical Addition/Domiciliary/Nursing Home/Psychiatric Building/Outpatient Clinic/Veterinary Medical Unit Projects

Structural Design Manual for Nursing Home (Design/Build) Projects

Structural Design Manual for Parking Structure Projects

Structural Design Manual for Regional Office Projects

Energy Conservation and Sustainability ..... http://www.va.gov/facmgt/standard/energy.asp

Environmental Compliance ..... http://www.va.gov/facmgt/standard/env_idx.asp

Equipment Guide List ..... http://www.va.gov/facmgt/standard/equipment.asp

Equipment Reference Manual ..... http://www.va.gov/facmgt/standard/equiprm.asp

Fire Safety ..... http://www.va.gov/facmgt/standard/fire.asp

Grants ..... http://www.va.gov/facmgt/standard/grants.asp

Hospital Building System Development Study ..... http://www.va.gov/facmgt/standard/bsds.asp

National CAD Standards and Details ..... http://www.va.gov/facmgt/standard/details.asp

Architectural

Auto Transport

Electrical

Graphics (Plaques and Seals)

HVAC

Plumbing

Site

Steam

Master Construction Specifications..... http://www.va.gov/facmgt/standard/spec_idx.asp

Division 0 – Procurement and Contracting Requirements (previously Special Sections)

Division 1 – General Requirements

Division 2 – Existing Conditions (previously Sitework)

Division 3 – Concrete

Division 4 – Masonry

Division 5 – Metals

Division 6 – Wood, Plastics and Composites (previously Wood and Plastic)

Division 7 – Thermal and Moisture Protection

Division 8 – Openings (previously Doors and Windows)

Division 9 – Finishes

Division 10 – Specialties

Division 11 – Equipment

Division 12 – Furnishings

Division 13 – Special Construction

Division 14 – Conveying Equipment (previously Conveying Systems)

Division 21 – Fire Suppression (new)

Division 22 – Plumbing (new)

Division 23 – Heating, Ventilating and Air Conditioning (new)

Division 26 – Electrical (previously Division 16)

Division 27 – Communications (new)

Division 28 – Electronic Safety and Security (new)

Division 31 – Earthwork (new)

Division 32 – Exterior Improvements (new)

Division 33 – Utilities (new)

Metriciation.....http://www.va.gov/facmgt/standard/metr_idx.asp

Physical Security.....http://www.va.gov/facmgt/standard/physecurity.asp

Plaques and Seals.....http://www.va.gov/facmgt/standard/plaques.asp

Room Finishes, Door and Hardware Schedule.....http://www.va.gov/facmgt/standard/

Quality Alerts.....http://www.va.gov/facmgt/standard/q_alerts.asp

Architecture

Asbestos

Cost Estimating

Critical Path Method

Electrical Engineering

HVAC Engineering

Plumbing Engineering

Sanitary Engineering

Site and Landscape Development

Specifications

Structural Engineering

Seismic Information.....http://www.va.gov/facmgt/standard/seismic.asp

Signage.....http://www.va.gov/facmgt/standard/signage.asp

Space Planning Criteria ..... http://www.va.gov/facmgt/standard/spacework/

Standard Details ..... http://www.va.gov/facmgt/standard/details.asp

Technical Information Library .....http://www.va.gov/facmgt/standard/

Technical Summaries..... http://www.va.gov/facmgt/standard/tsum_idx.asp

- Acquisition and Materiel Management
- Life Safety
- A/E Submission Requirements
- Patient Bed Rooms
- Clinical Services
- Research Facilities
- Imaging and Procedures
- Support Facilities
- Laboratories
- Surgery

Tuberculosis Facility Guidance ..... http://www.va.gov/facmgt/standard/tb_idx.asp

VA Design and Construction Procedures ..... http://www.va.gov/facmgt/standard/proc_idx.asp

VA Door Schedule ..... http://www.va.gov/facmgt/standard/spec_8.asp

VA Homepage ..... http://www.va.gov/

VA Office of Construction and Facilities Management Homepage.....http://www.va.gov/facmgt/

Wage Rate Information.....http://www.va.gov/facmgt/standard/wagerate.asp

EXTERNAL RESOURCES

Academy Journal.....www.aia.org

American Academy of Architecture for Health ..... www.aia.org/aah/aah

American Association of Critical Care Nurses .....aacn.org

American Hospital Association.....www.aha.org

Academy of Neuroscience for Architecture.....http://www.anfarch.org

American Society of Healthcare Engineering ..... www.ashe@aha.org

Building Design and Construction.....www.bdcnetwork.com

BREEAM, ECD Energy and Environment Canada ..... www.breeamcanada.ca

Center for Health Design..... www.healthdesign.org

Coalition for Health Environments Research (CHER).....www.cheresearch.org

Environmental Design Research Association (EDRA).....www.edra.org

Facility Care ..... www.facilitycare.com

Facility Zone Search Engine..... www.facilityzone.com

Family Centered Care ..... www.familycenteredcare.com
Federal Suppliers Guide ..... www.federalsuppliers.com
GSA ..... www.gsa.gov
GSA E-Library ..... www.gsaelibrary.gsa.gov
Green Guide for Health Care ..... www.gghc.org
Guide to Nursing Facility Performance Measures ..... www.wbdg.org/design/nursing_home.php
Health Technology Center ..... http://www.anfarch.org
Healthcare Design Magazine ..... www.healthcaredesignmagazine.com
HIPAA ..... http://www.hhs.gov/ocr/hipaa/
InformeDesign ..... www.informedesign.umn.edu
Interiors and Sources Magazine ..... www.isdesignet.com
International Interior Design Association ..... www.iida.org
Institute for Healthcare Improvement (IHI) ..... ww.ihi.org
Institute of Medicine (IOM) ..... www.imu.edu
Labyrinth Society ..... www.labyrnithsociety.org
LEED ..... www.usgbc.org/LEED/
Minnesota Sustainable Design Guide, University of Minnesota ..... http://www.sustainabledesignguide.umn.edu/
Modern Healthcare ..... www.modernhealthcare.com
National Council for Interior Design Qualification (NCIDQ) ..... http://www.ncidq.org/
National Center of Complementary and Alternative Medicine ..... www.nccam.nih.gov
NY High Performance Building Guidelines, New York City Department of Design and Construction ..... http://www.ci.nyc.ny.us/html/ddc/html/highperf.html
Pebble Project ..... http://www.healthdesign.org/research/pebble/
Planetree ..... www.planetree.org
United States Access Board ..... www.access-board.gov
U.S. Department of Health and Human Services ..... www.hhs.gov
U.S. Green Building Council (USGBC) ..... www.usgbc.org

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