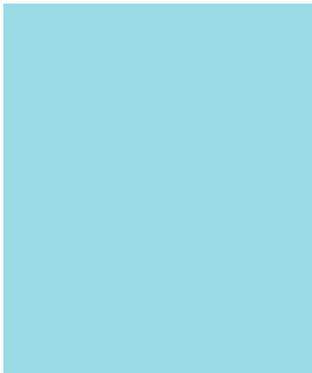
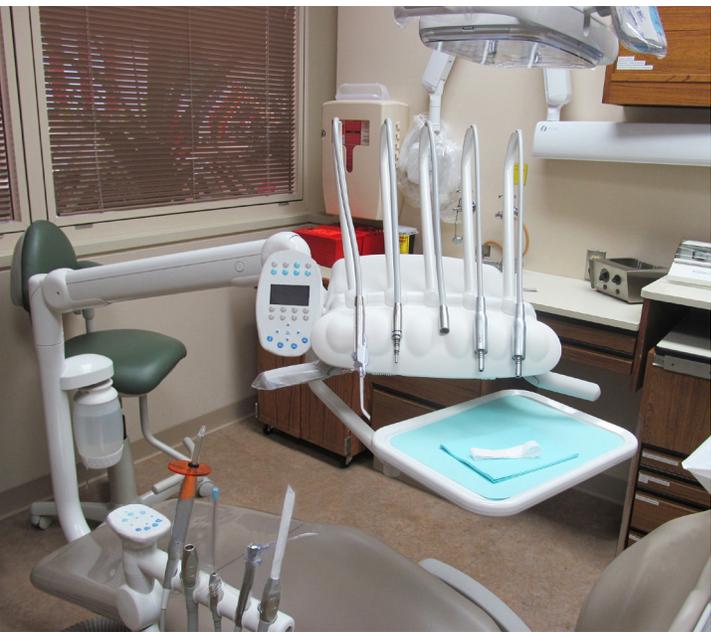


VA



U.S. Department
of Veterans Affairs
Office of Construction &
Facilities Management



VA DENTISTRY
Improving Veterans' Oral Health >>

Dental Service design guide

JUNE 2014

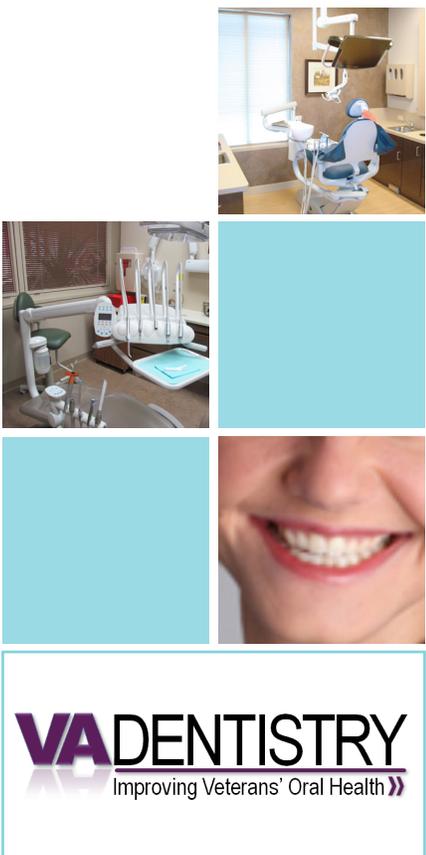


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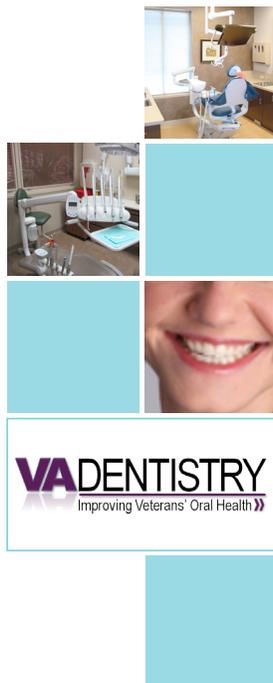
SECTION 1 - FOREWORD & ACKNOWLEDGEMENTS

FOREWORD

DEFINITIONS

ABBREVIATIONS & ACRONYMS

SYMBOL LEGEND



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SECTION 1 - FOREWORD & ACKNOWLEDGEMENTS

FOREWORD

The material contained in the Dental Service Design Guide is the culmination of a coordinated effort among the Department of Veterans Affairs (VA), the Veterans Health Administration, the Office of Construction & Facilities Management, the Strategic Management Office, and the Capital Asset Management, Planning Service Group, PF&A Design and HDR, Inc.. The goal of this Design Guide is to maximize the efficiency of the design process for VA facilities and ensure a high level of design, while controlling construction and operating costs.

This document is intended to be used as a guide and is supplementary to current technical manuals, building codes and other VA criteria in planning healthcare facilities. The Design Guide is not to be used as a standard design; it does not preclude the need for a functional and physical design program for each specific project.

The Dental Service Design Guide was developed as a design tool to assist the medical center staff, VACO Planners, and the project team in better understanding the choices that designers ask them to make, and to help designers understand the functional requirements necessary for proper operation of this procedure suite.

This Design Guide is not intended to be project-specific. It addresses the general functional and technical requirements for typical VA Healthcare Facilities. While this Guide contains information for key space types required in Dental Service, it is not possible to foresee all future requirements of the Procedure Suite in Healthcare Facilities. It is important to note that the guide plates are generic graphic representations intended as illustrations of the VA's furniture, equipment, and personnel space needs. They are not meant to limit design opportunities.

Equipment manufacturers should be consulted for actual dimensions and utility requirements. Use of this Design Guide does not supersede the project architect's and engineers' responsibilities to develop a complete and accurate design that meets the user's needs and the appropriate code requirements within the budget constraints.

Lloyd H. Siegel, FAIA
Director
Strategic Management Office

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DEFINITIONS

Automated External Defibrillator (AED): An AED or automated external defibrillator is a computerized medical device which can check a person's heart rhythm. It can recognize a rhythm that requires a shock, and it can advise the rescuer when a shock is needed. AEDs are typically placed in targeted public areas such as outpatient clinics, doctor's offices, office complexes, sports arenas, gated communities, shopping malls, and many others. They are wall-mounted, highly visible, and accessible to everyone. The Americans with Disabilities Act requires that objects not protrude more than 4 inches into foot traffic areas of open aisles and walkways (hallways) unless the object's bottom edge is no higher than 27 inches from the ground.

BCAD / CAM: CAD / CAM dentistry (computer-aided design and computer-aided manufacturing), is a field of dentistry using CAD or CAM technology to provide a range of dental restorations including: crowns, veneers, inlays / onlays, fixed bridges, dental implant restorations and orthodontic appliances.

Clinic Stop: A clinic stop is one encounter of a patient with a healthcare provider. Per these criteria, the clinic stop is the workload unit of measure for space planning. One individual patient can have multiple procedure / suite stops in a single visit or in one day.

Cone Beam Computerized Tomography: Cone beam computed tomography (or CBCT) is a medical imaging technique. CBCT has become increasingly important in treatment planning, diagnosis, and patient education. During a CBCT scan, the scanner rotates around the patient's head, obtaining up to nearly 600 distinct images. The result is a more accurate image without missing information and a considerably lower radiation exposure. Through the use of specialized software, these images can be used to create a virtual dental model of the patient.

Conscious Sedation: Conscious sedation induces an altered state of consciousness where patients are awake and are usually able to respond to verbal cues throughout the procedure, communicating any discomfort they experience to the provider.

Dental Hygienist: Dental professional specializing in preventive dental care to include cleaning teeth, periodontal maintenance and educating patients in proper oral hygiene.

Dental Modeler: A VA produced planning tool used to determine the Dental Clinical Resources for a given year for VA Dental Clinics. The modeler addresses each Dental Clinic at the administrative parent level within the VA system by considering workload measured in RVUs, staffing, and space requirements. "What-if" scenarios are easily performed using the Dental Modeler.

Dentist: A medical professional trained in the evaluation, diagnosis, prevention and treatment of diseases and conditions of the teeth and associated oral structures.

Dental X-Ray: Intra-oral, Panoramic, Cephalometric: Cephalometric x-rays capture a radiographic image of the entire head, usually in profile. Intra-oral x-rays provide an image of several teeth at a time, and panoramic x-rays generate a "wrap-around" image of the patient's mouth.

Digital Dentistry: Digital dentistry is any dental technology or device that incorporates digital or computer-controlled components.

Endodontics: The dental specialty concerned with the morphology, physiology and pathology of the dental pulp and associated tissues. The most common procedure done in endodontics is root-canal therapy.

Full-Time Equivalent (FTE): or Full-Time Equivalent Employee (FTEE) A staffing parameter equal to the amount of time assigned to one full time employee. It may be composed of several part-time employees whose total time commitment equals that of a full-time employee. One FTE equals a 40 hours per week.

Functional Area: The grouping of rooms and spaces based on their function within a clinical service. Typical Functional Areas are reception areas, patient areas, support areas, staff and administrative areas, and residency program.

General Dentistry: Dental services that include the diagnosis, treatment, and overall management of the oral health needs of patients, including periodontal care, fillings, crowns, veneers, bridges and preventive education.

General Practice Dental Resident: A dentist participating in an accredited post doctoral dental training program that provides experience in a comprehensive range of dental care. Residency programs may be 1 or 2 years in duration.

Input Data Statement: A set of questions designed to elicit information about the healthcare project in order to create a Program for Design (PFD) based on the criteria parameters set forth in this document. Input Data Statements could be mission related, based in the project's mission; and workload or staffing related, based on projections and data provided by the VHA or the VISN about the estimated model of operation. This information is processed through mathematical and logical operations SEPS 3.

Maxillofacial: Of or relating to the jaws and face with particular reference to specialized surgery of mouth and adjoining structures, often referred to as maxillofacial surgery.

Net-to-department gross factor (NTDG): A factor that, when multiplied by the programmed Net Square Foot (NSF) area, determines the Departmental Gross Square Feet (DGSF).

Office:

1. **Private Office:** A private office is allocated for the supervisory and / or managerial FTE. It may be justified for administrative personnel depending upon the nature of their work. Private offices are needed where confidential communication in person or on the telephone takes place. When private offices are authorized, they are typically 120 NSF.
2. **Shared Office:** Staff may be assigned to share an office space of 120 NSF, which amounts to 60 NSF per person. This can be a good solution for staff for whom a quiet office environment is important for conducting confidential communication in person or on the telephone.
3. **Workstation:** A workstation is provided in an open room and are typically allocated 60 NSF each. Managers and other staff with no direct reports as well as part-time, seasonal and job-sharing staff may qualify for a workstation. Such environments are particularly conducive to team-oriented office groupings. These environments work best when they have access to conference and small group meeting spaces.

Oral Surgeon: A dentist who specializes in oral and maxillofacial surgery including surgery of the mouth and removal of teeth.

Panoramic/Cephalometric (Pan-Ceph): The Pan-Ceph x-ray is a full lateral high-contrast view of the bony tissues of the head including the mandible, used to make accurate volumetric measurements, evaluate dentofacial proportions and clarify the anatomic basis for a malocclusion.

Panoramic X-ray: A type of extraoral x-ray that shows the entire mouth (all the teeth in both the upper and lower jaws) on a single image using specialized equipment. A panoramic x-ray image allows the dentist to detect the position of erupted as well as erupting teeth, identify impacted teeth, and aid in the diagnosis of tumors.

Picture Archiving and Communication System (PACS): A medical imaging technology which provides economical storage of, and convenient access to, images generated from digital radiography devices.

Periodontics: The dental specialty that includes the prevention, diagnosis and treatment of diseases of the gums and supporting structures of the teeth, and the maintenance of the health of these tissues and structures.

Prep / Recovery Room: Depending on the facility and the mission, after oral surgery procedures, a patient may be allowed to recover in the surgical room, or the patient may be walked to a recliner chair to recover in a recovery room. Sometimes, oral surgeons perform long, complicated procedures in a hospital or in an ambulatory surgery center; in this case a gurney may be used to transfer a patient to the recovery room.

Program for Design (PFD): A space program generated by SEPS 3 based on criteria set forth in this document and specific information about Concept of Operations, Workload projections and Staffing levels authorized.

Prosthodontics: The area of dentistry that included the diagnosis, treatment planning, rehabilitation, and maintenance of patients with complex restorative conditions. Patients may have missing teeth and / or oral tissues that can be rehabilitated with crowns, veneers, fixed and removable partial dentures, and implant-supported prostheses.

Provider: An individual who examines, diagnoses, treats, prescribes medications, and manages the care of patients within the scope of their practice as established by the governing body of a healthcare organization. Dental providers include dentists, dental specialists and dental hygienists.

Room Efficiency Factor: A factor that provides flexibility in the utilization of a room to account for patient delays, scheduling conflicts, and equipment maintenance. Common factors are in the 80 to 90% range. A room with 80% room efficiency provides a buffer to assume that this room would be available 20% of the time beyond the planned operational practices of the room. This factor may be adjusted based on the actual and/or anticipated operations and processes of the room / department.

Relative Value Unit (RVU): A numeric measure of workload developed by VA's Dental Coding Committee absent other CMS measurement standards. One RVU approximates one minute of provider time to deliver clinical patient services based on the original assumption that only one dental operator and only one dental assistant are available to the provider. Current studies indicate greatest efficiency when the assistant to provider ratio is minimally 1.75:1. The assistant to provider ratio is highly correlated to the treatment room to provider ratio which should always exceed the former.

SEPS 3: Acronym for Space and Equipment Planning System version 3.X, a digital tool developed by the Department of Veterans Affairs and the Department of Defense (DoD) to generate a Program for Design (PFD) and a Project Room Contents list (PRC) for a VA healthcare project based on approved Space Planning Criteria, the chapter and specific project-related Mission, Workload and Staffing information entered in response to the Program Data Required - Input Data Statements (IDSs).

Tele-health: The use of technology, such as computers and mobile devices, to manage healthcare remotely. It includes a variety of health care services, including but not limited to online support groups, online health information and self-management tools, email and online communication with health care providers, remote monitoring of vital signs, video or online doctor visits. Depending on the mission for this space, it may be equipped as an exam room or as a consult room with video / camera capability.

Workload: Workload is the anticipated number of procedures that are processed through a department/ service area. The total workload applied to departmental operational assumptions will determine overall room requirements by modality.

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ABBREVIATIONS AND ACRONYMS

-A-

A	Air, Medical
ABAAS	Architectural Barriers Act Accessibility Standards
AC	Air Conditioning
ACI	American Concrete Institute
ACQ	Acquisition
ADA	Americans with Disabilities Act of 1990
A/E	Architect/Engineer
AED	Automated External Defibrillator
AIA	American Institute of Architects
ASHRAE	American Society of Heating, Refrigeration, and Air-Conditioning Engineers
AT	Acoustical Ceiling Tile

-B-

-C-

C	Celsius
CAB	Cabinet
CAD	Computer Aided Drafting
CAM	Computer Aided Modeling
CBCT	Cone Beam Computed Tomography
CC	Contractor Furnished and Contractor Installed
CCTV	Closed Circuit Television
CDC	Centers for Disease Control
CEPH	Cephalometric
CFM	Construction & Facilities Management or Cubic Feet per Minute
CRI	Color Rendering Index
CV	Constant Volume

-D-

DCA	Dental Compressed Air
DEPT	Department
DGSF	Department Gross Square Feet
DISS	Diameter Indicator Safety System
DLA	Dental Lab Air
DOE	Department of Energy
DNSF	Department Net Square Feet
DNTG	Department Net-to-Gross
DWG	Drawing

-E-

EHR	Electronic Health Record
EO	Executive Order
EPACT	Energy Policy Act
ESU	Electrosurgical Unit

-F-

F	Fahrenheit or Filter
FA	Functional Area
FC	Footcandle
FGI	Facilities Guidelines Institute
FM	Factory Mutual
FTE	Full-Time Equivalent
FTEE	Full-Time Equivalent Employee

-G-

GFI, GFCI	Ground Fault Circuit Interrupter
GPS	Global Positioning System
GSA	General Services Administration
GWB	Gypsum Wall Board System

-H-

HG	Mercury
HIPAA	Health Insurance Portability and Accountability Act of 1996
HP	Horse Power
Hr	Hour
HVAC	Heating, Ventilation and Air Conditioning

-I-

IBC	International Building Code
ICRA	Infection Control Risk Assessment
IDS	Input Data Statements
IES	Illuminating Engineering Society
INS	Installation
IT	Information Technology

-J-

JSN	Joint Schedule Number
-----	-----------------------

-K-

K	Kelvin (degrees)
---	------------------

ABBREVIATIONS AND ACRONYMS

-L-

LED Light Emitting Diode
LPM Liter per Minute

-M-

M Meters
MCS Master Construction Specifications
MIN Minimum
MM Millimeters
MOU Memorandum of Understanding
MEP Mechanical, Electrical, and
Engineering

-N-

NEMA National Electrical Manufacturers
Association
NFPA National Fire Protection Association
NSF Net Square Feet
NSM Net Square Meters
NTDG Net-to-Department Gross Factor
NTS Not to Scale

-O-

O Oxygen
O/H Overhead
OI&T Office of Information & Technology
OSHA Occupational Safety and Health
Administration
OT Occupational Therapy

-P-

PACS Picture Archiving and Communication
System
PC Personal Computer or Piece or
Polycarbonate or Portland Cement
PFD Program for Design
PG Program Guide or Page
PRC Project Room Contents
PSI Pounds per Square Inch
PSIG Pounds per Square Inch Gauge
PTSD Post Traumatic Stress Disorder

-Q-

-R-

RB Resilient Base
RCP Reflected Ceiling Plan
RES Resinous Flooring
RF Rubber Flooring
RH Relative Humidity or Right Hand
RME Reusable Medical Equipment

-S-

S Solid Surface
SS Stainless Steel
SVT Solid Vinyl Floor Tile (Luxury Vinyl Tile)

-T-

TIL Technical Information Library

-U-

UFAS Uniform Federal Accessibility Standard

-V-

V Vacuum
VA Department of Veterans Affairs,
Veteran's Administration or Volt
Ampere
VACO Veteran's Affairs Central Office
VAV Variable Air Volume
VC VA Furnished Contractor Installed
VCT Vinyl Composition Tile
VV VA Furnished VA Installed

-W-

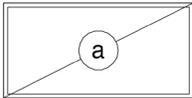
W Watts, Waste or Workload (input data
statements)
WM Wall-Mounted
WSF Welded Seam Sheet Flooring

-X-

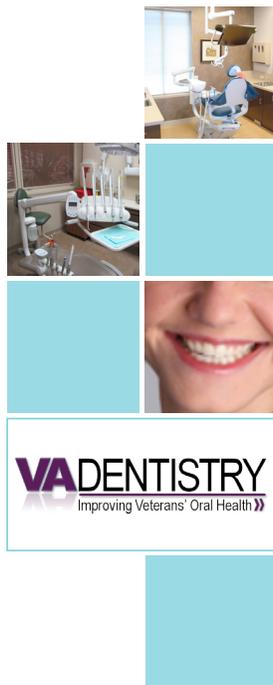
-Y-

-Z-

SYMBOL LEGEND

SYSTEM	DESCRIPTION OF SYMBOL	SYMBOL
MECHANICAL	2' x 2' SUPPLY	
	2' x 2' RETURN	
LIGHTING FIXTURES	2' x 4' (600mm x 1200mm) FLUORESCENT FIXTURE	
	2' x 2' (600mm x 600mm) FLUORESCENT FIXTURE	
PLUMBING	MEDICAL GAS OUTLET	+
	GAS	
	SPRINKLER	●
ELECTRICAL	DUPLEX RECEPTACLE OUTLET	
	GROUND FAULT CIRCUIT INTERRUPTER OUTLET	
	QUADRUPLEX RECEPTACLE OUTLET	
	DATA OUTLET	
	TELEPHONE OUTLET	
	SINGLE POLE SWITCH - SUFFIX OF "a" OR "b" INDICATES SEPERATE CONTROL OF FIXTURE(S) WITH SAME DESIGN DESIGNATION MOUNTED 46" (1150mm) ABOVE FINISH FLOOR. SUFFIX OF "Mo" INDICATES MOTION OCCUPANCY SENSOR	§ a Mo
	SINGLE POLE SWITCH - 3 WAY	§3
ARCHITECTURAL	JOINT SCHEDULE NUMBER	(A0865)

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SECTION 2 - NARRATIVE

- VA MISSION FOR DENTAL SERVICE
- GENERAL CONSIDERATIONS
- GENERAL INDUSTRY TRENDS
- VETERAN-CENTERED CARE DESIGN TRENDS
- REFERENCES

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SECTION 2 - NARRATIVE

VA MISSION FOR DENTAL SERVICE

Mission

Honor America's Veterans by facilitating improvement in oral health that contribute to their general health and well-being.

Vision

- VA Dentistry will be the benchmark of excellence and value in oral health care by providing exemplary services that are both patient centered and evidence based.
- This care will be delivered by engaged, collaborative teams in an integrated environment that supports learning, discovery and continuous improvement.
- It will emphasize prevention of oral disease and population health and will provide state-of-the-art treatment to eligible Veterans.
- VA Dentistry will contribute to the nation's well-being through oral health education, research and service in national emergencies.
- As new facilities are planned and older clinics remodeled, core principles must be in place to insure VA Dentistry has the appropriate infrastructure, including space and equipment, necessary to fulfill its Mission and Vision.

GENERAL CONSIDERATIONS

VA operates the nation's largest healthcare system with over 5.5 million patient visits annually. Of those, nearly 1.5 million dental visits are provided to more than 423,000 Veterans at the 209 VA Dental Clinics across the country. Actuarial estimates are that Veteran utilization of dental care will increase annually until at least the year 2023, despite the potential decline in the numbers of Veterans given the advancing age of the population.

VA Dentistry will focus on providing exemplary services that are patient centered, data driven and evidence based. Dental and medical providers will join together to provide collaborative care that supports learning, discovery and continuous improvement. VA Dentistry will emphasize oral disease prevention and promote population health through oral health education. Facility planning and design must provide the space and tools necessary to ensure all eligible Veterans have access to oral health care, an essential component of overall health. As VHA continues to transform into the integrated health care system that defines excellence by providing the best care anywhere, VA Dentistry stands ready to meet this challenge. As a provider of choice, we must continually balance cost, quality and access to provide our patients with the world class care they deserve.

While Veterans' health care needs are often similar to the general population, they are also different in significant ways. For example, veterans can suffer from a higher prevalence of disabilities from traumatic injuries, post-traumatic stress disorder (PTSD) and neurological disorders. To respond to these needs, VA is in the process of developing and integrating a care delivery model focused on patient centered care specifically as it applies to veterans. This mirrors general trends in healthcare where patient centered care is part of a major understanding of how best to enhance healing and support better outcomes. To integrate knowledge derived from other industry efforts, VA is working with Planetree as a partner. Planetree's efforts are helping to lead the way to personalizing, humanizing, and demystifying the healthcare experience for patients and their families. They bring a history of integrating required changes to protocols and facilities in order to support patient centered care.

Veteran Centered Care has been defined by VA as follows:

A fully engaged partnership of Veteran, family, and healthcare team established through continuous healing relationships and provided in optimal healing environments, in order to improve health outcomes and the Veteran's experience of care.

In addition, Veteran Centered Care is based on twelve core principles which are noted below. Although all are important parts of the VA approach to care, nine principles stand out because they can be supported directly or indirectly by facility design solutions. These nine principles are noted in bold.

Veteran Centered Care Core Principles

- 1. Honor the veteran's expectations of safe, high quality, accessible care.**
- 2. Enhance the quality of human interactions and therapeutic alliances.**
3. Solicit and respect the veteran's values, preferences, and needs.
4. Systematize the coordination, continuity, and integration of care.
- 5. Empower veterans through information and education.**
6. Incorporate the nutritional, cultural and nurturing aspects of food.
- 7. Provide for physical comfort and pain management.**
- 8. Ensure emotional and spiritual support.**
- 9. Encourage involvement of family and friends.**
- 10. Ensure that architectural layout and design are conducive to health and healing.**
- 11. Introduce creative arts into the healing environment.**
- 12. Support and sustain an engaged work force as key to providing veteran centered care.**

The following discussion begins with General Industry Trends followed by Veteran Centered Care Design Trends. General Industry Trends is organized around four main areas of concern: Safety and Risk Reduction, Efficiency and Flexibility, Planning that Accommodates Program Growth, and Response to Human Needs as they apply to objectives for planning and design of Dental Services.

Veteran Centered Care Design Trends is guided by an understanding of how the nine facility linked core principles of Veteran Centered Care can strengthen VA goals for care delivery in support of better patient experiences and, ultimately, outcomes.

GENERAL INDUSTRY TRENDS

Safety and Risk Reduction

Dental Infection Control Policy

Dental Services must follow the [Infection Control Standards for VA Dental Clinics](#). VA Dental Clinics differ from each other: a single VA dental infection control policy that fits all dental clinics is not realistic. Therefore each dental facility needs to create its own policy, based upon VA standards.

Local VA hospitals have addressed infection control and the OSHA Bloodborne Pathogens Standards in multiple local policies. Some ideas to consider:

VA Dental Services, when writing dental infection control policies, may wish to reference existing hospital policies rather than rewrite them in the dental infection control policy. The dental infection control document might use hyperlinks to existing hospital policies, such as Hand Hygiene, Exposure Control Plan, Vaccinations (including hepatitis B), Management of Environment Equipment and Supplies, Standard and Transmission Based Precautions, Biological Implants, Medication Management and Exposure Management, among others. Such linked references will keep the dental infection control policy current as the linked policies are updated. The dental policy can then address only items not specifically addressed in existing hospital policies. The dental infection control policy should be approved by the local Infection Control Committee.

Dental Services are advised that a process to evaluate engineered devices, as per the Needlestick Safety and Prevention Act, should be included in the infection control policy. This evaluation system seeks input from front-line providers regarding the efficacy and safety of such devices. A sample CDC evaluation form is included as part of the attached Sample Infection Control Document.

The USAF Dental Evaluation & Consultation Service (DECS) website routinely evaluates products, including infection control products and engineered safety devices. Evaluators are encouraged to review this resource for additional product information. <http://www.afms.af.mil/decs/>

Plan to Control Cross Infection

To enhance infection control, ensure that hand-washing stations or hands-free automated hand-rub devices are strategically located for easy access to caregivers. Organize circulation paths so that entrances to invasive procedure rooms are from a non-public, controlled access corridor.

Promote Staff Observation of Patients

Since increased observation from staff will foster a safer environment for patients, plans should seek to provide clear visualization of patients by staff. Where Prep and Recovery are required for invasive procedures, well planned locations of nurse work areas will support this objective since caregivers will be closer to patients during pre and post procedure.

Specify Materials and Finishes that Enhance Infection Control

Use materials, finishes, and casework that resist microbe growth and are easily cleaned. See [PG-18-14](#) for specific requirements.

Specify anti-microbial materials and finishes to the greatest extent possible. Minimize seams in floor and wall finishes and at floors to walls. Limit dust accumulation by avoiding horizontal surfaces which are not work surfaces. Provide storage for all unpackaged items in enclosed casework.

Efficiency and Flexibility

Increasing efficient operations will support VA objectives to provide quality service. Standardization of key room plans, so that items like equipment and sharps containers are always in the same location in dental treatment rooms, can reduce errors and speed services as staff provides care in different rooms.

Response to Human Needs

Patient dignity and self-determination must be accommodated while considering operational efficiencies. Patients' vulnerability to stress from noise, lack of privacy, poor lighting, and other causes, and the subsequent harmful effects they can have on the healing process, can be addressed by facility planning and design that recognizes these issues and proactively incorporates the use of color, natural light, sight lines and wayfinding.

Smart planning and design appeals to the spirit and sensibilities of patients and care providers alike. Opportunities exist in the design of dental service areas to address the above issues and incorporate creative solutions that enhance patient comfort and contribute to positive outcomes. Architectural objectives should minimize the cold, sterile feeling associated with institutional facilities and replace it with an aesthetic that is warm and inviting.

Natural light and views to nature have been proven to provide positive outcomes in patients. Wayfinding with both signage and architectural details empowers a patient to easily navigate a facility. The inclusion of white noise throughout the space will help reduce the noise level, which also translates to lower stress levels.

VETERAN-CENTERED CARE DESIGN TRENDS

Safe High Quality Accessible Care

Easy access to services

An ideal for Veteran centered care is point of service care where all services a patient may need on a given visit are located at or near the patient's day visit location. This ideal should be used as a guide to inform how program components could best be organized. The services to be accessed may range from exam, patient education, research linked tests, to nutrition or life style or psychological counseling.

When patients must transfer, there should be a clear and easily navigated pathway between points of service.

Empower Veteran

Patient control over their environment

Patients in treatment often benefit from a sense of control of the process they are experiencing. One component will be the ability to control their treatment environment. In areas where patients may need to spend more than the time for a simple exam.

Access to education

Education about a patient's health issues is an important component of clinical care leading to better outcomes. Knowledge is empowering and can enhance a patient's ability to understand reasons for and benefits of specific tests and treatment. Opportunities for patient education should be planned for easy access in settings where the patient can control privacy. These can include information kiosks in waiting areas and media outlets in Prep and Recovery.

Enhance Human Interaction

Facility solutions should support increased interaction with caregivers and family or friends by providing adequate space and amenities for family and friends in the waiting room. It is understood that it may be necessary for children to accompany the patient. Planning for waiting areas that include children should be on a facility by facility basis.

Providing space for a family member or friend in recovery will enhance the emotional support often sought from those close to the patient.

Healing Environment

Planning solutions should promote patient dignity and increase privacy. This will lower stress and increase comfort in support of healing and wellness. Patient space in prep and recovery should include individual rooms where appropriate, or hard-sided workstations, each with the ability for patients to control privacy and noise.

Patient diagnostic or treatment position should orient the patient's head toward the door, rather than his or her feet.

Reception and Waiting areas should include planning that provides different spaces for patients who seek social interaction and for those who seek more privacy. Smaller scale spaces with separations created by low partitions, furniture or planters will provide options for more privacy in these settings.

Access to nature and daylight can lower stress. Areas for family respite should be provided in or near the procedure area. Where site, climate, and building configuration permit, access to outdoor space can serve as a welcome area for respite. In addition, planning that brings daylight and views, into the procedure area would be

an important addition to support positive clinical experiences.

Other issues specific to planning and design for veterans' care include the following:

Imagery and Artwork

Veterans' military experiences require a specific approach to the selection of imagery and artwork that is healing and restorative. Commemorative settings and iconography of national and symbolic importance help veterans recover from post-traumatic stress disorder. Units with artwork and color palettes that incorporate nature imagery that are not evocative of combat settings, and that honor Veterans (e.g., photography of Mount Rushmore and national parks), can calm and restore patients. Note that nature images that may be considered restorative and healing for patients in the general public can communicate negative exposure and vulnerability to a Veteran whose military service occurred in a similar setting (e.g. savannah or desert images).

Veterans of Recent Conflicts

As a result of their injuries, many Veterans of recent conflicts such as Operation Enduring Freedom and Operation New Dawn, suffer from multiple traumas including traumatic brain injury, post-traumatic stress disorder, spinal cord injury, and amputation. Extremity wounds are the most common injury of Veterans of recent conflicts.

VA facilities require full accessibility planning in all areas including clearances, floor finishes, floor levels with ramp transfers between different levels, hardware and plumbing fixture design.

Veterans entering the system are generally younger than Veterans currently utilizing VA services from previous conflicts. Planners should consider access to contemporary information technology and entertainment, and strategies which address the lifetime prognosis for Veterans suffering from multiple traumas.

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SECTION 3 - FUNCTIONAL CONSIDERATIONS

- FUNCTIONAL ORGANIZATION
- FUNCTIONAL RELATIONSHIPS
- FUNCTIONAL DIAGRAM
- OTHER FUNCTIONAL CONSIDERATIONS



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SECTION 3 - FUNCTIONAL CONSIDERATIONS

FUNCTIONAL ORGANIZATION

A Functional Area (FA) is the grouping of rooms and spaces based on their function within a clinical service. The organization of services in this Guide follows the categories established in VA Space Planning Criteria, Chapter: 222 – Dental Service.

This service is organized into seven Functional Areas:

- FA 1: Dental Treatment Rooms (DTR) Calculation (No input needed)
- FA 2: Reception Area
- FA 3: Dental Treatment Patient Area
- FA 4: Dental Surgical Suite Patient Area
- FA 5: Dental Laboratories
- FA 6: Support
- FA 7: Staff and Administrative Area
- FA 8: Residency Program

Dental Service incorporates a range of imaging, treatment and laboratories, all of which require specific planning consideration.

The Functional Diagram in this section along with the Axonometric Views, Guide Plates, Reflected Ceiling Plans, and Room Data Sheets in Section 4 show function, flow, organization, equipment, utilities and operational concepts. They should not be interpreted as preconceived floor plans, as the diagrams do not correlate exactly to all the rooms and functions available in Space Planning Criteria, nor to those which may be required or authorized for individual projects.

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SECTION 3 - FUNCTIONAL CONSIDERATIONS

FUNCTIONAL RELATIONSHIPS

FA 2: Reception Area

Reception Area accommodates the initial processing and admission of all patients. These areas include registration functions, waiting, and opportunities for patient education.

The reception control area shall be strategically located to give the receptionist clear observation of waiting areas to facilitate control of patient traffic entering the suite and secure the department from unauthorized access. The reception control area should be organized in a way that maintains patient confidentiality. On the day of their appointment, patients will register at either the reception area or stand-alone kiosks.

Waiting areas should be configured with small clusters of seating for privacy and a less institutional environment. Veterans experiencing post-traumatic stress disorder (PTSD) prefer seating where they do not feel vulnerable from being approached from behind. Ensure that a specific complement of seats is located to support this need and arrange remaining seating to allow for intimate spaces which encourages quiet conversations between visitors. Access to natural light and the use of color, artwork, and texture will help reduce stress levels of patients and visitors.

In some instances, the need to accommodate families with children may be required and shall be located in the same main waiting room. This special needs area should be addressed on a facility basis. Space for a wheel chair alcove and a patient education kiosk should be provided in or adjacent to the waiting area.

When possible, access to natural daylight, views of nature, and other positive distractions should be provided to improve the human experience in these spaces. While it is common practice to include televisions in waiting areas, studies have shown that persons exposed to televisions in such areas may suffer increased stress and blood pressure levels. This should be evaluated on a project by project basis.

FA 3: Dental Treatment Patient Area

The patient area provides dental services to the patient. This area includes imaging and dental treatment rooms.

Imaging

Imaging includes the following services: intra-oral, x-rays, panoramic/cephalometric and cone beam computed tomography (CBCT). All dental imaging in the VA System is now digital.

While standard intra-oral X-rays are taken in the dental treatment rooms, panoramic/cephalometric and cone beam computed tomography require their own spaces.

Panoramic (pan or panorex) X-rays provide a full view of the oral cavity by taking a single picture of the teeth and surrounding bones. The pan also exposes parts of the jaw that standard dental X-rays cannot. Cephalometric (ceph) X-ray provides images of the entire skull and profile. Ceph X-rays are produced by a panoramic machine equipped with a cephalometric film holding arm. Typically, a patient stands in the center of the machine and the camera rotates in a half circle around the patient's head.

Cone beam computed tomography (CBCT) is a variation of traditional computed tomography (CT). A CBCT takes a three-dimensional/3D image of the patient's teeth, mouth, jaw and neck. To capture the image, the patient sits on a chair attached to the machine and a C-shaped arm rotates around the head.

Radiation shielding of the pan and CBCT to protect adjacent occupancies may be required. A certified health physicist shall review and provide engineering documentation if it is determined that radiation shielding is required.

Dental Treatment Rooms

Multi-functional, Special Needs Patient, and Endodontics are the rooms where most of the dental procedures will occur.

Multi-functional Dental Treatment Rooms will allow for different procedures to occur including dental hygiene, general dentistry, prosthodontics, periodontics and orthodontics. These rooms should be arranged to have exterior windows with views to nature and natural lighting to the greatest extent possible.

The Special Needs Dental Treatment Room will be larger than the Multi-functional Dental Treatment Room to allow for wheelchair access. The use of patient lifts, either ceiling mounted or mobile, shall be included in the design of this space. Refer to [VA Guidelines on Safe Patient Handling](#). The use of a dental chair should be evaluated on a project by project basis.

Both the Multi-functional and Special Needs Treatment Rooms are best organized with the head of the dental chair on the corridor side of the room and the chair centered in the room. The delivery system, air, suction, water and hand pieces can be located at either the twelve o'clock unit, located at the patient's head, or on an arm attached to the chair. Dental lights are attached to the ceiling with either a track mount or ceiling mount. Intra-oral X-ray units are wall mounted.

Endodontics is the dental specialty concerned with the study and treatment of dental pulp. One of the most common procedures is root canal therapy. The Endodontic Dental Treatment Room is set up similar to the General Dental Treatment Room with the exception of a microscope. The microscope can either be ceiling mounted, wall mounted or a mobile unit.

FA 4: Dental Surgical Suite Patient Area

Oral surgery can incorporate the following procedures: removal of impacted wisdom teeth, dental implants, and jaw disorders. A minor and/or major procedure room may be required. The minor room handles the removal of teeth and the reworking of dentures and dental implants. The major procedure room would provide for more complex procedures and maxillofacial surgeries. These spaces are mission driven and in most situations, major reconstructive surgery would take place in the hospital operating room.

A prep/recovery space is required to give patients who receive anesthesia a place to recover. A recliner and dimmable lighting should be included in the space.

FA 5: Dental Laboratories

The size and complexity of the dental lab is determined by the number of dental treatment rooms and skill level of the dental technicians. Plaster casts and acrylic work is done in the on-site lab, while dentures, crowns and frame work is usually sent out to one of two central labs.

Access to natural light is important for color matching of artificial teeth. Location on an exterior wall with windows is desirable, but not at the expense of dental treatment rooms. Color-corrected lamps with a CRI ≥ 85 and correlated color temperature between 5000 degrees K and 6000 degrees K are required.

Safety is a major concern when designing the dental lab. Proper air flow, adequate suction and bench filters should be researched and designed accordingly.

Storage of flammables is provided in free-standing flammable storage cabinets. Precious metals need to be stored in a safe.

FA 6: Support

The support area includes additional functions to support the dental operations including clean and soiled utility rooms, clean and soiled linen rooms, storage for wheel chairs and mobile lifts.

Clinical support area also provides the means of delivering, storage and distribution of clean and sterile dental supplies and medicines. Space is also required to store mobile equipment. These functions should be centrally located centrally to provide efficient access to the dental treatment rooms.

Other support functions include the dental equipment mechanical room which houses the vacuum pumps and air compressors. This space can be located remotely from the dental clinic. The pumps and compressors can also be located remotely if site conditions allow. The vacuum pumps and air compressors do create high levels of noise and vibration so special attention should be given to the design of this space to prevent the spread of noise to adjacent spaces.

In July 2010, a memorandum was issued in regards to the handling of all critical and semi-critical dental instruments. It stated that all pre-cleaning and sterilization shall occur only in the supply processing and distribution in the hospital. Space is required to receive and store sterile instruments. Dirty instruments can be stored in the soiled utility room prior to being returned to the sterile processing service.

FA 7: Staff and Administrative Area

Enclosed office spaces and technician workstations shall be provided per number and square feet authorized for the service. Key offices include those for the Chief of Dental Services, Assistant Chief and AOI Secretary, in addition to private and shared offices as authorized.

In planning for future flexibility of spaces, it is beneficial to plan for a modular (i.e. same size/same proportion) approach for offices to allow the spaces to be reallocated without significant reconfiguration. Access to and control of natural light should be considered in designing these spaces for staff satisfaction and stress reduction.

Administrative areas include a team collaboration area which should be accessible to staff and easily navigable from the procedure area.

The Staff Lounge and Staff Locker Room are important respite areas which reduce stress and enable staff to maintain quality service when clinics are active at stressful times. The Staff Lounge shall be conveniently located near staff work areas but also separate from patient areas. Provision of a separate locker room from the staff lounge is desirable for staff privacy and noise reduction. Staff toilets should be located with immediate adjacency to the staff lounge but should not open into it.

FA 8: Residency Program

Spaces for Education are required when a residency program is authorized. In these cases, they may include an Office for the Residency Program Director, workstations for Residents, Interns, and Fellows, and a Team Collaboration Room.

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OTHER FUNCTIONAL CONSIDERATIONS

Functional Considerations

The planning approach should locate high volume short duration services closer to patient waiting areas. This will decrease both patient and staff travel times thus increasing the staff's time with patients. Procedures with low volume or longer duration times may be located further inside patient areas.

The physical design of all areas must meet patient privacy and patient rights requirements as well as employee safety and ergonomics standards as adopted by VA. With the dental treatment rooms being open to the corridors, providing acoustical privacy is a design element that must be explored. The use of noise-reducing gypsum board and mineral wool sound insulation in the walls is recommended. The use of sound masking technology (white noise) is another avenue that should be considered.

The use of solid surface countertops, seamless flooring, and materials with anti-microbial treatments shall be used to reduce the risk of infection. The hospital's Infection Control Risk Assessment (ICRA) shall establish and review infection control measures.

Physical Security

Security is a key objective when patients are preparing for, undergoing, or recovering from procedures. During procedures, patients may feel vulnerable. Traffic unrelated to the procedure and the intrusion of noise unrelated to the patient's care are issues which smart planning and design choices can help control.

Flexibility

The design of healthcare facilities must respond to changes in technology, changing workloads, and operational efficiency objectives. To facilitate easy and more cost effective future adaptability, designers should consider the use of spaces of standard size and proportions to accommodate a range of related functions. Use of a standard planning module (grid) throughout a clinical procedures area is encouraged.

Spaces with special requirements, special equipment, or unusual sizes should be grouped where possible and designed to accommodate change with minimal disruption to the remainder of the suite.

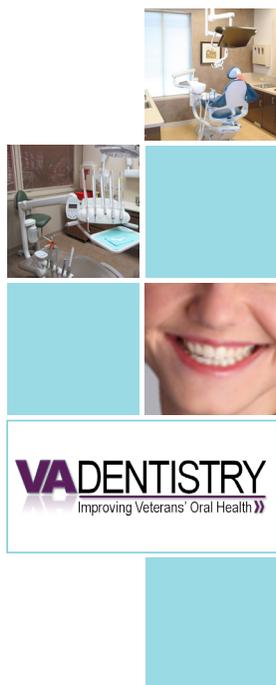
Efficiency

VA is committed to efficient use of resources including energy, materials, equipment, and staff. Refer to Sustainable Design and Energy Reduction Manual on VA Technical Information Library (TIL).

Accessibility

Accessibility is accommodated by the application of [PG 18-13](#), VA Barrier Free Design Guide; Architectural Barriers Act Accessibility Standards (ABAAS), Appendices C and D to 36 CFR Part 1191 (adopted by GSA and supersedes Uniform Federal Accessibility Standards, UFAS); and ADA Standards for Accessible Design (28 CFR Part 36) to space and fixed equipment layouts.

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SECTION 4 - DESIGN STANDARDS

INTRODUCTION

TECHNICAL CONSIDERATIONS

GUIDE PLATES:

X-RAY PANORAMIC/CEPHALOMETRIC (DNXS1)

CONE BEAM COMPUTERIZED TOMOGRAPHY (DNXC1)

DENTAL TREATMENT ROOM, MULTI-FUNCTIONAL (DNTG1)

DENTAL TREATMENT ROOM, SPECIAL NEEDS PATIENT(DNTG5)

ORAL SURGERY, MINOR PROCEDURE ROOM (DNST1)

STORAGE, STERILE INSTRUMENTS (DNST3)

DENTAL EQUIPMENT MECHANICAL ROOM (MECH1)

LABORATORY, GENERAL PURPOSE (DNPL1)

LABORATORY, PORCELAIN/CERAMICS (DNPC1)

Guide Plates are graphical representations of selected room types, illustrating the integration of space, components, systems and Equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific.

Specific infrastructure design requirements are contained in VA Design Manuals located in the VA Technical Information Library.

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SECTION 4 - DESIGN STANDARDS

INTRODUCTION

This section covers technical considerations for planning and designing the Dental Service. The discussion includes detailed technical considerations for architectural, mechanical systems and other related components. To support this discussion, selected rooms are detailed in the form of Guide Plates.

Each Guide Plate includes an axonometric view, floor plan, reflected ceiling plan, elevations, room data sheet, and an equipment list. The equipment list provides a comprehensive overview of space planning and utility requirements and locations for the key rooms in this service.

Guide Plates for the following key rooms in this section are as follows:

- X-Ray Panoramic/Cephalometric (DNXS1)
- Cone Beam Computerized Tomography (DNXC1)
- Dental Treatment Room, Multi-Functional (DNTG1)
- Dental Treatment Room, Special Needs Patient (DNTG5)
- Oral Surgery, Minor Procedure Room (DNTS1)
- Storage, Sterile Instruments (DNXC3)
- Dental Equipment Mechanical Room (MECH1)
- Laboratory, General Purpose (DNPL1)
- Laboratory, Porcelain/Ceramics (DNPC1)

Note that room dimensions on the floor plans are closely approximate, but may not always reflect the exact programmed room area stated in the Space Planning Criteria, Chapter 222 Dental Service.

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TECHNICAL CONSIDERATIONS

Architectural

Interior Design

Follow guidance in [PG-18-10](#), Interior Design Manual for New Construction and Renovations of Hospitals and Clinics, and [PG-18-14](#), Room Finishes, Door and Hardware Schedule. Where a specific guide plate is not provided for a space or function in this Design Guide, refer to [PG-18-14](#) and the general design information below. Coordinate interior/material finish selections with interior design and way-finding concept developed on a per project basis.

The goal of the design is to provide an interior environment that fosters healing of both the patients' mind and body, and respects the public funding aspect of VA projects. Design concepts should create a calming atmosphere. This can be achieved by using materials that are based on nature and have subtle color following evidence based design theory. Trendy colors should be used at minimum and in locations that are easily modified to avoid dating the facility.

Durability, cleanliness, and timelessness are qualities that should be incorporated into all material selections, providing a distinctive clear lead for the planning and selection of furniture and artwork.

Way-finding

Patients, visitors and staff need to know where they are, where their destination is, how to get there and how to return to their point of origin. In addition to signage, strategies for way-finding include architectural design elements, color, pattern and lighting. Advancements in technology have introduced smart phone apps that use localized GPS to direct people to their destination.

These elements need to be addressed early so they become an integral part of the design creating, a natural and intuitive path of travel.

Partitions

Partitions should generally be gypsum wallboard (GWB) on appropriately sized metal studs to accommodate different slab to slab dimensions, recessed items, and utility runs. Provide sound attenuation in accordance with [PG-18-3](#), VA Design and Construction Procedures, Topic 11: Noise Transmission Control. Provide wall protection in accordance with the Interior Design Manual for New Construction and Renovations of Hospitals and Clinics.

Incorporate corner guards in corridors and other areas where the potential for wall damage from wheeled patient and cart traffic is anticipated. To reduce an institutional feeling in patient areas, corner guards should be set flush to adjacent wall surfaces, as opposed to surface mounted, and selected in a color that matches adjacent wall color.

Floor finish for dental treatment rooms, imaging space, and oral surgical rooms should be seamless rubber flooring with a minimum 4" high rubber base. Floors in all oral surgical rooms shall include an integral covered base manufactured specifically for invasive healthcare settings. For all clean and soiled utility rooms, and clean storage rooms, floor finish should be welded seam resilient flooring (WSF) with integral 6 Inch integral covered base. Floors in offices, conference rooms, and waiting areas should be carpet with a 4 inch (100 mm) high rubber base. Floors in toilet rooms should be porcelain tile with a porcelain tile base. In the dental lab, poured resinous flooring with integral base should be provided.

Ceilings

In most spaces, including toilet rooms, lay-in acoustic ceiling tile should be used. Where required for sanitation or moisture resistance, such as in all oral surgical rooms, clean and soiled utility rooms, acoustical ceiling tile shall have a washable sprayed plastic finish, designated "SP" in [PG-18-14](#).

Interior Doors

Doors should be 1-3/4 inches (44 mm) thick, solid core, flush wood doors or hollow metal doors in hollow metal frames. Hollow metal doors should be used where high impact is a concern and where fire rated doors are required. Door widths of 48 inches (1219.2 mm) are recommended for all wheeled traffic and for bariatric wheelchair access to all patient spaces.

Since a preponderance of wheel chairs and wheeled patient transport should be expected in VA facilities, consider use of high impact doors fully clad in solid vinyl guard sheets. These will maximize protection, add durability, ease maintenance, and lessen an institutional feeling. In non-patient service areas where hollow metal doors are to have a paint finish, solid vinyl kick or mop plates should be added to both sides of doors.

Millwork

Departmental reception points may be best served with the use of custom millwork to respond to individual facility designs and configurations. Millwork should be used as an architectural encasement for standard modular components, such as files and storage cabinets, which are listed in the Equipment List for each relevant space. Millwork would provide both the transaction surface at stand up height as well as the work counter at normal desk height for a receptionist.

Transaction counters and work surfaces at desk height should be made of solid surface materials which resist chipping and staining. Consider including task lighting built under the transaction counter. Coordinate locations of computers, printers, keyboards and power and data ports as required by facility needs. Provide accessible countertop heights for wheel chair patients.

Hardware

Accessible type should be used throughout. Refer to VA [PG-18-14](#), Room Finishes, Door and Hardware Schedule and [PG-18-4](#), National CAD Standards and Details Detail 08 00 00-1.dwg for additional information. Lock mechanisms which can be disengaged by staff from the corridor side should be used for all spaces where patients are left unattended such as toilet rooms.

Security

Partitions, doors, and hardware for Procedure Suites and other sensitive spaces have special security requirements. Refer to [PG-18-3](#), VA Design and Construction Procedures, Topic 14: Security and latest VA directives related to safety and security for Women Veterans.

Structural

Structural design of VA facilities shall comply with the latest editions of the following:

- Reinforced concrete design - Building Code Requirements for Reinforced Concrete (ACI Standard 318-02) and Commentary (ACI-318R-02), American Concrete Institute.
- Structural steel design - Manual of Steel Construction, Load and Resistance Factor Design, Specifications for Structural Steel Buildings, American Institute of Steel Construction, Second Edition.
- International Building Code (IBC), International Conference of Building Officials.
- VA Seismic Design Requirements (H-18-8)

In compliance with Executive Order (EO) 12699, and EO 12941, all new and existing buildings constructed or leased by the Federal Government must be seismically safe.

Dental treatment rooms and oral surgery rooms include ceiling mounted dental lights and monitors which require structural framing above the ceiling to support them.

Wall mounted intra-oral X-ray machines require additional blocking in the wall to support the loads imposed on them from movement.

Patient lift system and additional wall or ceiling mounted equipment may require additional support framing or blocking. Refer to equipment manufacturers' data for information specific to a particular equipment item.

Equipment

Equipment Lists are provided for the Guide Plates in this section. Additional general information and guidance is available on the VA Technical Information Library (TIL). Refer to Equipment Guide List ([PG-18-5](#)) for list of equipment, furnishings and utility requirements for each space in a functional area. VA personnel may refer to Equipment Reference Manual (PG-18-6) for graphic representations of each piece of equipment to be purchased and installed by the construction contractor. Refer to equipment manufacturers' data for information specific to a particular equipment item.

Casework/Dental Casework

For planning and utilization concerns, casework systems with modular components will provide flexibility and durability. Casework systems should incorporate components dimensioned for ease of multiple re-use installation applications. Casework systems should be planned to avoid corner installations and filler panels.

Counters for all clinical and clinical support areas shall be made of solid surface materials per [PG-18-14](#), which offer long-term durability, and resist chipping and staining from medical agents expected to be used in clinical environments. Plastic laminate veneer materials should only be used for vertical applications and horizontal shelving.

Information Management Systems

Reference VA Design Guide Office of Information and Technology (OI&T) for Information Management Systems. Coordinate with local information management systems in place.

In general, ports for data access shall be distributed to all occupied spaces. Specific locations for data access will be per Guide Plates in this document and/or as required by specific project needs.

Heating, Ventilation and Air Conditioning

General

Air conditioning systems will be provided to heat, cool and ventilate the Dental Service as required to satisfy VA design criteria. Follow criteria in VA Technical Information Library (TIL) HVAC Design Manual ([PG-18-10](#)) listed on VA web site under Office of Construction & Facilities Management (CFM). Also refer to ([PG-18-1](#)) Master Construction Specifications and ([PG-18-4](#)) Standard Details and CAD Standards for items that may apply within the Dental Service. See [Sustainable Design and Energy Reduction Manual](#) (May 2014) for additional information and requirements.

The air conditioning system serving the Dental Service shall be designed to operate in occupied/unoccupied modes to suit applicable schedules.

Room Data Sheet Criteria

The number of occupants, air conditioning temperatures, noise criteria, and room pressurization indicated on the Room Data Sheets in the Guide Plates for select rooms of this section are for the purpose of establishing general planning parameters. The design architect and engineer (A/E) shall verify the actual occupant load and air conditioning load for each specific room on each individual project. Verify equipment loads for actual equipment to be furnished within that room for the specific project. While specific outside air quantities are noted on the Room Data Sheet for each Guide Plate room, the percent of outside air shall be based on the total supply air quantities determined for each specific project.

Air Quality and Distribution

In general, clean areas shall be maintained at positive air balance and soiled areas shall be maintained at negative air balance with respect to the adjoining areas. Specific pressure requirements are noted on the Room Data Sheet for each Guide Plate room.

Corridors shall not be used to supply or exhaust/return air from adjacent rooms, except that they may be used to ventilate Housekeeping Aides Closets (HAC) and small electrical or telephone closets opening directly onto them. Ex-filtration and infiltration from positive or negative pressure rooms adjacent to a corridor should be considered in balancing air flow.

Care should be taken to minimize the short circuiting of air between supply and return or exhaust openings in rooms, with careful placement of supply registers and return grills inside rooms such as the Oral Surgery Rooms.

Minimum air changes per hour required are noted on Room Data Sheets in this section.

Exhaust System

Controlling odor with proper exhaust is critical within the Dental Lab. The HVAC design shall provide for exhaust air from spaces to control the transfer of odors and provide proper room pressurization and proper air changes per hour that may be required by the VA HVAC Design Manual or code standards.

Energy Conservation

The need to conserve energy is mandated by the Federal Government by Executive Order and Federal Law. In addition, 19 Federal Agencies, including VA, have signed a Memorandum of Understanding (MOU) outlining specific goals and targets for energy conservation and sustainable design. The following references apply to VA project design, with more detailed information to be found within the HVAC Design Manual for Hospital Projects:

Sustainable Design Manual (May 2014)

DOE Final Rule, and Energy Policy Act (EPACT 2005)

Energy Conservation Executive Order No. 13423 - Dated January 24, 2007

Federal Leadership in Environmental, Energy and Economic Performance Executive Order No. 13514 - Dated October 8, 2009

Mycobacterium Tuberculosis (TB)

Centers for Disease Control (CDC) requirements for the design of public areas within buildings which accommodate mycobacterium tuberculosis patients must be addressed by architectural and mechanical disciplines. Check current requirements for transmission of mycobacterium tuberculosis and TB Criteria in the latest CDC documents. Check specific CDC requirements for the need of an isolation recovery room within the Dental Service.

Seismic Requirements

Where required, install HVAC systems with seismic provisions as outlined in the PG-18-10, HVAC Design Manual for Hospital Projects and Master Construction Specifications MCS Section 13 05 41, Seismic Restraint Requirements for Non-Structural Components.

Design Conditions

Year-round Conditions: 70 F to 75 F [21 C to 24 C] and 20% to 60% RH as defined in 2008 ASHRAE Handbook of Applications. The system shall be capable of maintaining temperatures within the range during normal working conditions. The cooling load for these spaces shall be calculated to maintain 75 F [24 C] at 60% RH and the heating load shall be calculated to maintain 70 F [21 C] at 20% RH. The year-round conditions can be used for variable air volume (VAV) or constant volume (CV) systems. Year-round design conditions shall be used for all patient areas except as noted in the March 2011 HVAC Design Manual.

Plumbing

General

Plumbing systems will be provided for the Dental Service as required to satisfy VA design criteria. Follow criteria in VA Technical Information Library (TIL) Plumbing Design Manual ([PG-18-10](#)) listed on VA website under Office of Construction & Facilities Management (CFM). Also refer to ([PG-18-1](#)) Master Construction Specifications and ([PG-18-4](#)) Standard Details and CAD Standards items that may apply within the Dental Service.

Room Data Sheet Criteria

The Room Data Sheets in this section indicate typical quantities of plumbing fixtures and equipment as well as medical gas outlets to establish the general planning parameters. The architect and engineer (A/E) shall verify the exact fixtures and medical gas locations and quantities for individual projects.

Water Systems

Domestic cold and hot water shall be piped to all plumbing fixtures and equipment requiring these utilities. A hot water return system shall be provided to ensure the design temperature is met at the fixture furthest from the source.

Waste Water Systems

Plumbing fixtures and drains shall be drained by gravity through sanitary waste stacks, including required vent stacks. Fixtures located below gravity drain line shall be pumped as required by a duplex ejector system. Any special acidic waste should be drained through corrosion-resistant, flame-retardant piping into either a local or centralized acidic dilution tank.

Medical Gas Systems

Medical gas distribution is noted on guide plates for key selected rooms. Specific quantities and locations should be determined on a per project basis.

All vacuum piping shall be run below the floor back to the vacuum pump and not above the ceiling.

Seismic Requirements

Where required, the plumbing and medical gas systems shall be installed with seismic provisions as outlined in the [PG-18-10](#), Plumbing Design Manual for Hospital Projects and Master Construction Specifications MCS Section 13 05 41, Seismic Restraint Requirements for Non-Structural Components.

Electrical

General

Electrical systems will be provided for the Dental Service as required to satisfy VA design criteria. Follow criteria in VA Technical Information Library (TIL) Electrical Design Manual ([PG-18-10](#)) located on VA website under Office of Construction & Facilities Management (CFM). Also refer to ([PG-18-1](#)) Master Construction Specifications and ([PG-18-4](#)) Standard Details and CAD Standards for items that may apply within the Dental Service.

Lighting

Lighting is typically provided utilizing indirect recessed fluorescent luminaries. Recessed fluorescent fixtures with parabolic louvers may be used at reception desk and offices to control glare on monitor screens. In the dental treatment rooms, the use of indirect lighting is recommended to avoid glare in the patient eyes while sitting in the dental chair. Consider providing under-cabinet or under-shelf fluorescent lights above the counter work surface for task lighting. The fixtures typically used are F32T8 lamps, the minimum acceptable efficiency lamp in compliance with the Energy Policy Act (EPACT 2005). Lamps shall not be high output, and shall have a color rendering index (CRI) >70 and a color temperature of 3500 degrees Kelvin (K) for general use areas. The treatment

rooms shall have CRI ≥ 85 and a color temperature between 5000 and 6000 degrees Kelvin (K). The use of LED lighting should be explored for energy saving and sustainable design.

Except for oral surgery rooms, surface mounted fixtures may be used where existing conditions or clearances above a suspended ceiling cannot accommodate recessed fixtures.

The lighting systems shall comply with Federal energy policy, VA Energy Conservation Policy, and Sustainable Design and Energy Reduction Manual.

Lighting intensities shall conform to [PG-18-10](#), Electrical Design Manual, Appendix, Illumination Levels, the IES Lighting Handbook and IES publication RP-29-06, Lighting for Hospitals and Healthcare Facilities. Reducing patient illumination levels below established levels is not recommended. Lighting levels are noted in foot candles on Room Data Sheets for each Guide Plate room.

Lighting energy consumption can be reduced in several ways including: reducing lighting fixture count, using highly efficient fixtures, managing when lighting is used and the amount of illumination delivered, using task lighting, and selecting fixtures, lamps, and controls, such as occupancy sensors, that best meet the needs of the staff and patient occupants.

Lighting in the Dental Service shall be controlled by wall mounted switches and/or dimmers located at the entrance to each room. Ceiling or wall mounted dual technology (Ultrasonic/Infrared) occupancy sensors shall be used in all rooms with intermittent use, including storage rooms, utility rooms housekeeping aides closets, pump room, toilets and locker room.

Lighting load densities should be verified for the actual design, as they may vary depending on the room configuration, fixture types, lamps, and ballasts used.

Refer to LED and Conventional Lighting Systems Comparison Study, May 6, 2014. (<http://www.cfm.va.gov/til/updates/2014-05.pdf>)

Power

General

General purpose duplex receptacles are located per program or building code requirements on each wall of a room or a space. Dedicated duplex or special receptacles are provided for select pieces of equipment; some are energized from the emergency power system to allow for continuous operation during a power outage. Emergency power outlets are shown in Guide Plate floor plans for select rooms in this section and are addressed in [PG-18-10](#), Electrical Design Manual.

Provide dedicated duplex receptacles energized from the emergency power system in areas where crash carts are stored.

Special Purpose

Dedicated duplex or special receptacles are provided for select pieces of equipment as follows:

Intra Oral X-rays, Pan/Ceph X-ray, Cone Beam CT and other equipment as required by the manufacturer.

Coordinate National Electrical Manufacturers Association (NEMA) size and configuration with system equipment suppliers.

Workstations with personal computers (PC's) are typically provided with quadruplex receptacles for the PC, monitor, and printer. Junction boxes are to be provided for equipment requiring a hardwired connection.

Telephone

Telephone outlets are typically provided at each workstation or in each room. Refer to [PG-18-10](#) for additional requirements.

Information Technology (IT)

Computer Data (Telecom) outlets are typically provided at each workstation or in each room. Specific locations and equipment for key rooms are noted on Guide Plates in this section.

Intercom System

In the Dental Clinic, provide a dedicated IC system throughout the Dental area reporting to the Clinic's administrative desk. Telephone hands-free instruments may be substituted for a formal IC system as an acceptable alternate, if specifically approved by TE-005OP2H3 during the project design phase.

Clock system

Provide battery operated clocks synchronized wirelessly. Both the overall system and the specific locations will be determined on a per facility basis.

Television

Television outlets are provided at selected areas as determined by function or local facilities policy.

Public Address

Provide a system in accordance with Master Construction Specifications (MCS) Section 27 51 16, Public Address (PA) and Mass Notification Systems. The public address system is typically part of the telephone system. Speakers are generally located in corridors and public spaces. The actual system configuration will depend on the overall design layout and functional requirements. Determine whether Dental Service will be included as part of the hospital-wide PA system or have an independent system.

Fire and Life Safety Systems*Fire Protection/Sprinkler Systems*

Fire Protection/Sprinkler Systems shall be designed as required to meet the needs of the Dental Service and individual rooms. Follow criteria in VA Technical Information Library (TIL) non-specific building systems manuals for Fire Protection design manual ([PG-18-10](#)) listed on VA website under Office of Construction & Facilities Management (CFM).

Fire Alarm System

Fire Alarm Systems shall be designed as required to meet the needs of the Dental Service and individual rooms. Follow criteria in VA Technical Information Library (TIL) non-specific building systems manuals for Fire Protection (Fire Alarm) design manual ([PG-18-10](#)) listed on VA website under Office of Construction & Facilities Management (CFM).

Waste Management

Space requirements for waste holding areas will vary with the selection of waste collection and recycling methods and systems. They will need to be analyzed to determine the method to be considered for new facilities or coordinated with existing facilities. While space needs are determined by VA Space Planning Criteria on a departmental basis, space provisions for waste collection need to be distributed and dedicated for a variety of uses.

Medical Waste

Medical waste is generated in most patient care spaces as well as instrument clean up areas where it is bagged, collected and transported to the soiled utility rooms. It is then held in separate containers pending transport to the medical waste handling facility or disposal by contract.

General Waste

General waste is generated in all spaces and is held in containers for collection and/or sorting.

Recyclable Waste

Methods for sorting, collecting, transporting and disposing of recyclable products must be specifically analyzed for each facility and location. The optional use of disposable and reusable products is an important consideration in recycling and waste disposal alternatives.

Soiled Linen

Soiled reusable linens may be generated in exam rooms, procedure spaces, and patient and staff gowning areas. Soiled linens are collected in carts or hampers (depending on volume) and are held in soiled linen rooms or in linen carts in Soiled Utility Rooms pending transport to the laundry facility. Disposable linens are included with recyclable waste or medical waste as appropriate.

X-RAY PANORAMIC/CEPHALOMETRIC (DNXS1)



X-RAY PANORAMIC/
CEPHALOMETRIC (DNXS1)

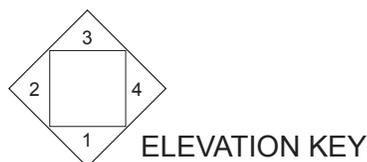
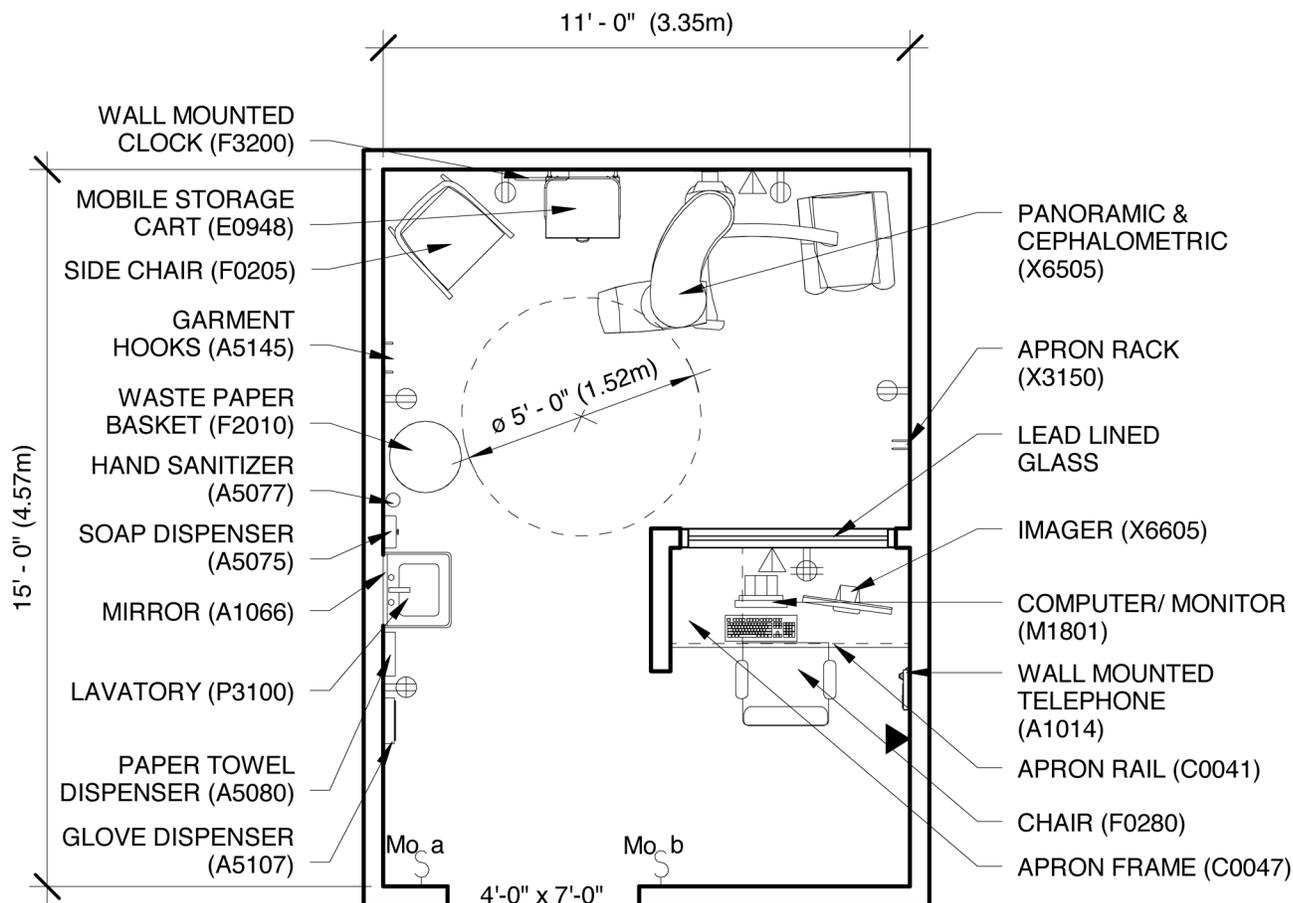
SCALE NTS

Dental Service
Axonometric View (165 NSF / 15.33 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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X-RAY PANORAMIC/CEPHALOMETRIC (DNXS1)



SCALE 1/4" = 1'-0"



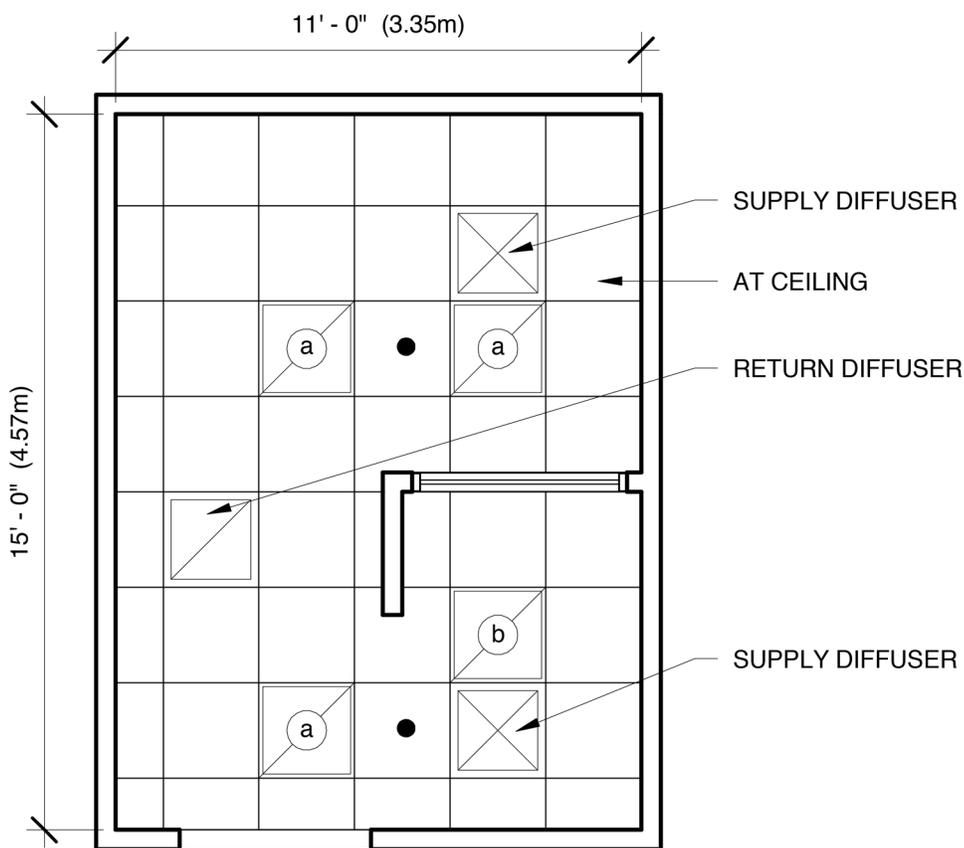
**X-RAY PANORAMIC/
CEPHALOMETRIC (DNXS1)**

Dental Service
Floor/Equipment Plan (165 NSF / 15.33 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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X-RAY PANORAMIC/CEPHALOMETRIC (DNXS1)



X-RAY PANORAMIC/
CEPHALOMETRIC (DNXS1)

SCALE 1/4" = 1'-0"

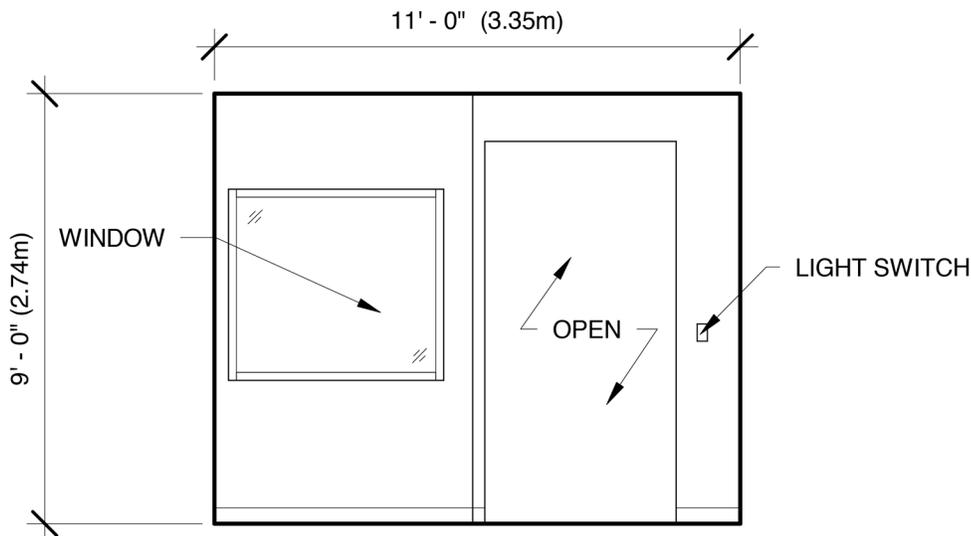


Dental Service
Reflected Ceiling Plan

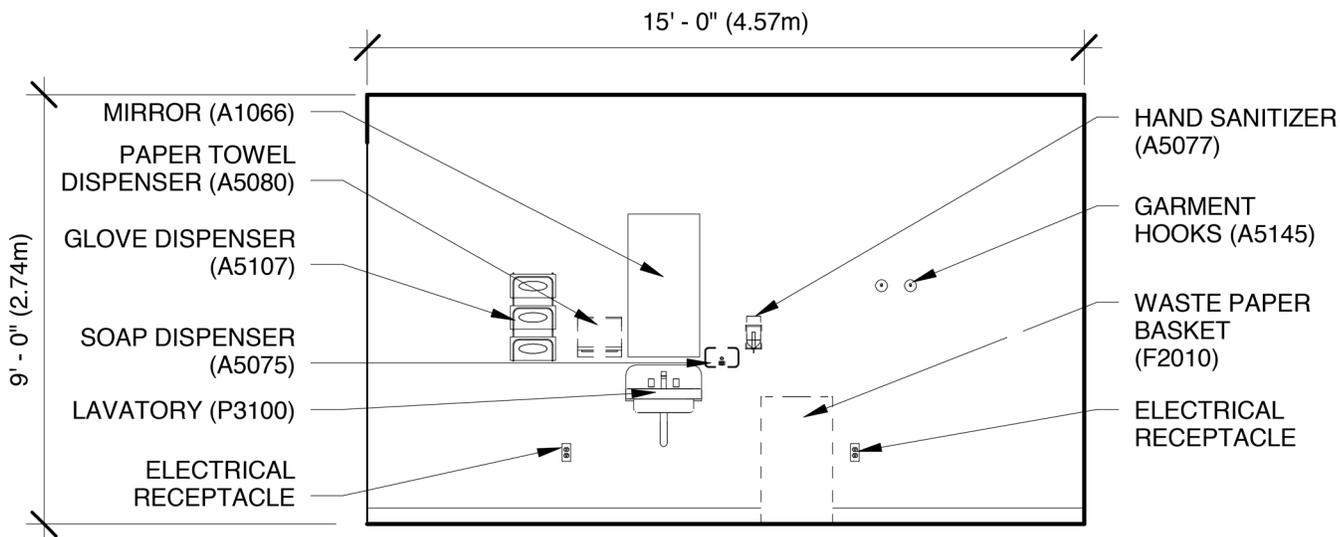
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X-RAY PANORAMIC/CEPHALOMETRIC (DNXS1)



Elevation 1



Elevation 2

X-RAY PANORAMIC/CEPHALOMETRIC (DNXS1)

SCALE 1/4" = 1'-0"

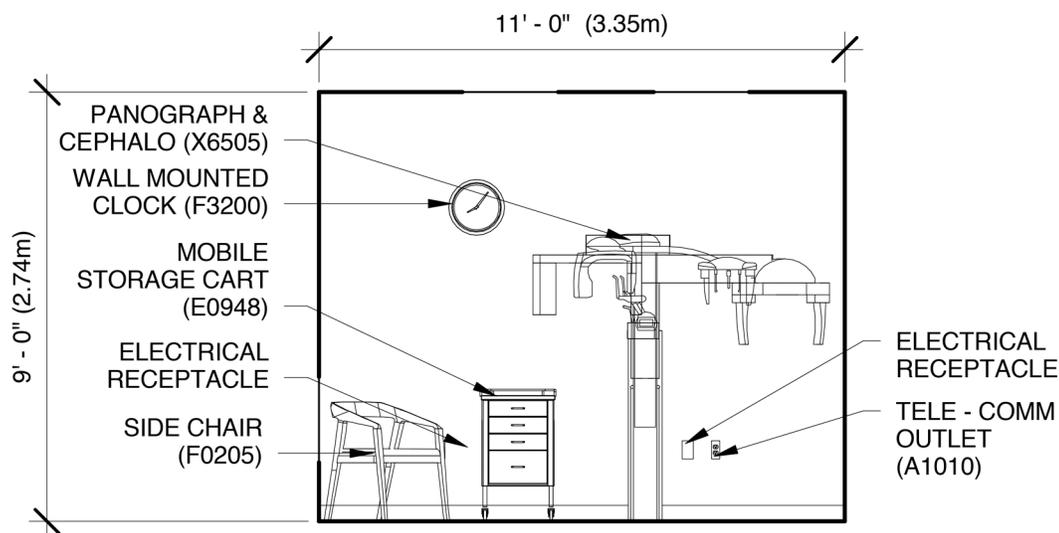


Dental Service Elevations

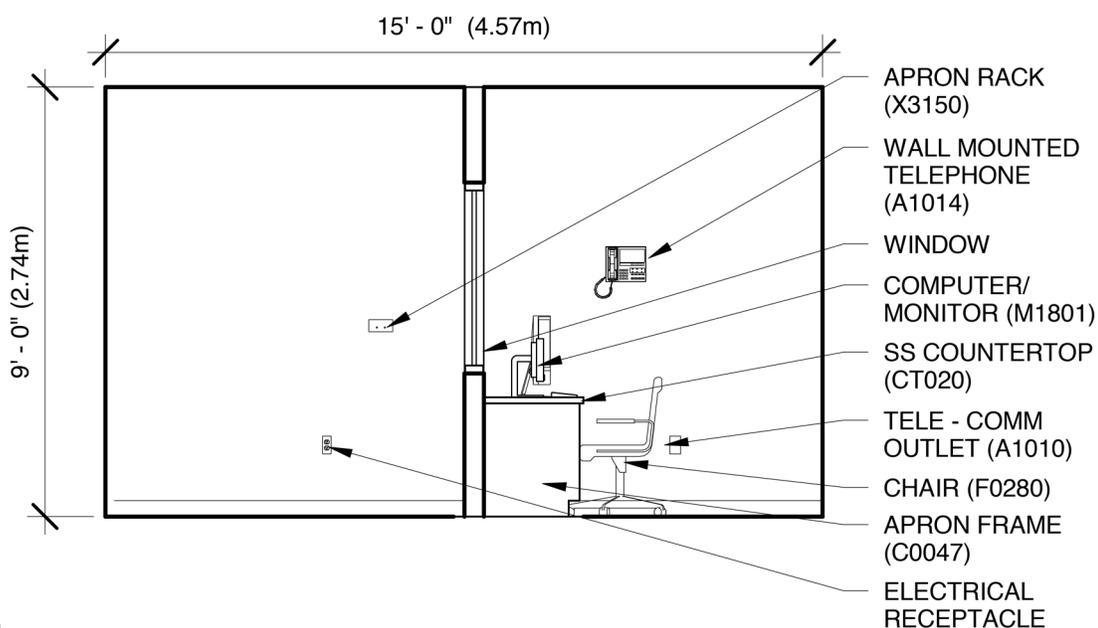
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X-RAY PANORAMIC/CEPHALOMETRIC (DNXS1)



Elevation 3



Elevation 4

X-RAY PANORAMIC/ CEPHALOMETRIC (DNXS1)

SCALE 1/4" = 1'-0"



Dental Service Elevations

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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X-RAY PANORAMIC/CEPHALOMETRIC (DNXS1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
A1010	Telecommunication Outlet	1	CC	Telecommunication outlet location.
A1014	Telephone, Wall Mounted, 1 Line, With Speaker	1	CC	Telephone, wall mounted, 1 line, with speaker.
A1066	Mirror, Float Glass,w SS Frame	1	CC	A high quality 1/4" polished float glass mirror 36X18, framed in a one-piece, bright polished, stainless steel channel frame with 90° mitered corners. All edges of the mirror are protected by absorbing filler strips. Mirror has a galvanized steel back with integral horizontal hanging brackets and wall hanger for concealed mounting. For mounting above single wall mounted lavatories located in toilet areas, Doctors examination offices, etc. May also be used above double lavatories, either wall or countertop mounted, found in restroom areas.
A5075	Dispenser, Soap, Disposable	1	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5077	Dispenser, Hand Sanitizer, Hands Free	1	VV	A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated.
A5080	Dispenser, Paper Towel, Surface, Mounted	1	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility.
A5107	Dispenser, Glove, Surgical, Wall Mtd	1	VV	Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a white baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting.
A5145	Hook, Garment, Double, SS, Surface Mtd	1	CC	A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate. For general purpose use throughout the facility to hang various items of apparel
C0041	Rail, Apron, 4x60x1	1	CC	Apron rail. Also referred to as an apron front, apron panel, or knee space rail. Used to close in front knee space area and/or provide work surface support between two base cabinets or a base cabinet and wall. Apron rails should be ordered in pairs to provide both front and rear work surface support.

X-RAY PANORAMIC/CEPHALOMETRIC (DNXS1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
C0047	Frame, Apron, 3 Drawer	1	CC	Apron frame with three standard drawers. Also referred to as a drawer frame or table frame. Used for a knee space as a combination frame and drawers to support a top between base cabinets or a base cabinet and a wall.
CT020	Countertop, Solid, Surface	6	CC	A solid, nonporous countertop with a smooth seamless appearance. Easy to clean and maintain and with proper cleaning does not support the growth of mold. An acrylic-based solid surface product. Standard thickness of 1", and a 4" butt backsplash/curb. Also referred to as a work surface or work top. Available in a choice of colors and depths. Used in lab and other hospital areas requiring optimum physical and chemical resisting properties. Quantity amount is used for measurement in feet.
D9280	Legs, Rail, Apron	4	CC	Apron rail legs. Used to support countertops when there is no base cabinet to support D9940, height as required. Used in dental operations. Database pricing and dimensional information assumes a 24" deep counter, 36" above the floor.
E0948	Cart, General, Storage, Mobile 42"Hx32"Wx22"D	1	VV	Please See Cutsheet Binder JSN E0948. THIS ITEM INCLUDES: 1 Cart Body, Style-A Narrow, w/Raised Edge Top 1 Accessory Rail, Side 2 Drawers, 3" H (76mm) 4 Drawers, 6" H (152mm) Drawer Organizer Bins
F0205	Chair, Side With Arms	1	VV	Leather or vinyl upholstered side chair, 32" high X 21" wide X 23" deep with arms, padded seats and padded backs. Seat height is a minimum of 17".
F0280	Chair, Swivel, Low Back	1	VV	Low back contemporary swivel chair, 37" high X 25" wide X 31" deep with a five (5) caster swivel base, arms and foam padded seat and back upholstered with vinyl.
F2010	Basket, Wastepaper, Step-on	1	VV	Step-on wastepaper basket with inner liner and foot pedal activated flip top.

X-RAY PANORAMIC/CEPHALOMETRIC (DNXS1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
M1801	Computer, Microprocessing w/ Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing micro tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: 3.1 GHz 1 x Pentium processor; 4 GB RAM; 500GB hard drive; CDRMDVD combo; HD Graphics; a 15 inch flat panel color monitor. The computer is used throughout the facility to input, manipulate and retrieve information.
P3100	Lavatory, Viteous China, Slab Type	1	CC	Wall mounted, slab type, vitreous china, lavatory (approximate bowl size 7"x15"x10") with: faucet holes on 4" centers; gooseneck spout; wrist blade handles; and grid strainer. It shall be suitable for use in clinics, offices, washrooms or patient care area.
X3150	Rack, Apron/Gloves, Wall Mounted	1	CC	Apron and gloves rack. This is a wall unit which holds aprons and gloves. The body is heavy gauge steel finish in gray or green baked enamel, glove and apron holding arms are aluminum. The unit's convenient on wall storage will prolong the useful life of your protection aprons by helping prevent damage to internal components.
X6505	Radiographic, Dental, Panographic & Cephalo	1	VV	Dental Panographic and Cephalometric radiographic unit. This is a radiographic system for routine intra-oral examination. This unit shall provide radiographs of the maxillary sinus and the entire jawbone including temporomandibular joints. The unit shall be complete with control panel and mounting hardware.
X6605	Imager, Dental, Digital Image	1	VV	Dental imaging system. Used in intra oral x-ray imaging. Computer-aided to enhance image. Storage and printing capabilities for the image. System includes, CPU, CRT, active surface sensor, 120MB HD storage, thermal printer, mobile workstation, and is compatible with any intra oral x-ray system.

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**X-RAY PANORAMIC/CEPHALOMETRIC (DNXS1)
Room Data Sheet**

ARCHITECTURAL

Ceiling:	AT
Ceiling Height:	9'-0"
Wall Finish:	Paint
Base:	RB
Floor Finish:	SVT
Door:	
Hardware:	
Glazing:	Lead Equivalent (1)

Notes:

1. Lead Equivalent as Determined by Physicist

LIGHTING

General:

1. Three (3) of 2' x 2' (600 mm x 600 mm) Fluorescent Light Fixture, Acrylic, Prismatic Lens with F32T8 Lamps, 3500'K CRI >70
2. Provide Ballasts Per Fixture for Desired Switching Configuration and to Provide Practical Uniform Lighting Level.
3. Lighting Level: 50fc; average maintenance
4. Wall or ceiling mounted Vacancy Sensor

POWER

General: As Shown and Required by Code

Special:

Emergency:

Notes:

Coordinate electrical requirements with specific equipment.

COMMUNICATIONS/SPECIAL SYSTEMS

Patient Monitor:

Nurse Call:

CCTV:

Telephone: Yes

Pub. Address:

Radio:

Data: Yes

Panic Call:

Battery Operated Clock: Yes

Intercom: Note 1

Staff/Duty Station:

In Use Light: Yes

Note 1. Dedicated IC system throughout dental services. Telephone hands-free instruments may be substituted for formal IC system.

HEATING, VENTILATING AND AIR CONDITIONING

Dry Bulb Temp Cooling:	75° F (24° C)
Dry Bulb Temp Heating:	70° F (21° C)
Minimum % Outside Air:	2
100% Exhaust Air:	
Noise Criteria:	35
Steam:	
Relative Humidity/Cooling:	60
Relative Humidity/Heating:	20
Minimum Air Changes/Hr:	6
Room Pressure:	Positive (+)
AC Load Lights:	As Required
AC Load Equipment:	As Required
Number of People:	2
Special Equipment:	

PLUMBING AND MEDICAL GASES

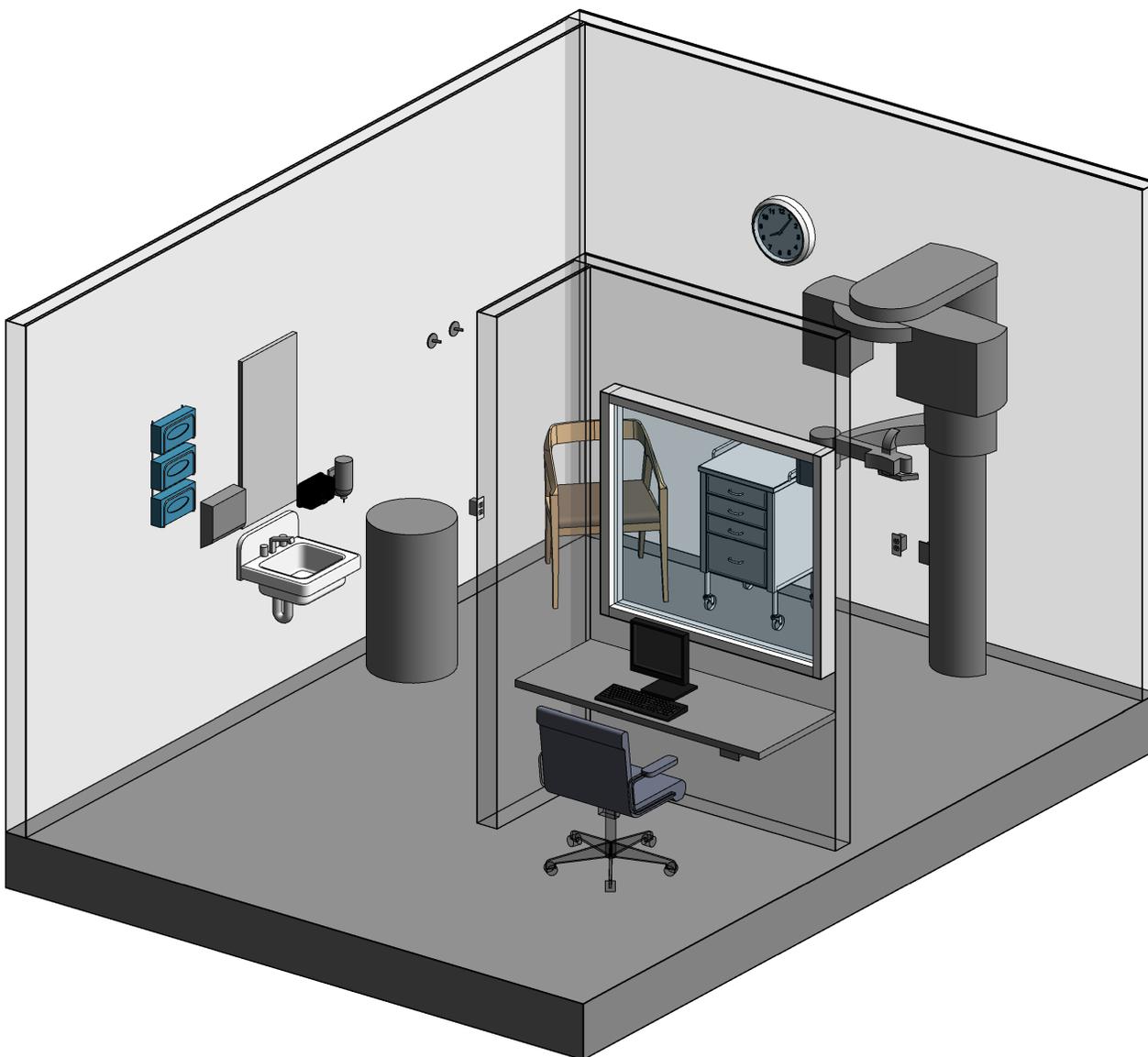
Cold Water:	Yes
Hot Water:	Yes
Laboratory Air:	
Laboratory Vacuum:	
Sanitary/Vent:	
Medical Air:	
Medical Vacuum:	
Dental Air:	
Dental Vacuum:	
Oxygen:	
Nitrogen Oxide:	
Nitrogen:	
Anesthesia Evac:	
Sprinkler:	Yes
Tempered Water:	
Water Control:	

SPECIAL EQUIPMENT

See Equipment List

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CONE BEAM COMPUTERIZED TOMOGRAPHY (DNXC1)



CONE BEAM COMPUTERIZED TOMOGRAPHY (DNXC1)

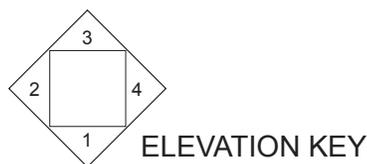
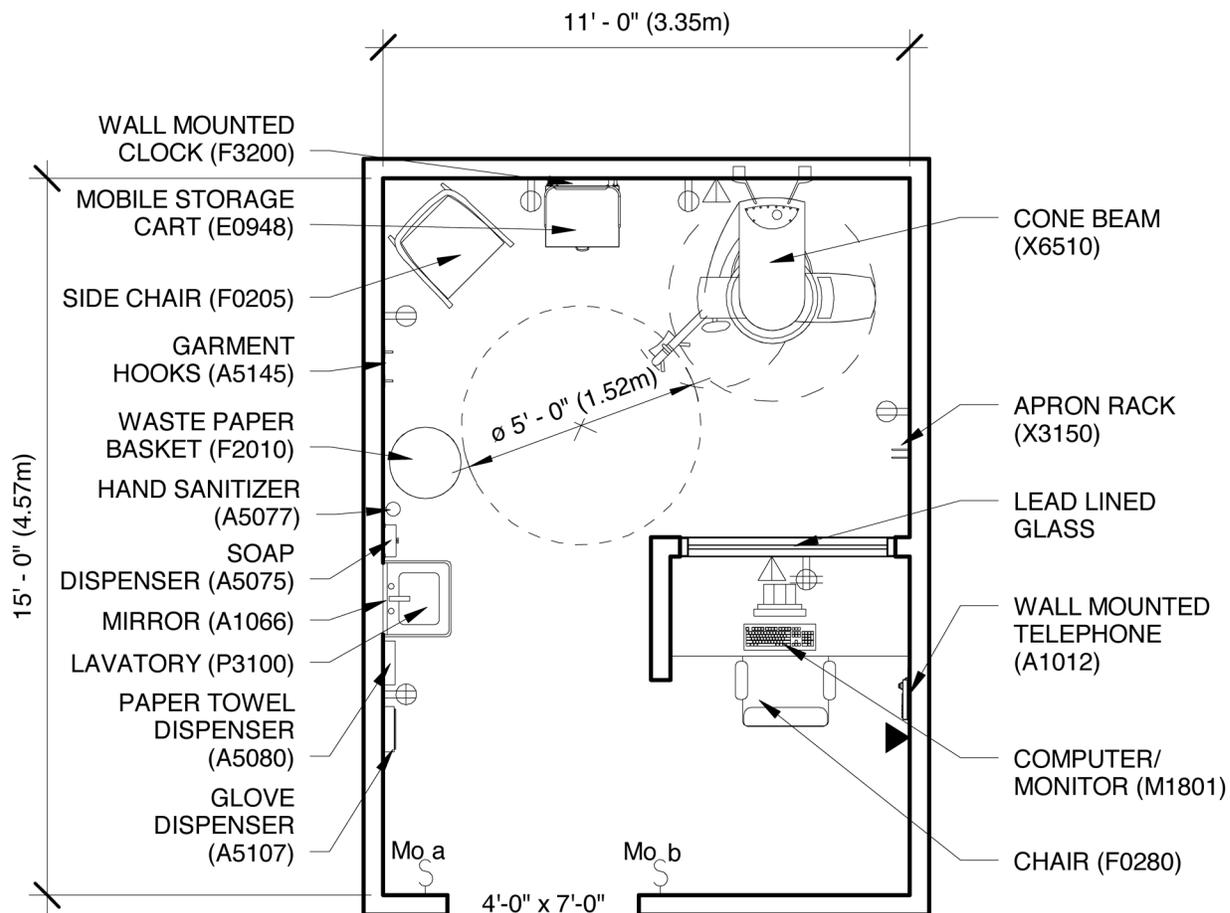
SCALE NTS

Dental Service
Axonometric View (165 NSF / 15.3 NSM)

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CONE BEAM COMPUTERIZED TOMOGRAPHY (DNXC1)



CONE BEAM COMPUTERIZED TOMOGRAPHY (DNXC1)

SCALE 1/4" = 1'-0"

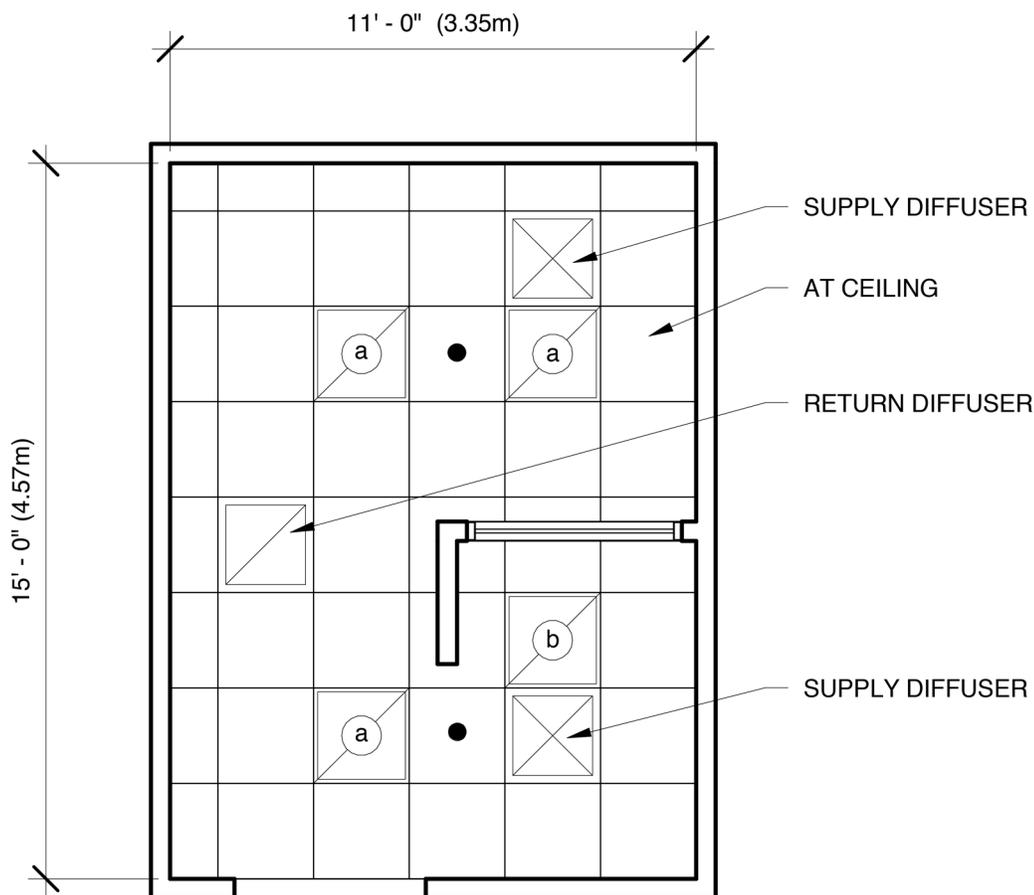


Dental Service
Floor/Equipment Plan (165 NSF / 15.3 NSM)

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CONE BEAM COMPUTERIZED TOMOGRAPHY (DNXC1)

SCALE 1/4" = 1'-0"

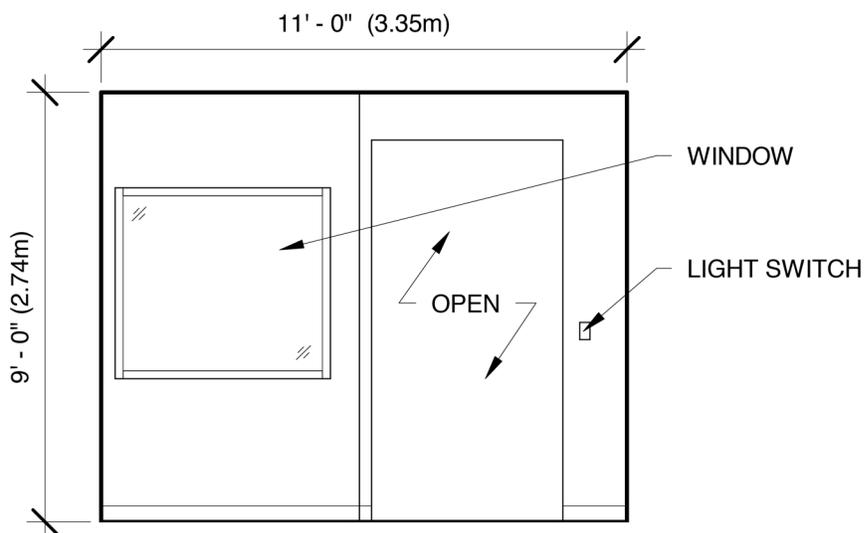


Dental Service
Reflected Ceiling Plan

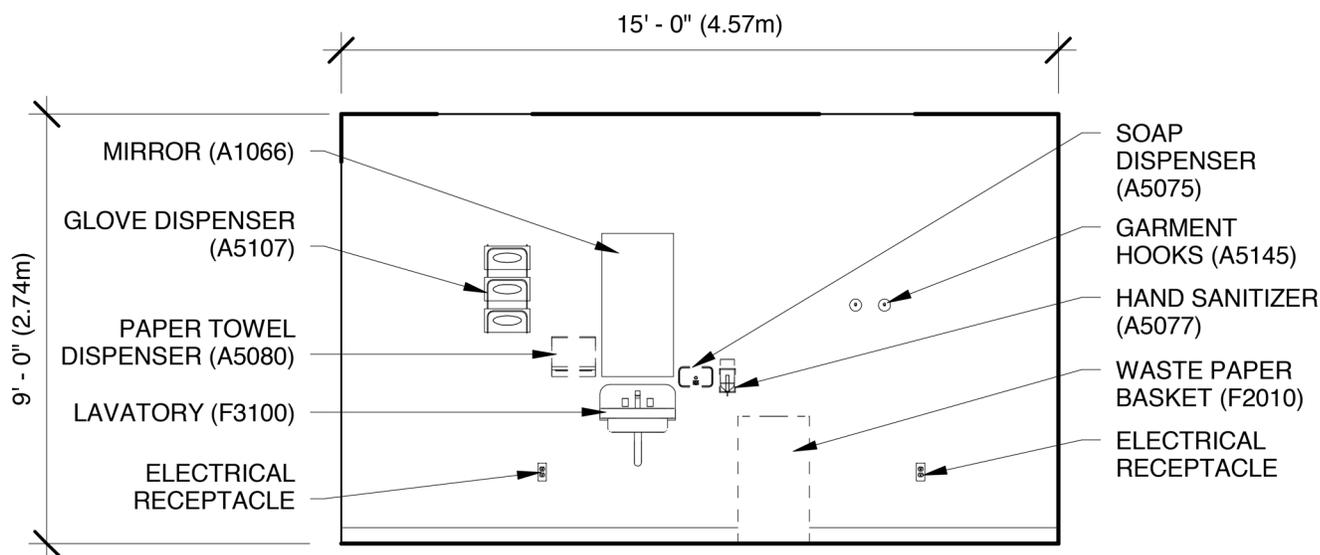
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CONE BEAM COMPUTERIZED TOMOGRAPHY (DNXC1)



Elevation 1



Elevation 2

CONE BEAM COMPUTERIZED TOMOGRAPHY (DNXC1)

SCALE 1/4" = 1'-0"

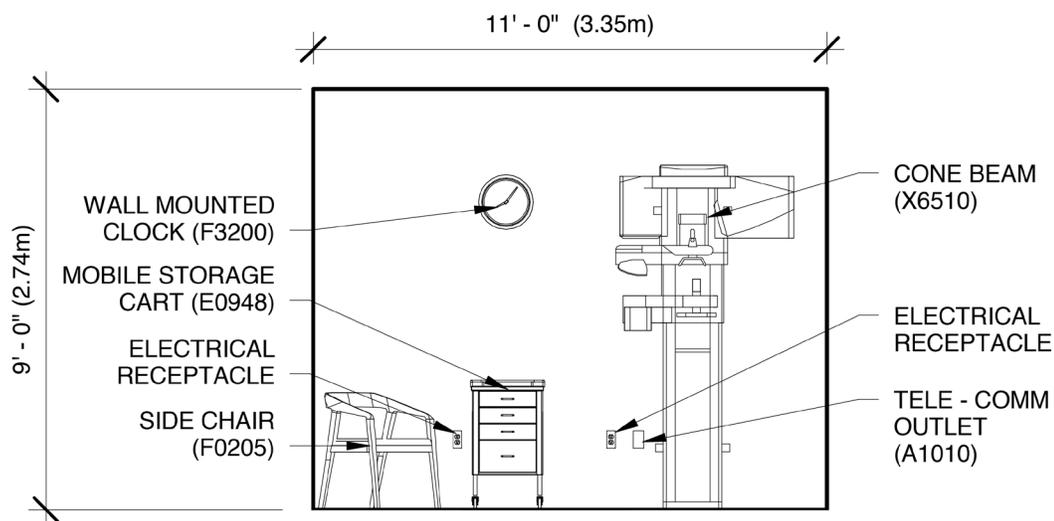


Dental Service Elevations

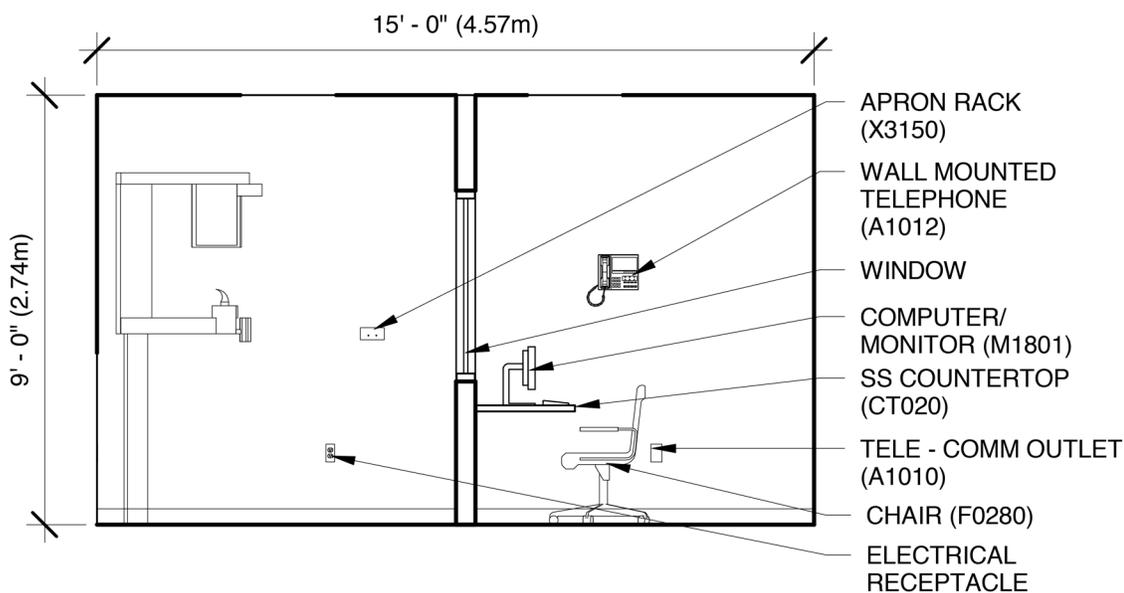
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CONE BEAM COMPUTERIZED TOMOGRAPHY (DNXC1)



Elevation 3



Elevation 4

CONE BEAM COMPUTERIZED TOMOGRAPHY (DNXC1)

SCALE 1/4" = 1'-0"



Dental Service Elevations

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CONE BEAM COMPUTERIZED TOMOGRAPHY (DNXC1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
A1010	Telecommunications Outlet	3	CC	Telecommunication outlet location.
A1012	Telephone, Wall, Mounted, 1 Line	1	CC	Telephone, wall mounted, 1 line.
A1066	Mirror, Float Glass,w SS Frame	1	CC	A high quality 1/4" polished float glass mirror 36X18, framed in a one-piece, bright polished, stainless steel channel frame with 90° mitered corners. All edges of the mirror are protected by absorbing filler strips. Mirror has a galvanized steel back with integral horizontal hanging brackets and wall hanger for concealed mounting. For mounting above single wall mounted lavatories located in toilet areas, Doctors examination offices, etc. May also be used above double lavatories, either wall or countertop mounted, found in restroom areas.
A5075	Dispenser, Soap, Disposable	1	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5077	Dispenser, Hand Sanitizer, Hands Free	1	VV	A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated.
A5080	Dispenser, Paper Towel, SS, Surface, Mounted	1	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility.
A5107	Dispenser, Glove, Surgical/ Examination, Wall Mtd	1	VV	Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a white baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting.
A5145	Hook, Garment, Double, SS, Surface Mtd	1	VV	A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate. For general purpose use throughout the facility to hang various items of apparel.

CONE BEAM COMPUTERIZED TOMOGRAPHY (DNXC1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
CT020	Countertop, Solid Surface	1	CC	A solid, nonporous countertop with a smooth seamless appearance. Easy to clean and maintain and with proper cleaning does not support the growth of mold. An acrylic-based solid surface product. Standard thickness of 1", and a 4" butt backsplash/curb. Also referred to as a work surface or work top. Available in a choice of colors and depths. Used in lab and other hospital areas requiring optimum physical and chemical resisting properties.
E0948	Cart, General, Storage, Mobile 42"Hx32"Wx22"D	1	VV	THIS TYPICAL INCLUDES: 1 Cart Body, Style-A Narrow, w/Raised Edge Top 1 Accessory Rail, Side 2 Drawers, 3" H (76mm) 4 Drawers, 6" H (152mm) Drawer Organizer Bins
F0205	Side, Chair w/Arms	1	VV	Leather or vinyl upholstered side chair, 32" high X 21" wide X 23" deep with arms, padded seats and padded backs. Seat height is a minimum of 17".
F0230	Chair, Drafting, Rotary	1	VV	Drafting chair approximately 47" high X 20" wide X 20" deep with rotary stool and a 5 (five) star base with casters. Padded seat and back. Foot ring adjusts with chair.
F2010	Basket, Wastepaper, Step-on	1	VV	"Step-on" wastepaper basket with inner liner and foot pedal activated flip top.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
F3100	Lavatory, Vitreous China, Slab Type	1	CC	Wall mounted, slab type, vitreous china, lavatory (approximate bowl size 7"x15"x10") with: faucet holes on 4" centers; gooseneck spout; wrist blade handles; and grid strainer. It shall be suitable for use in clinics, offices, washrooms or patient care area.
M1801	Computer, Microprocessing w/ Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing micro tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: 3.1 GHz 1 x Pentium processor; 4 GB RAM; 500GB hard drive; CDROMDVD combo; HD Graphics; a 15 inch flat panel color monitor. The computer is used throughout the facility to input, manipulate and retrieve information.

CONE BEAM COMPUTERIZED TOMOGRAPHY (DNXC1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
X3150	Rack, Apron/Gloves, Wall Mounted	1	CC	Apron and gloves rack. This is a wall unit which holds aprons and gloves. The body is heavy gauge steel finish in gray or green baked enamel, glove and apron holding arms are aluminum. The unit's convenient on wall storage will prolong the useful life of your protection aprons by helping prevent damage to internal components.
X6510	Radiographic Unit, Cone Beam, 3-D Imaging	1	VV	A dental radiographic unit providing three-dimensional images. The unit uses a cone-shaped beam to acquire an image in a single pass. The unit provides a superior high resolution 3D image with low radiation dosage. Allows comprehensive examination and precise information on the anatomy of a patients mouth, face and jaw areas by producing 3D images of all oral and maxillofacial structures.

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CONE BEAM COMPUTERIZED TOMOGRAPHY (DNXC1)
Room Data Sheet

ARCHITECTURAL

Ceiling:	AT
Ceiling Height:	9'-0"
Wall Finish:	Paint
Base:	RB
Floor Finish:	SVT
Door:	
Hardware:	
Glazing:	Lead Equivalent (1)

Notes:

1. Lead Equivalent as Determined by Physicist

LIGHTING

General:

1. Three (3) of 2' x 2' (600 mm x 600 mm) Fluorescent Light Fixture, Acrylic, Prismatic Lens with F32T8 Lamps, 3500'K CRI >70
2. Provide Ballasts Per Fixture for Desired Switching Configuration and to Provide Practical Uniform Lighting Level.
3. Lighting Level: 50fc; average maintenance
4. Wall or ceiling mounted Vacancy Sensor

POWER

General: As Shown and Required by Code

Special:

Emergency:

Notes:

Coordinate electrical requirements with specific equipment.

COMMUNICATIONS/SPECIAL SYSTEMS

Patient Monitor:

Nurse Call:

CCTV:

Telephone: Yes

Pub. Address:

Radio:

Data: Yes

Panic Call:

Battery Operated Clock: Yes

Intercom: Note 1

Staff/Duty Station:

In Use Light: Yes

Note 1. Dedicated IC system throughout dental services. Telephone hands-free instruments may be substituted for formal IC system.

HEATING, VENTILATING AND AIR CONDITIONING

Dry Bulb Temp Cooling:	75° F (24° C)
Dry Bulb Temp Heating:	70° F (21° C)
Minimum % Outside Air:	2
100% Exhaust Air:	
Noise Criteria:	35
Steam:	
Relative Humidity/Cooling:	60
Relative Humidity/Heating:	20
Minimum Air Changes/Hr:	6
Room Pressure:	Positive (+)
AC Load Lights:	As Required
AC Load Equipment:	As Required
Number of People:	2
Special Equipment:	

PLUMBING AND MEDICAL GASES

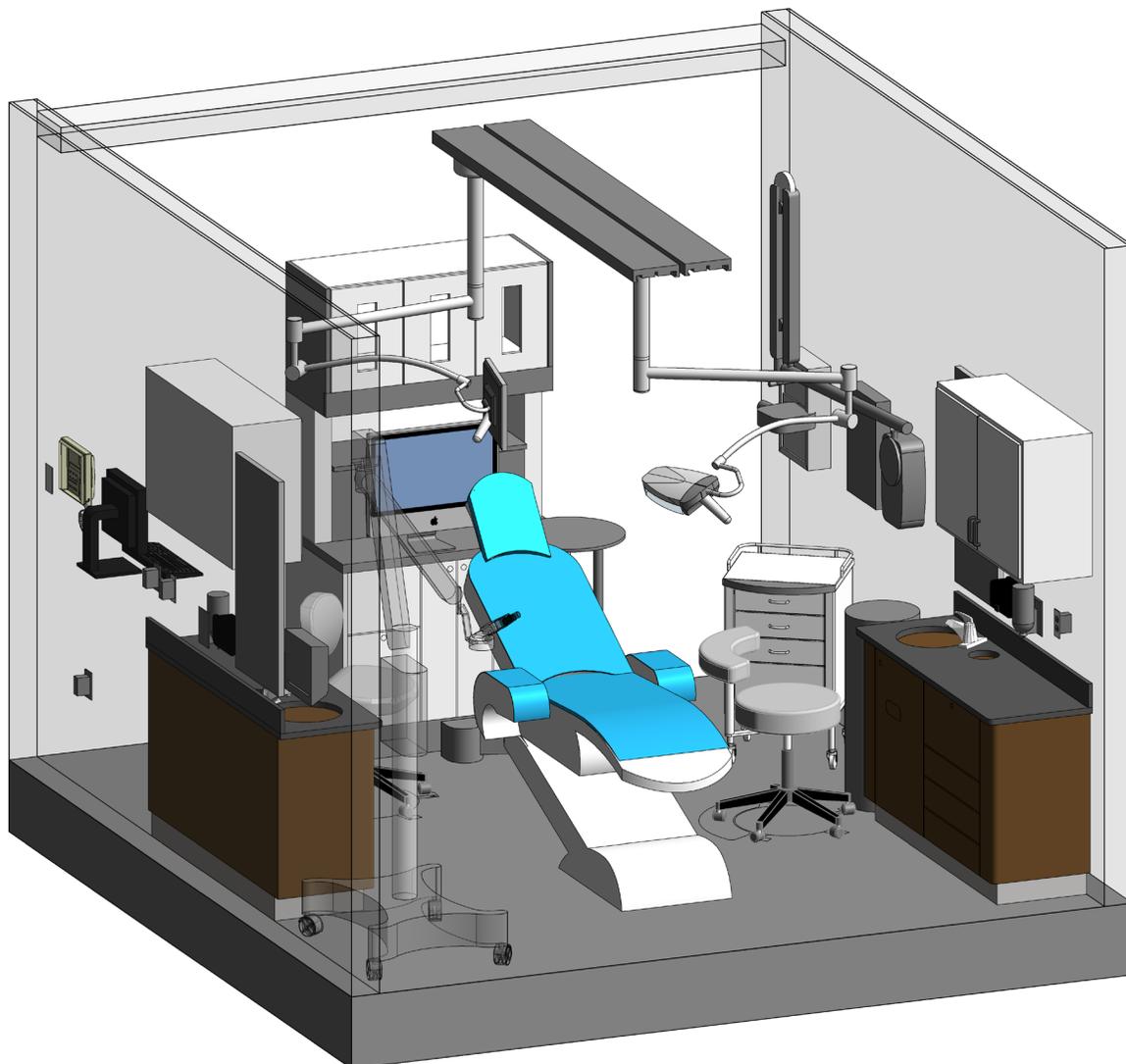
Cold Water:	Yes
Hot Water:	Yes
Laboratory Air:	
Laboratory Vacuum:	
Sanitary/Vent:	Yes
Medical Air:	
Medical Vacuum:	
Dental Air:	
Dental Vacuum:	
Oxygen:	
Nitrogen Oxide:	
Nitrogen:	
Anesthesia Evac:	
Sprinkler:	Yes
Tempered Water:	
Water Control:	

SPECIAL EQUIPMENT

See Equipment List

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DENTAL TREATMENT ROOM, MULTI-FUNCTIONAL (DNTG1)



SCALE NTS

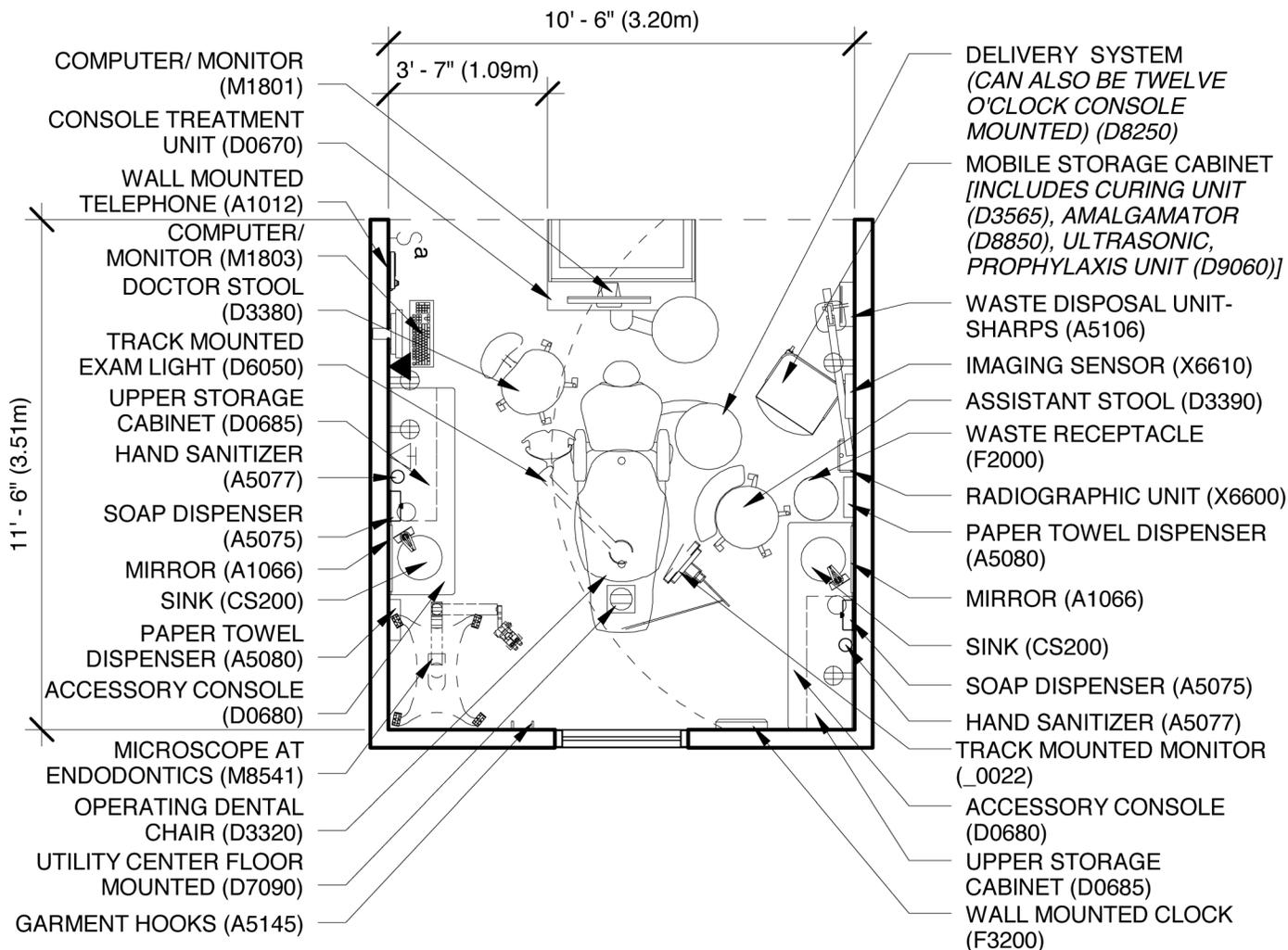
DENTAL TREATMENT ROOM,
MULTI-FUNCTIONAL (DNTG1)

Dental Service
Axonometric View (120 NSF / 11.1 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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DENTAL TREATMENT ROOM, MULTI-FUNCTIONAL (DNTG1)



SCALE 1/4" = 1'-0"



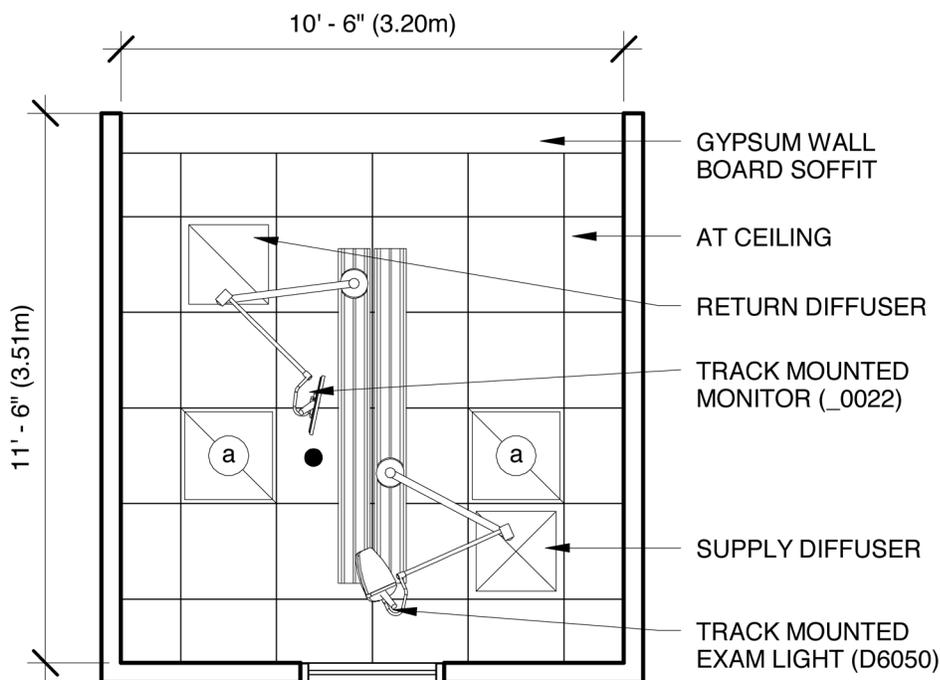
DENTAL TREATMENT ROOM, MULTI-FUNCTIONAL (DNTG1)

Dental Service Floor/Equipment Plan (120 NSF / 11.1 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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DENTAL TREATMENT ROOM, MULTI-FUNCTIONAL (DNTG1)



DENTAL TREATMENT ROOM,
MULTI-FUNCTIONAL (DNTG1)

SCALE 1/4" = 1'-0"

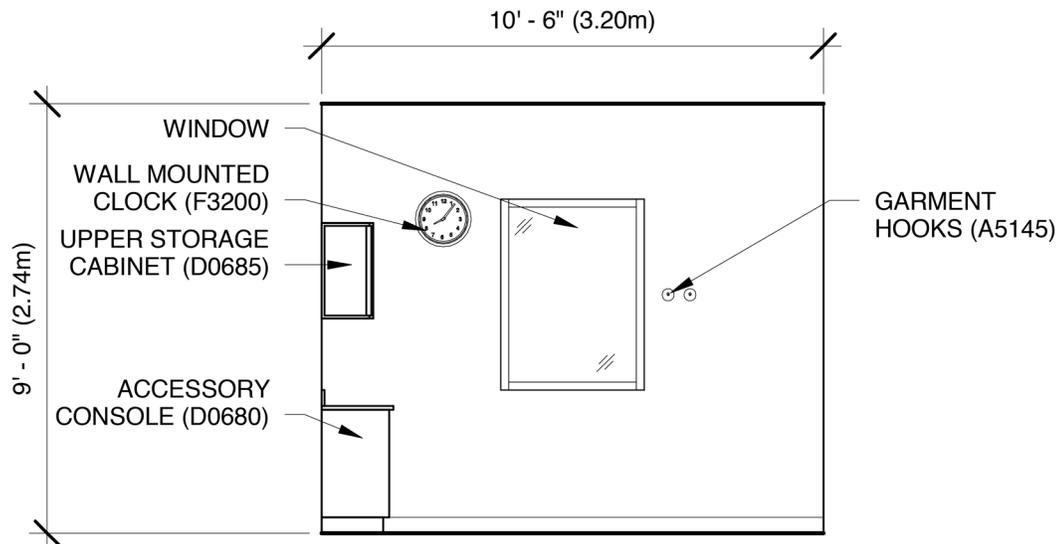


Dental Service
Reflected Ceiling Plan

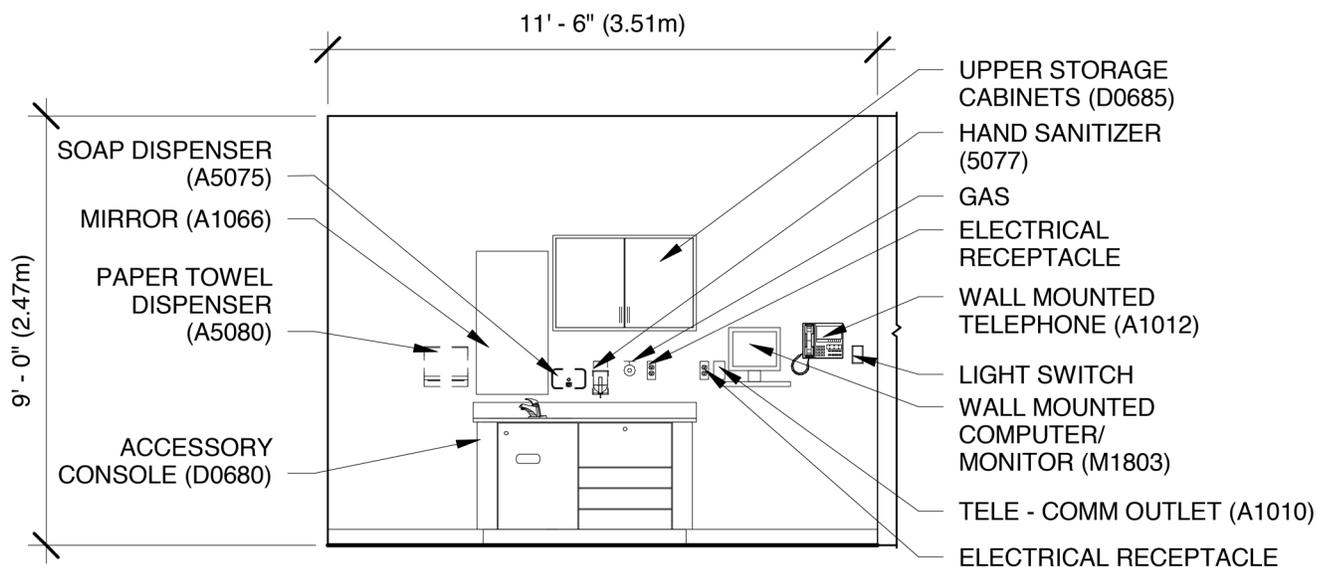
NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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DENTAL TREATMENT ROOM, MULTI-FUNCTIONAL (DNTG1)



Elevation 1



Elevation 2

DENTAL TREATMENT ROOM, MULTI-FUNCTIONAL (DNTG1)

SCALE 1/4" = 1'-0"

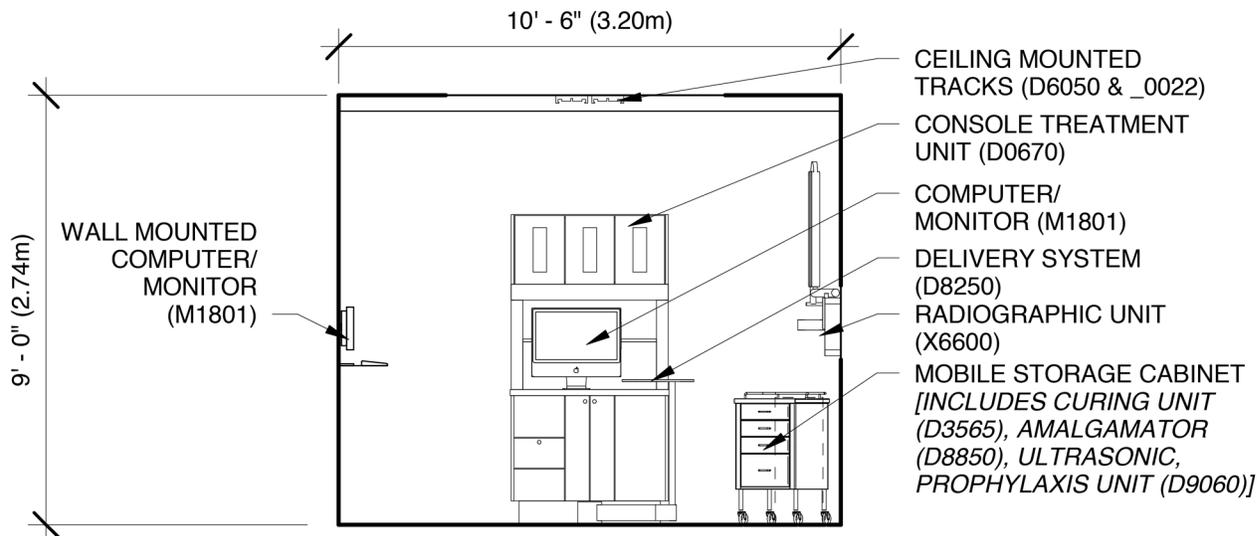


Dental Service Elevations

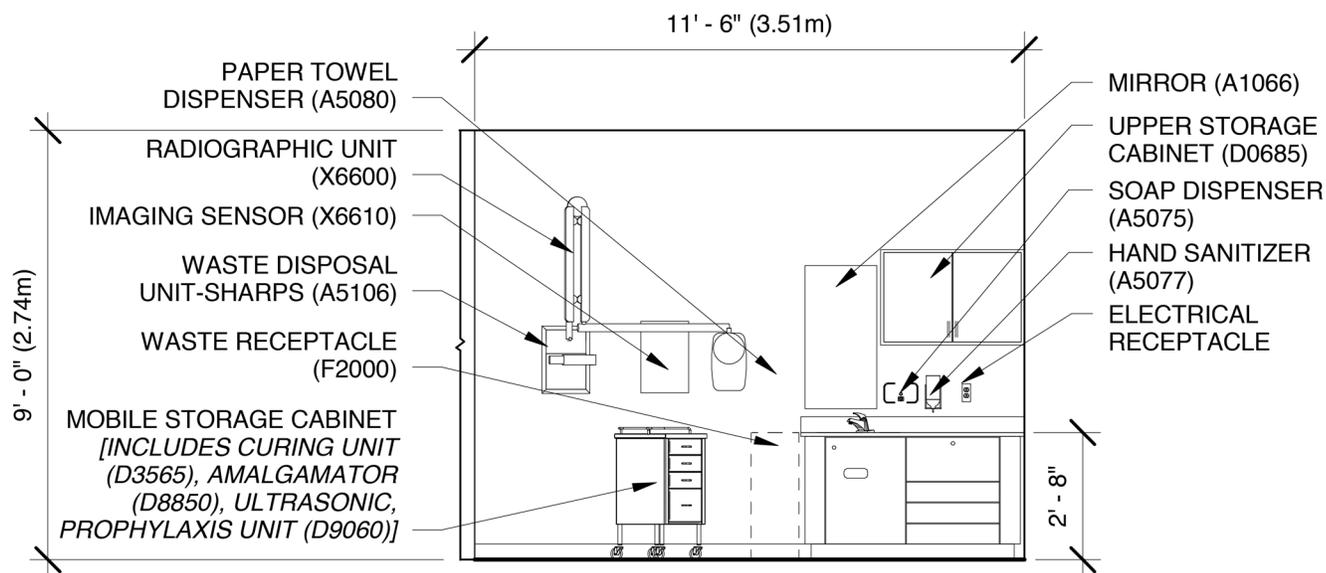
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DENTAL TREATMENT ROOM, MULTI-FUNCTIONAL (DNTG1)



Elevation 3



Elevation 4

DENTAL TREATMENT ROOM, MULTI-FUNCTIONAL (DNTG1)

SCALE 1/4" = 1'-0"



Dental Service Elevations

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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DENTAL TREATMENT ROOM, MULTI-FUNCTIONAL (DNTG1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
A1010	Telecommunications Outlet	2	CC	Telecommunication outlet location.
A1012	Telephone, Wall Mounted, 1 Line	1	CC	Telephone, wall mounted, 1 line.
A1066	Mirror, Float Glass, With SS Frame	1	CC	A high quality 1/4" polished float glass mirror 36X18, framed in a one-piece, bright polished, stainless steel channel frame with 90° mitered corners. All edges of the mirror are protected by absorbing filler strips. Mirror has a galvanized steel back with integral horizontal hanging brackets and wall hanger for concealed mounting. For mounting above single wall mounted lavatories located in toilet areas, Doctors examination offices, etc. May also be used above double lavatories, either wall or countertop mounted, found in restroom areas.
A5075	Dispenser, Soap, Disposable	2	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5077	Dispenser, Hand Sanitizer, Hands Free	2	VV	A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated.
A5080	Dispenser, Paper, Towel, SS, Surface Mounted	2	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility.
A5106	Waste Disposal Unit, Sharps w/Glove Dispenser	1	VV	The unit is designed for the disposal of sharps and complies with OSHA guidelines for the handling of sharps. It shall house a 5 quart container and be capable of being mounted on a wall. It shall have a glove dispenser attached. The unit shall be secured by a locked enclosure.
A5145	Hook, Garment, Double, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate. For general purpose use throughout the facility to hang various items of apparel.

DENTAL TREATMENT ROOM, MULTI-FUNCTIONAL (DNTG1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
D0670	Console, Treatment Unit, Dental Operatory	1	CC	A dental treatment console or work station (also called a "12 o'clock unit) approximately 45" W x 72" H x 30" D. Consists of a base unit with storage and equipment drawers, a bifold door cabinet with slide out shelves and CPU storage. A midsection with chase and power bar for ancillary equipment and shelf for a monitor and keyboard. Upper storage unit may be passthrough or non-pass-through with glass shelves and see-through cabinet doors. Unit may also be configured with a pivoting work surface to hold all doctor and assistant instrumentation or with a wash station w/SS sink and knee or foot activated faucet and solid surface countertop. Unit is also available in other widths and heights. Final makeup of this unit is dependant on individual facility requirements determined at time of purchase.
D0680	Console, Accessory/Side, Dental Operatory	2	CC	An accessory or side console/cabinet approximately 60" W x 24"D x 32"H for use in a single chair dental operatory. The console may be a left or a right unit used for the dentist or theassistant depending configuration of the operatory. The unit may contain a sink component with waste drop, a round SS sink with faucet and soap dispenser, a solid surface counter top, a drawer storage module with writing surface and equipment drawers, a double door component with swing out shelves and a glove dispenser. Various combinations are available as well as different widths. Configuration of the unit, including whether the unit is right or left, to be determined at time of purchase.
D0685	Cabinet, Storage, Dental, Operatory, Wall MNTD	2	CC	An upper wall mounted storage cabinet with two adjustable shelves providing additional space for dental supplies and equipment in a dental operative. Cabinet is approximately 34"W x 12"D x 24"H with other widths available. Cabinet is frequently mounted above JSN D0680, Console, Accessory/Side, Dental Operatory.
D3320	Chair, Operating Dental	1	VV	Dental operating chair designed for the treatment and comfort of dental patients. The chair shall be capable of multiple positions, shall swivel, contain an adjustable headrest and arm rests that pivot up and down. The chair shall operate by means of electrohydraulics. The upholstery shall be seamless with no crevices to catch debris and be easy to clean.

DENTAL TREATMENT ROOM, MULTI-FUNCTIONAL (DNTG1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
D3380	Stool, Operating, Dental, Doctor	1	VV	Dental operating stool. Used by the dentist in the care and treatment of patients. This chair has a pneumatic cylinder to adjust the height of the chair. It also has backrest as an integral part of the unit. The unit is to be equipped with casters. Various color combinations of vinyl are available.
D3390	Stool, Operating, Dental, Assistant	1	VV	Dental assistant's operating stool used in dental operatories during procedures. This chair has a body support arm or abdominal support that can be left or right hand adaptable. It also has a pneumatic cylinder for height adjustments. The chair is available in multiple vinyl color combinations.
D3565	Resin Curing Unit, Visible Light	1	VV	Visible light resin curing unit which provides a high intensity, cold light source of visible blue light for the polymerization of all visible light cured materials. The unit provides for time selections between 10 and 60 seconds or continuous operation and beeps at ten or twenty second intervals during use.
D6050	Light, Dental, Operating, Ceiling, Track	2	CC	Dental operating light used to illuminate the field of work. This is a single light unit on a cantilever arm mounted from a column which is suspended from a moving trolley in a ceiling track. The light can be used in installations where the ceiling height is between 8 and 10.5 feet; some units can mount to ceilings as high as 13 feet. Database physical dimensions refer to the light's maximum travel dimensions centered on the ceiling mounting track. The database weight includes the light, arm and trolley. Mounting this light may require reinforcing the ceiling or hanging the mount from the underside of the slab above a suspended ceiling.
D7090	Utility, Center, Dental, Floor Mounted or Wall Mounted	1	VC	Utility center. The unit contains electrical and quick connect air, waste and water utility connections. The center accommodates one umbilical and includes shut-off valves and regulators for both the air and water supplies.
D8250	Delivery System, Dental Operating	1	VV	Dental operating unit. The dentist and/or dental hygienist uses the unit for treatment of dental patients. The unit contains the operating connections for handpieces, the water spray and the vacuum system. The unit can be wall, chair or mobile cart mounted.
D8850	Amalgamator, Dental	1	VV	Dental amalgamator. The amalgamator is used in dental operatories to triturate alloys for restoration of teeth after removal of caries.

DENTAL TREATMENT ROOM, MULTI-FUNCTIONAL (DNTG1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
D9060	Prophylaxis, Unit, Ultrasonic	1	VV	Dental ultrasonic prophylaxis unit. Used in dental clinics for the removal of calculus. Unit requires water and air supplies.
F2000	Basket, Wastepaper, Round Metal	2	VV	Round wastepaper basket, approximately 18" high X 16" diameter. This metal unit is used to collect and temporarily store small quantities of paper refuse in patient rooms, administrative areas and nursing stations.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
M1801	Computer, Microprocessing, w/ Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing micro tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: 3.1 GHz 1 x Pentium processor; 4 GB RAM; 500GB hard drive; CDROMDVD combo; HD Graphics; a 15 inch flat panel color monitor. The computer is used throughout the facility to input, manipulate and retrieve information.
M1803	Workstation, Computer, Wall Mounted, Adjustable	1	VV	A wall mounted computer workstation, height adjustable with articulating monitor and keyboard arms. Keyboard and monitor can be stored within 10" to 12" of the wall. Unit contains an integrated cable management system to hide wires. A separate wall-mounted CPU holder is included. Recommended display size up to 24". Wall backing recommended to provide additional strength for the installation of the workstation.
X6600	Radiographic Unit, Dental, Wall Mounted, 7ma	1	VV	Dental radiographic unit. Wall mounted, 7 mA, 70 kVp, 120 VAC, electronic remote exposure control unit. The unit shall have electronic timing with automatic reset timing capability and main power correction unit to adjust for line voltage fluctuations. Tube head shall be of the oil immersed, shield type with total inherent filtration of 1.5 mm AL, with a focal spot of 0.6.
X6610	Sensor, Dental, Imaging System	1	VV	A filmless digital imaging system using a sensor to acquire and digitize dental x-ray images for viewing, storing or printing. The sensor is used in conjunction with a film based x-ray system. Images are digitized and transmitted to a computer via a standard USB port and is compatible with laptop or desktop systems.

DENTAL TREATMENT ROOM, MULTI-FUNCTIONAL (DNTG1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
_0022	Monitor, Mount Track (optional)	1	N/A	Monitor mount for optional monitor, used for patient education. Ability to support minimum 24" monitor. Mount can be configured for track, wall or chair mounting.

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DENTAL TREATMENT ROOM, MULTI-FUNCTIONAL (DNTG1)
Room Data Sheet

ARCHITECTURAL

Ceiling:	AT
Ceiling Height:	9'-0"
Wall Finish:	Paint
Base:	RB
Floor Finish:	RF (Note 1)
Door:	
Hardware:	
Glazing:	Lead Equivalent (1)

Notes:

1. Seamless Rubber Floor

LIGHTING

General:

1. Two (2) of 2' x 2' (600 mm x 600 mm) Fluorescent Light Fixture, indirect with T8 Lamps CRI ≥ 85 Color Temperature Between 5000K and 6000K - 2' x 4' (600 mm x 1200 mm) Fixtures optional
2. Provide Ballasts Per Fixture for Desired Switching Configuration and to Provide Practical Uniform Lighting Level.
3. Lighting Level: 50fc - 100fc; average maintenance
4. Ceiling Mounted Track Dental Light
5. Wall or ceiling mounted Vacancy Sensor

POWER

General: As Shown and Required by Code

Special:

Emergency:

Notes:

Coordinate electrical requirements with specific equipment.

COMMUNICATIONS/SPECIAL SYSTEMS

Monitor:	Ceiling Track Mounted
Nurse Call:	
CCTV:	
Telephone:	Yes
Pub. Address:	
Radio:	
Data:	Yes
Panic Call:	
Battery Operated Clock:	
Intercom:	Note 1
Staff/Duty Station:	
In Use Light:	Yes

Note 1. Dedicated IC system throughout dental services. Telephone hands-free instruments may be substituted for formal IC system.

HEATING, VENTILATING AND AIR CONDITIONING

Dry Bulb Temp Cooling:	75° F (24° C)
Dry Bulb Temp Heating:	70° F (21° C)
Minimum % Outside Air:	2
100% Exhaust Air:	
Noise Criteria:	40
Steam:	
Relative Humidity/Cooling:	60
Relative Humidity/Heating:	20
Minimum Air Changes/Hr:	6
Room Pressure:	Positive (+)
AC Load Lights:	As Required
AC Load Equipment:	As Required
Number of People:	3
Special Equipment:	

PLUMBING AND MEDICAL GASES

Cold Water:	Yes
Hot Water:	Yes
Laboratory Air:	
Laboratory Vacuum:	
Sanitary/Vent:	Yes
Medical Air:	Note 1
Medical Vacuum:	Note 1
Dental Air:	Yes
Dental Vacuum:	Yes
Oxygen:	Yes
Nitrogen Oxide:	
Nitrogen:	
Natural Gas:	Yes
Sprinkler:	Yes
Tempered Water:	
Water Control:	Foot/Knee or Infrared

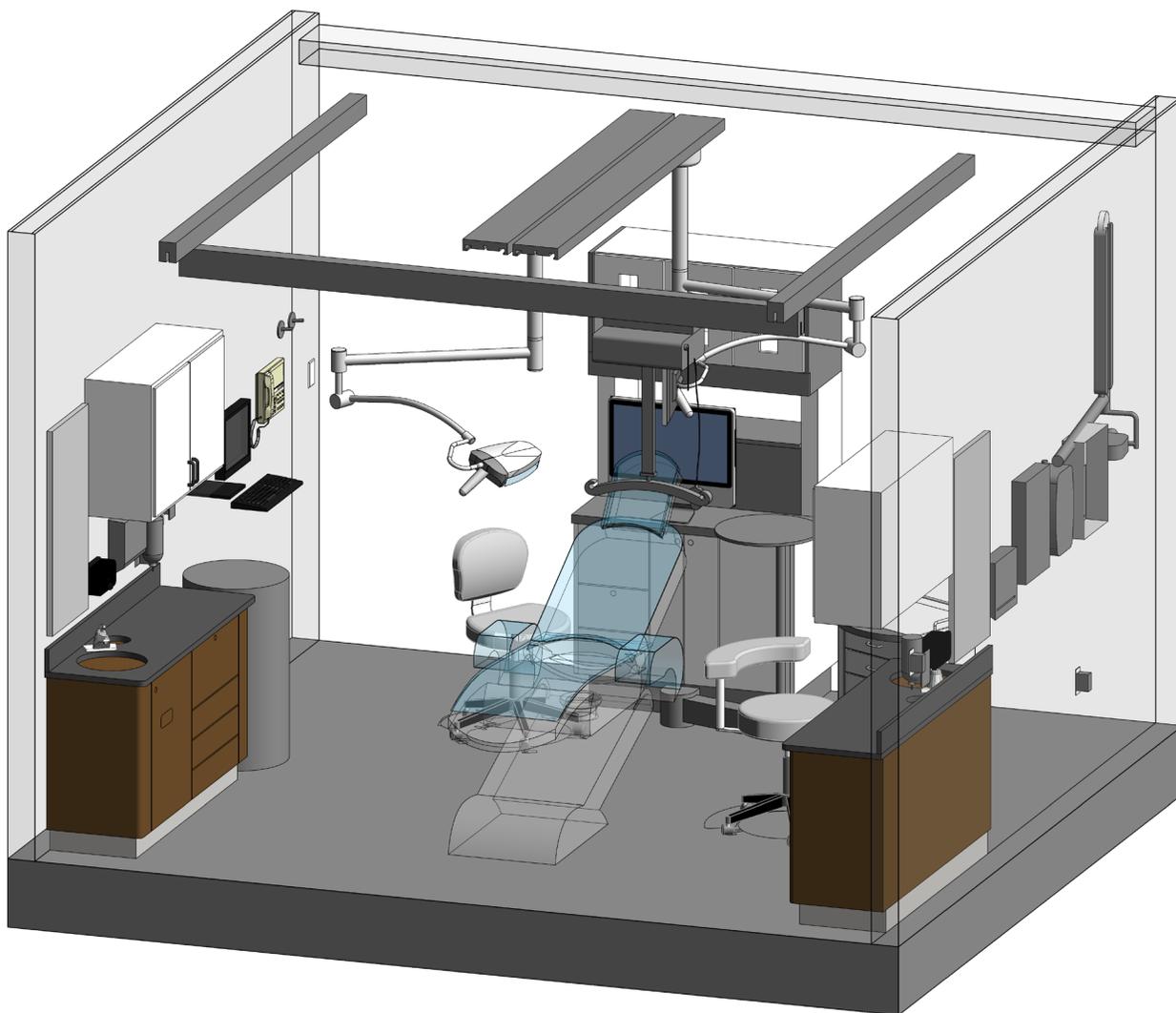
Note 1: Per Facility Requirements

SPECIAL EQUIPMENT

See Equipment List. Delivery system may be either at the 12 o'clock unit or over the chair. Coordinate with facility.

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DENTAL TREATMENT ROOM, SPECIAL NEEDS PATIENT (DNTG5)



DENTAL TREATMENT ROOM,
SPECIAL NEEDS PATIENT (DNTG5)

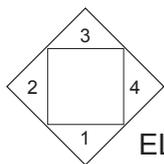
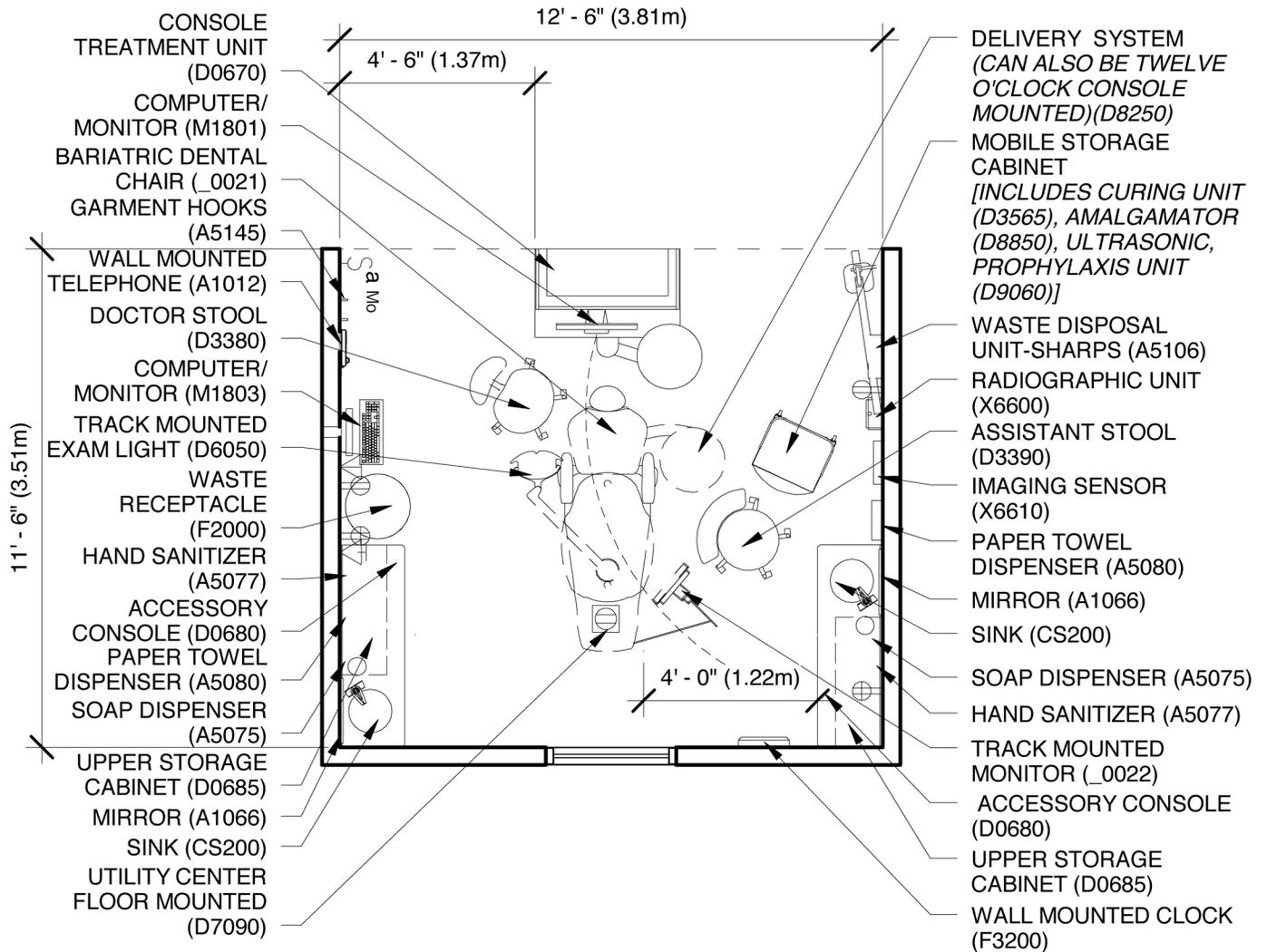
SCALE NTS

Dental Service
Axonometric View (144 NSF / 13.3 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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DENTAL TREATMENT ROOM, SPECIAL NEEDS PATIENT (DNTG5)



ELEVATION KEY

SCALE 1/4" = 1'-0"



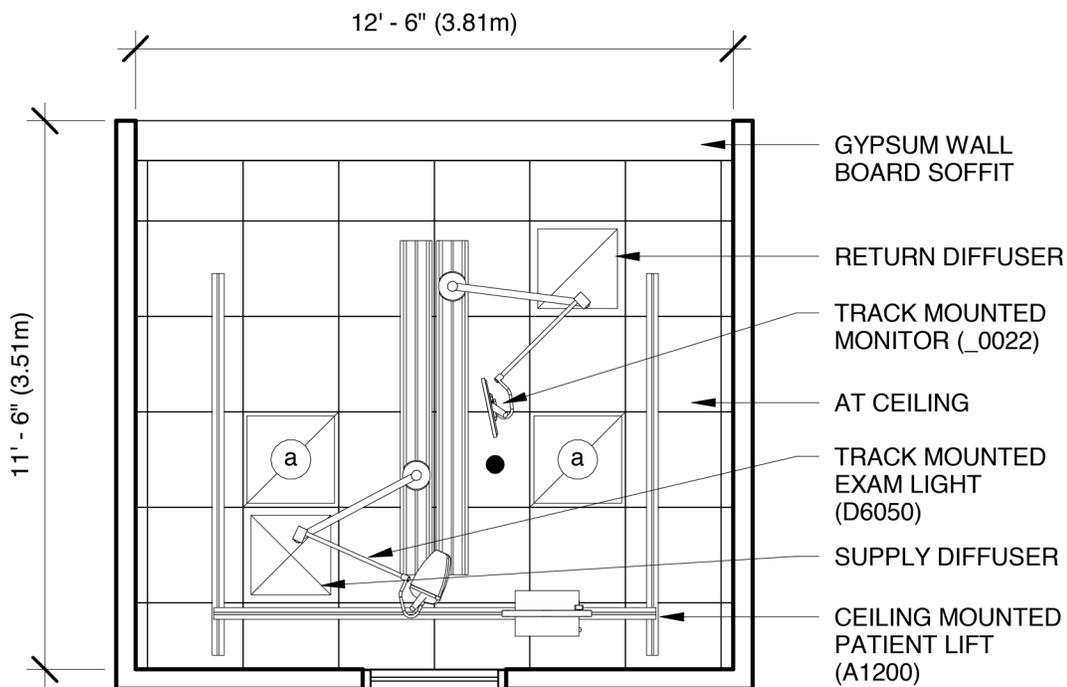
DENTAL TREATMENT ROOM, SPECIAL NEEDS PATIENT (DNTG5)

Dental Service Floor/Equipment Plan (144 NSF / 13.3 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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DENTAL TREATMENT ROOM, SPECIAL NEEDS PATIENT (DNTG5)



DENTAL TREATMENT ROOM,
SPECIAL NEEDS PATIENT (DNTG5)

SCALE 1/4" = 1'-0"

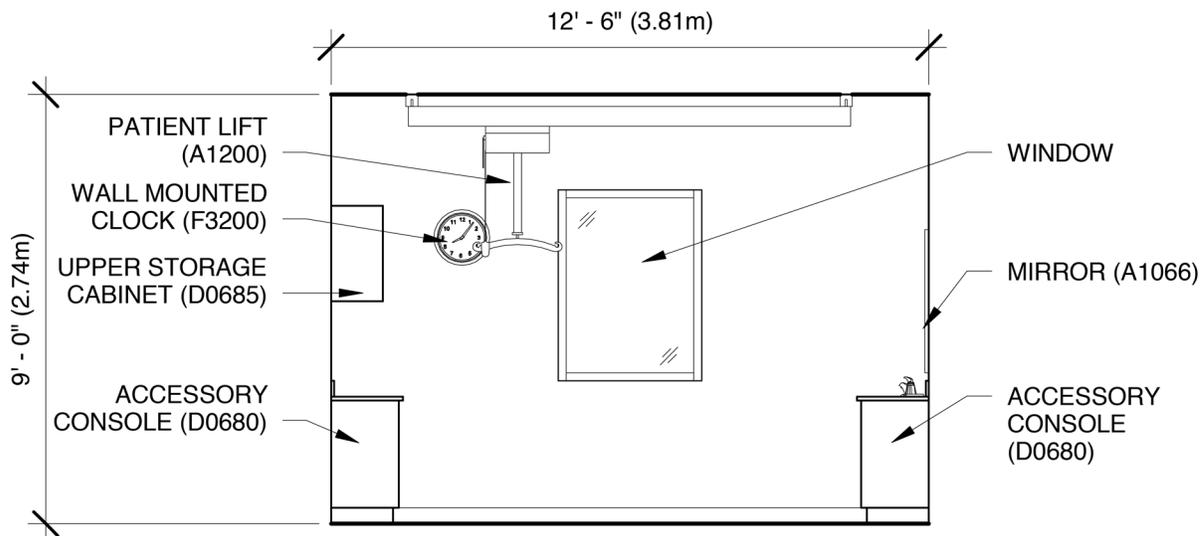


Dental Service
Reflected Ceiling Plan

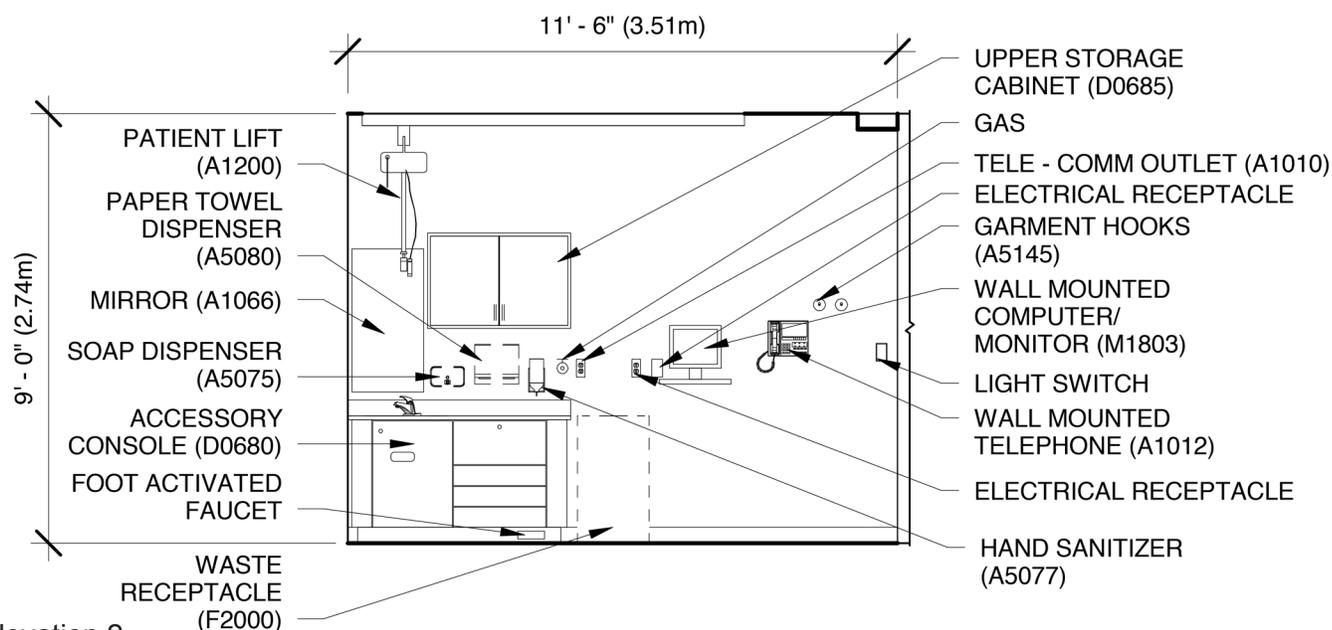
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DENTAL TREATMENT ROOM, SPECIAL NEEDS PATIENT (DNTG5)



Elevation 1



Elevation 2

DENTAL TREATMENT ROOM,
SPECIAL NEEDS PATIENT (DNTG5)

SCALE 1/4" = 1'-0"

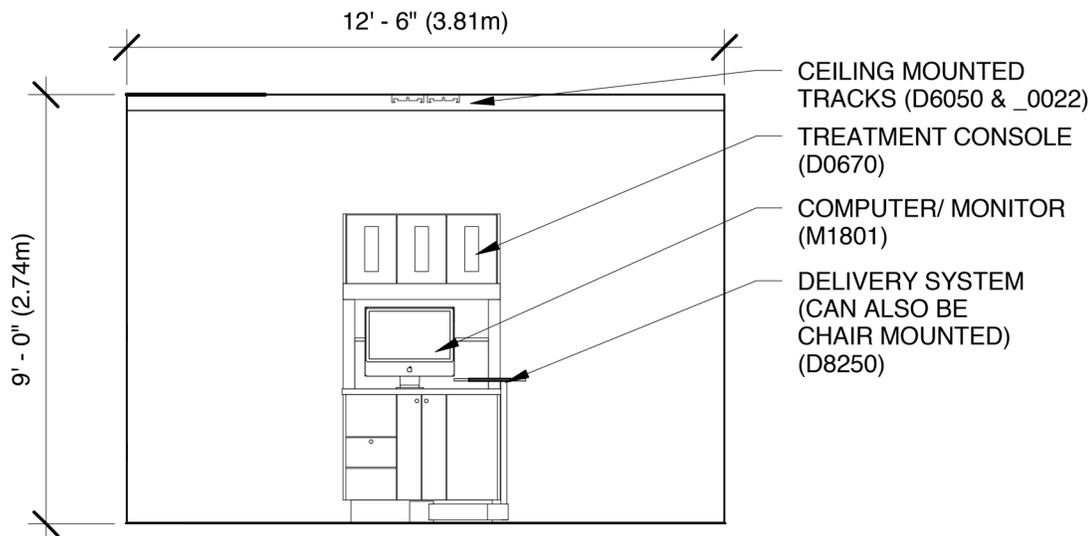


Dental Service
Elevations

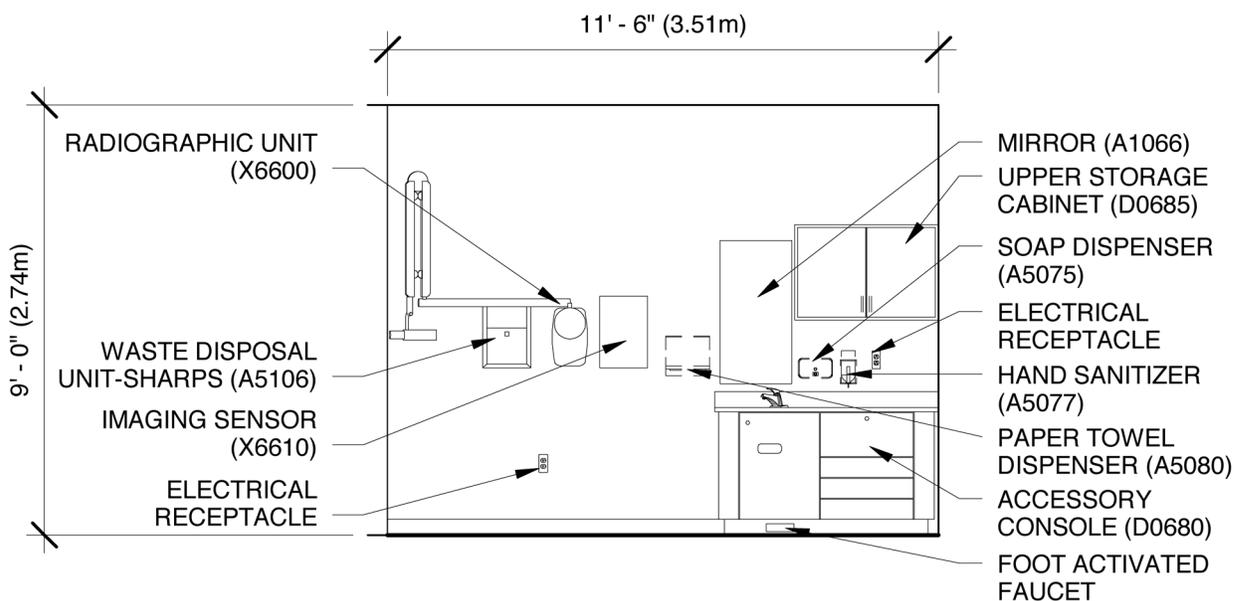
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DENTAL TREATMENT ROOM, SPECIAL NEEDS PATIENT (DNTG5)



Elevation 3



Elevation 4

DENTAL TREATMENT ROOM, SPECIAL NEEDS PATIENT (DNTG5)

SCALE 1/4" = 1'-0"



Dental Service Elevations

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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DENTAL TREATMENT ROOM, SPECIAL NEEDS PATIENT (DNTG5)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
A1010	Telecommunications Outlet	2	CC	Telecommunication outlet location.
A1012	Telephone, Wall Mounted, 1 Line	1	CC	Telephone, wall mounted, 1 line.
A1066	Mirror, Float Glass, With SS Frame	2	CC	A high quality 1/4" polished float glass mirror 36X18, framed in a one-piece, bright polished, stainless steel channel frame with 90° mitered corners. All edges of the mirror are protected by absorbing filler strips. Mirror has a galvanized steel back with integral horizontal hanging brackets and wall hanger for concealed mounting. For mounting above single wall mounted lavatories located in toilet areas, Doctors examination offices, etc. May also be used above double lavatories, either wall or countertop mounted, found in restroom areas.
A1200	Lift System, Overhead, Patient Room	1	CC	An overhead rail system specifically designed for patient lifting and movement for a single bed patient room. The system will consist of recessed or ceiling mounted primary and secondary rails, lift motor with rolling carriage, patient harness or seat, and a hand controller or control box with charger. System will facilitate lifting and movement of patient to and from bed to gurney, chair or other requirement. Maximum lift capability is 1000 pounds. Custom design of track layout by manufacturer is essential to meet individual facility requirements.
A5075	Dispenser, Soap, Disposable	2	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5077	Dispenser, Hand Sanitizer, Hands Free	2	VV	A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated.
A5080	Dispenser, Paper, Towel, SS, Surface Mounted	2	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility.
A5108	Waste Disposal Unit Sharps	1	VV	A container for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps.
A5145	Hook, Garment, Double, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate. For general purpose use throughout the facility to hang various items of apparel.

DENTAL TREATMENT ROOM, SPECIAL NEEDS PATIENT (DNTG5)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
D0670	Console, Treatment Unit, Dental Operator	1	CC	A dental treatment console or work station (also called a "12 o'clock unit) approximately 45" W x 72" H x 30" D. Consists of a base unit with storage and equipment drawers, a bifold door cabinet with slide out shelves and CPU storage. A midsection with chase and power bar for ancillary equipment and shelf for a monitor and keyboard. Upper storage unit may be passthrough or non-pass-through with glass shelves and see-through cabinet doors. Unit may also be configured with a pivoting work surface to hold all doctor and assistant instrumentation or with a wash station w/SS sink and knee or foot activated faucet and solid surface countertop. Unit is also available in other widths and heights. Final makeup of this unit is dependant on individual facility requirements determined at time of purchase.
D0680	Console, Accessory/Side, Dental Operator	2	CC	An accessory or side console/cabinet approximately 60" W x 24"D x 32"H for use in a single chair dental operator. The console may be a left or a right unit used for the dentist or the assistant depending configuration of the operator. The unit may contain a sink component with waste drop, a round SS sink with faucet and soap dispenser, a solid surface counter top, a drawer storage module with writing surface and equipment drawers, a double door component with swing out shelves and a glove dispenser. Various combinations are available as well as different widths. Configuration of the unit, including whether the unit is right or left, to be determined at time of purchase.
D0685	Cabinet, Storage, Dental, Operator, Wall Mounted	2	CC	An upper wall mounted storage cabinet with two adjustable shelves providing additional space for dental supplies and equipment in a dental operative. Cabinet is approximately 34"W x 12"D x 24"H with other widths available. Cabinet is frequently mounted above JSN D0680, Console, Accessory/Side, Dental Operator.
D3380	Stool, Operating, Dental, Doctor	1	VV	Dental operating stool. Used by the dentist in the care and treatment of patients. This chair has a pneumatic cylinder to adjust the height of the chair. It also has backrest as an integral part of the unit. The unit is to be equipped with casters. Various color combinations of vinyl are available.
D3390	Stool, Operating, Dental, Assistant	1	VV	Dental assistant's operating stool used in dental operatories during procedures. This chair has a body support arm or abdominal support that can be left or right hand adaptable. It is also pneumatic cylinder operated for height adjustments. The chair is available in multiple vinyl color combinations.

DENTAL TREATMENT ROOM, SPECIAL NEEDS PATIENT (DNTG5)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
D3565	Resin Curing Unit, Visible Light	1	VV	Visible light resin curing unit which provides a high intensity, cold light source of visible blue light for the polymerization of all visible light cured materials. The unit provides for time selections between 10 and 60 seconds or continuous operation and beeps at ten or twenty second intervals during use.
D6050	Light, Dental, Operating, Ceiling, Track	2	CC	Dental operating light used to illuminate the field of work. This is a single light unit on a cantilever arm mounted from a column which is suspended from a moving trolley in a ceiling track. The light can be used in installations where the ceiling height is between 8 and 10.5 feet; some units can mount to ceilings as high as 13 feet. Database physical dimensions refer to the light's maximum travel dimensions centered on the ceiling mounting track. The database weight includes the light, arm and trolley. Mounting this light may require reinforcing the ceiling or hanging the mount from the underside of the slab above a suspended ceiling.
D7090	Utility, Center, Dental, Floor Mounted or Wall Mounted	1	VC	Utility center. The unit contains electrical and quick connect air, waste and water utility connections. The center accommodates one umbilical and includes shut-off valves and regulators for both the air and water supplies.
D8250	Delivery System, Dental Operating	1	VV	Dental operating unit. The dentist and/or dental hygienist uses the unit for treatment of dental patients. The unit contains the operating connections for handpieces, the water spray and the vacuum system. The unit can be wall, chair or mobile cart mounted.
D8850	Amalgamator, Dental	1	VV	Dental amalgamator. The amalgamator is used in dental operatories to triturate alloys for restoration of teeth after removal of caries.
D9060	Prophylaxis, Unit, Ultrasonic	1	VV	Dental ultrasonic prophylaxis unit. Used in dental clinics for the removal of calculus. Unit requires water and air supplies.
F2000	Basket, Wastepaper, Round Metal	2	VV	Round wastepaper basket, approximately 18" high X 16" diameter. This metal unit is used to collect and temporarily store small quantities of paper refuse in patient rooms, administrative areas and nursing stations.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).

DENTAL TREATMENT ROOM, SPECIAL NEEDS PATIENT (DNTG5)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
M1801	Computer, Microprocessing, w/ Flat Panel Monitor	2	VV	Desk top microprocessing computer. The unit shall consist of a central processing micro tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: 3.1 GHz 1 x Pentium processor; 4 GB RAM; 500GB hard drive; CDROMDVD combo; HD Graphics; a 15 inch flat panel color monitor. The computer is used throughout the facility to input, edit and retrieve information.
M1803	Workstation, Computer, Wall Mounted, Adjustable	1	VV	A wall mounted computer workstation, height adjustable with articulating monitor and keyboard arms. Keyboard and monitor can be stored within 10" to 12" of the wall. Unit contains an integrated cable management system to hide wires. A separate wall-mounted CPU holder is included. Recommended display size up to 24". Wall backing recommended to provide additional strength for the installation of the workstation.
M4116	Monitor, Vital Signs	1	W	Electronic sphygmomanometer. LCD displays non-invasive blood pressure, pulse rate and temperature. Used in hospitals and clinics. Includes an optional mobile stand.
X6600	Radiographic Unit, Dental, Wall Mounted, 7mA	1	VV	Dental radiographic unit. Wall mounted, 7mA, 70 kVp, 120 VAC, electronic remote exposure control unit. The unit shall have electronic timing with automatic reset timing capability and main power correction unit to adjust for line voltage fluctuations. Tube head shall be of the oil immersed, shield type with total inherent filtration of 1.5 mm AL , with a focal spot of 0.6.
X6610	Sensor, Dental, Imaging System	1	VV	A filmless digital imaging system using a sensor to acquire and digitize dental x-ray images for viewing, storing or printing. The sensor is used in conjunction with a film based x-ray system. Images are digitized and transmitted to a computer via a standard USB port and is compatible with laptop or desktop systems.
_0022	Monitor, Mount (optional)	1	N/A	Monitor mount for optional monitor, used for patient education. Ability to support minimum 24" monitor. Mount can be configured for track, wall or chair mounting.

DENTAL TREATMENT ROOM, SPECIAL NEEDS PATIENT (DNTG5)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
_0021	Bariatric Dental Chair	1	N/A	ADA compliant bariatric dental chair with a safe load capacity of 1000 lbs. Chair will have the ability to lower 17" or lower. Delivery system can be chair mounted or mobile. Trendelenburg capable with fully adjustable headrest and armrests.

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DENTAL TREATMENT ROOM, SPECIAL NEEDS PATIENT (DNTG5)

Room Data Sheet

ARCHITECTURAL

Ceiling:	AT
Ceiling Height:	9'-0"
Wall Finish:	Paint
Base:	RB
Floor Finish:	RF (Note 1)
Door:	
Hardware:	
Glazing:	

Notes:

- 1. Seamless Rubber Floor

LIGHTING

General:

- Two (2) of 2' x 2' (600 mm x 600 mm) Fluorescent Light Fixture, indirect with T8 Lamps CRI ≥ 85 Color Temperature Between 5000K and 6000K - 2' x 4' (600 mm x 1200 mm) Fixtures optional
- Provide Ballasts Per Fixture for Desired Switching Configuration and to Provide Practical Uniform Lighting Level.
- Lighting Level: 50fc - 100fc; average maintenance
- Ceiling Mounted Track Dental Light
- Wall or ceiling mounted Vacancy Sensor

POWER

General:	As Shown and Required by Code
Special:	
Emergency:	As Determined by the Facility
Notes:	
Coordinate electrical requirements with specific equipment.	

COMMUNICATIONS/SPECIAL SYSTEMS

Monitor:	Ceiling Track Mounted
Nurse Call:	
CCTV:	
Telephone:	Yes
Pub. Address:	
Radio:	
Data:	Yes
Panic Call:	
Battery Operated Clock:	
Intercom:	Note 1
Staff/Duty Station:	
In Use Light:	Yes

Note 1. Dedicated IC system throughout dental services. Telephone hands-free instruments may be substituted for formal IC system.

HEATING, VENTILATING AND AIR CONDITIONING

Dry Bulb Temp Cooling:	75° F (24° C)
Dry Bulb Temp Heating:	70° F (21° C)
Minimum % Outside Air:	2
100% Exhaust Air:	
Noise Criteria:	40
Steam:	
Relative Humidity/Cooling:	60
Relative Humidity/Heating:	20
Minimum Air Changes/Hr:	6
Room Pressure:	Positive (+)
AC Load Lights:	As Required
AC Load Equipment:	As Required
Number of People:	3
Special Equipment:	

PLUMBING AND MEDICAL GASES

Cold Water:	Yes
Hot Water:	Yes
Laboratory Air:	
Laboratory Vacuum:	
Sanitary/Vent:	Yes
Medical Air:	Note 1
Medical Vacuum:	Note 1
Dental Air:	Yes
Dental Vacuum:	Yes
Oxygen:	Yes
Nitrogen Oxide:	
Nitrogen:	
Natural Gas:	Yes
Sprinkler:	Yes
Tempered Water:	
Water Control:	Foot/Knee or Infrared

Note 1: Per Facility Requirements

SPECIAL EQUIPMENT

See Equipment List. Delivery system may be either at the 12 o'clock unit or over the chair. Dental chair may or may not be required. Coordinate both items with facility.

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ORAL SURGERY, MINOR PROCEDURE ROOM (DN1S1)



SCALE NTS

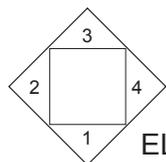
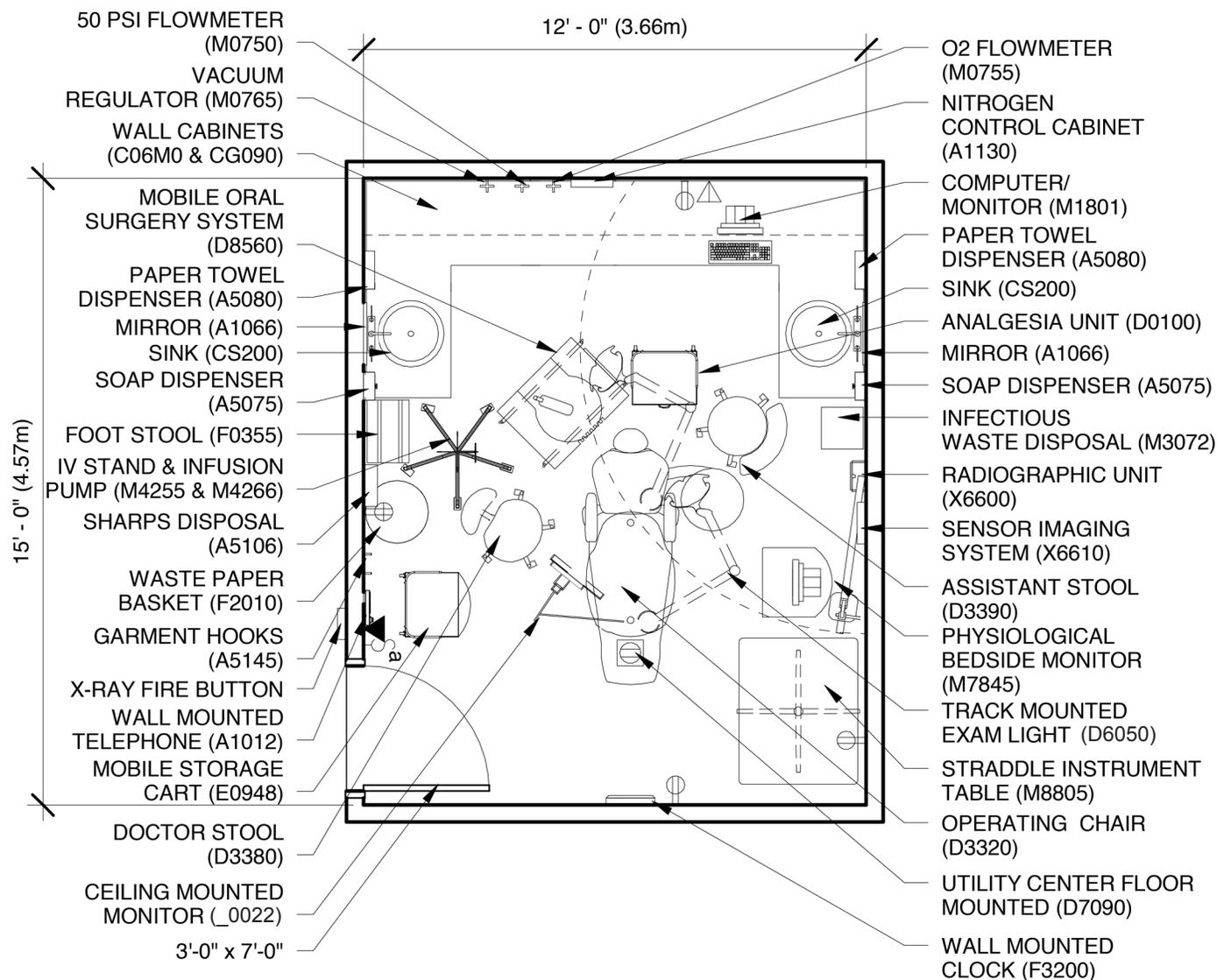
ORAL SURGERY,
MINOR PROCEDURE ROOM (DN1S1)

Dental Service
Axonometric View (180 NSF / 16.7 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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ORAL SURGERY, MINOR PROCEDURE ROOM (DN1S1)



ELEVATION KEY

SCALE 1/4" = 1'-0"

**ORAL SURGERY,
MINOR PROCEDURE ROOM (DN1S1)**

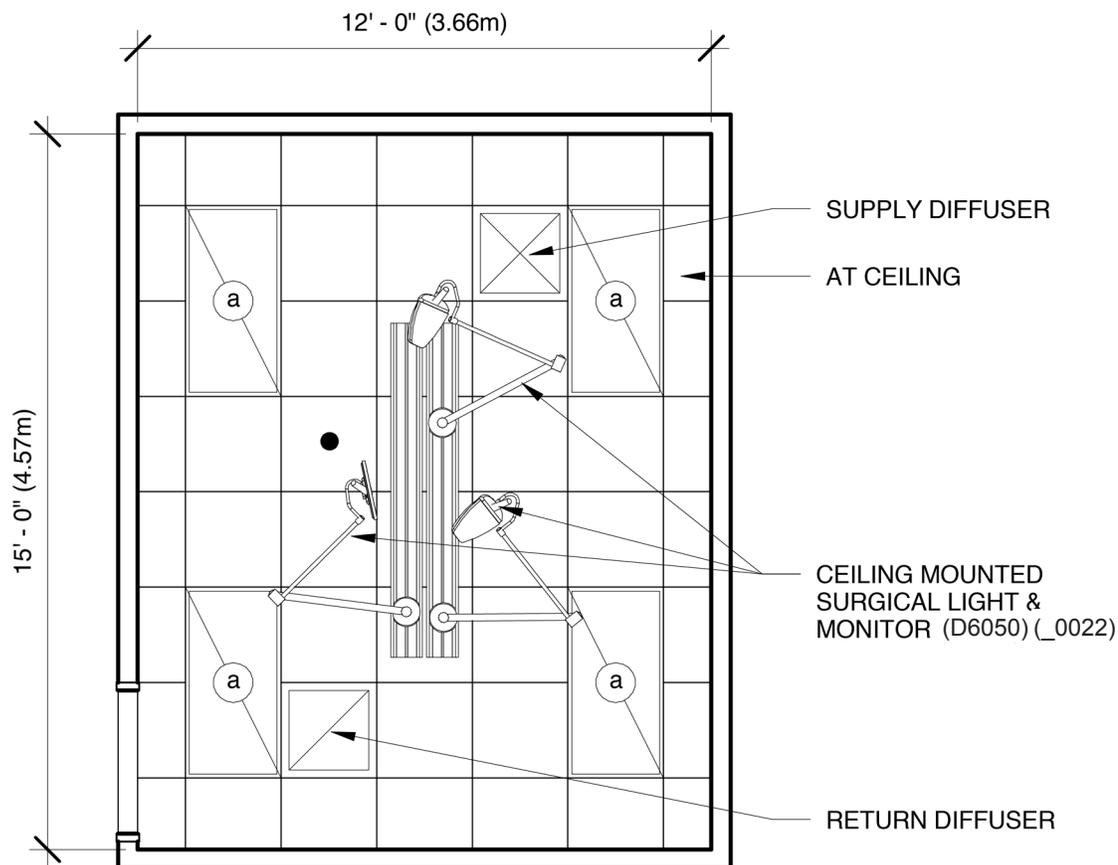


Dental Service
Floor/Equipment Plan (180 NSF / 16.7 NSM)

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ORAL SURGERY, MINOR PROCEDURE ROOM (DN1S1)



ORAL SURGERY,
MINOR PROCEDURE ROOM (DN1S1)

SCALE 1/4" = 1'-0"

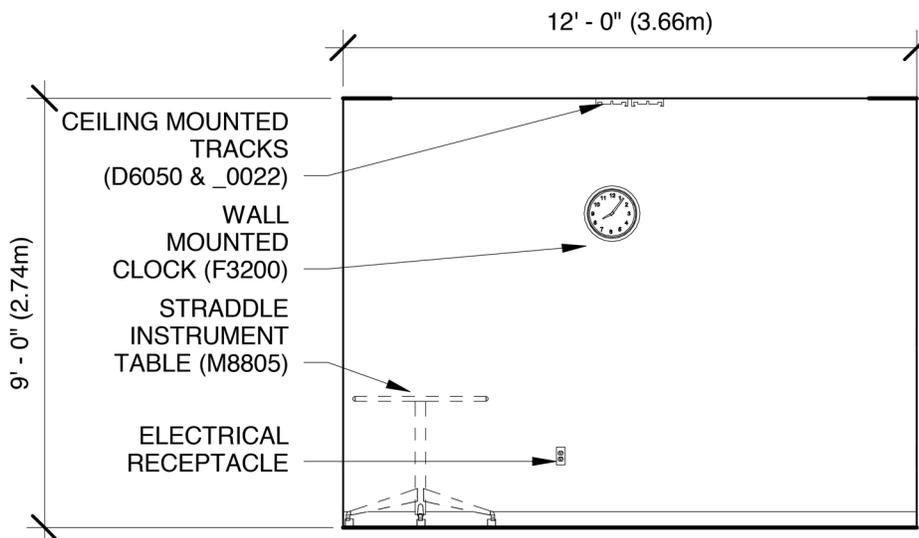


Dental Service
Reflected Ceiling Plan

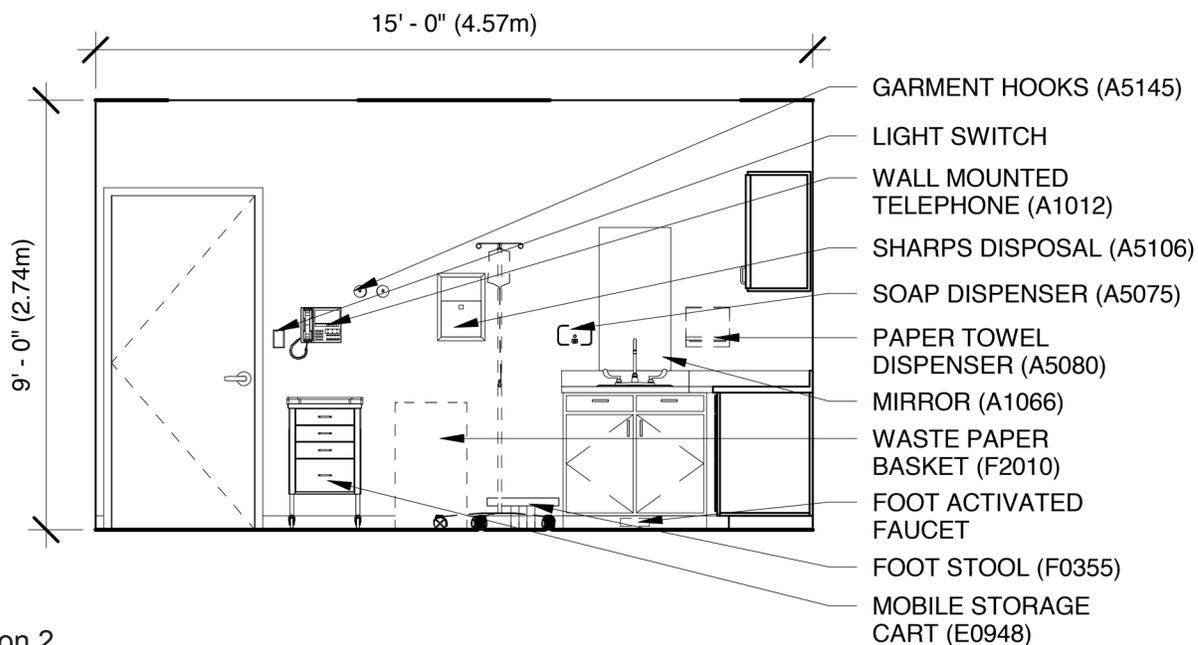
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ORAL SURGERY, MINOR PROCEDURE ROOM (DN1S1)



Elevation 1



Elevation 2

ORAL SURGERY,
MINOR PROCEDURE ROOM (DN1S1)

SCALE 1/4" = 1'-0"

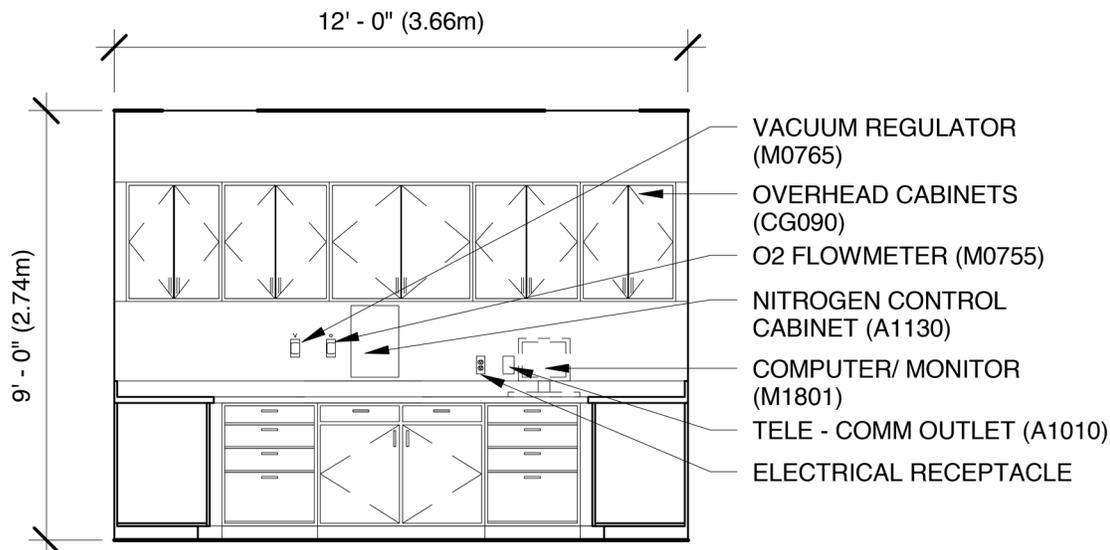


Dental Service
Elevations

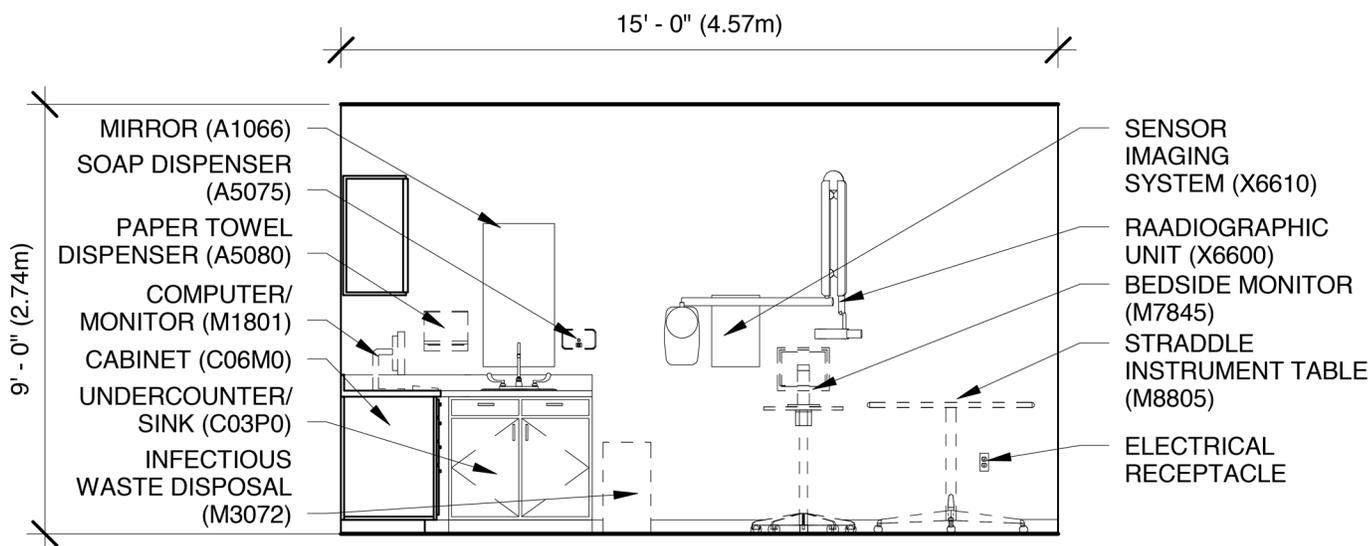
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ORAL SURGERY, MINOR PROCEDURE ROOM (DNST1)



Elevation 3



Elevation 4

ORAL SURGERY, MINOR PROCEDURE ROOM (DNST1)

SCALE 1/4" = 1'-0"



Dental Service Elevations

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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ORAL SURGERY, MINOR PROCEDURE ROOM (DN1S1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
A1010	Telecommunications Outlet	2	CC	Telecommunication outlet location.
A1012	Telephone, Wall Mounted, 1 Line	1	CC	Telephone, wall mounted, 1 line.
A1066	Mirror, Float Glass, With SS Frame	1	CC	A high quality 1/4" polished float glass mirror 36X18, framed in a one-piece, bright polished, stainless steel channel frame with 90° mitered corners. All edges of the mirror are protected by absorbing filler strips. Mirror has a galvanized steel back with integral horizontal hanging brackets and wall hanger for concealed mounting. For mounting above single wall mounted lavatories located in toilet areas, Doctors examination offices, etc. May also be used above double lavatories, either wall or countertop mounted, found in restroom areas.
A1130	Cabinet, Control, Nitrogen	1	CC	Nitrogen control cabinet. Unit consists of supply cut-off valve, supply pressure gauge, pressure regulator (adjustable 0 to 200 PSI), outlet pressure gauge, nitrogen outlet and connection to surgical gas column. Specify recessed or surface mounting. Designed for powering surgical pneumatic tools.
A5075	Soap, Dispenser, Disposable	2	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5106	Waste Disposal Unit, Sharps w Glove Dispenser	1	VV	The unit is designed for the disposal of sharps and complies with OSHA guidelines for the handling of sharps. It shall house a 5 quart container and be capable of being mounted on a wall. It shall have a glove dispenser attached. The unit shall be secured by a locked enclosure.
A5080	Dispenser, Paper, Towel, SS, Surface Mounted	2	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility.
A5145	Garment Hook	1	CC	A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate. For general purpose use throughout the facility to hang various items of apparel.
C03P0	Cabinet, Sink, U/C/B, 2 Door, 30"W	2	CC	Standing height under counter base sink cabinet. 36" H x 30" W x 22" D with two solid hinged doors. Also referred to as a double-door sink cabinet. For general purpose use throughout the facility where a sink is to be used. Coordinate actual clear cabinet dimension with the actual outside dimension of sink that is specified to ensure that they are compatible.

ORAL SURGERY, MINOR PROCEDURE ROOM (DN1S1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
C06M0	Cabinet, U/C/B, 1 PBD, 2 Dr	AR	CC	Sitting height under counter base cabinet with a pullboard above two drawers and file drawer. Also referred to as a drawer cabinet. For general purpose use throughout the facility.
CG090	Cabinet W/H Overhead	AR	CC	Wall hung cabinet with two adjustable shelves, framed-glass sliding doors, and sloping top. Also referred to as a framed-glass sliding double door wall case. For general purpose use throughout the facility
CS200	Sink, SS, Single	1	CC	Single compartment stainless steel sink, drop-in, self-rimming, ledge-type, connected with a drain and provided with a mixing faucet. It shall also be provided with pre-punched fixture holes on 4" center, integral back ledge to accommodate deck-mounted fixtures, brushed/polished interior and top surfaces, and sound deadened. Recommended for use in suspended or U/C/B sink cabinets having a solid nonporous surface countertop. Coordinate actual outside sink dimensions with the actual clear dimension of cabinet specified to ensure that they are compatible. For general purpose use throughout the facility.
CT020	Countertop, Solid Surface	AR	CC	A solid, nonporous countertop with a smooth seamless appearance. Easy to clean and maintain and with proper cleaning does not support the growth of mold. An acrylic-based solid surface product. Standard thickness of 1", and a 4" butt backsplash/curb. Also referred to as a work surface or work top. Available in a choice of colors and depths. Used in lab and other hospital areas requiring optimum physical and chemical resisting properties.
D0100	Analgesia Unit, Inhalation, Central Gases/Vacuum	1	VV	Analgesia machine for use in dental treatment areas equipped with centrally piped oxygen, nitrous oxide and oral evacuation (HVE) systems. The unit is used in dental operatories for conscious sedation administration and includes flowmeter heads; hoses with DISS (or other specified) connectors for attaching to house nitrous oxide, oxygen and vacuum systems; and gas scavenger rubber goods. The mobile stand is height adjustable. Electronically controlled flowmeter heads are also available.
D3320	Chair, Operating, Dental	1	VV	Dental operating chair designed for the treatment and comfort of dental patients. The chair shall be capable of multiple positions, shall swivel, contain an adjustable headrest and arm rests that pivot up and down. The chair shall operate by means of electrohydraulics. The upholstery shall be seamless with no crevices to catch debris and be easy to clean.

ORAL SURGERY, MINOR PROCEDURE ROOM (DNST1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
D3380	Stool, Operating, Dental, Doctor	1	VV	Dental operating stool. Used by the dentist in the care and treatment of patients. This chair has a pneumatic cylinder to adjust the height of the chair. It also has backrest as an integral part of the unit. The unit is to be equipped with casters. Various color combinations of vinyl are available.
D3390	Stool, Operating, Dental, Assistant	1	VV	Dental assistant's operating stool used in dental operatories during procedures. This chair has a body support arm or abdominal support that can be left or right hand adaptable. It is also pneumatic cylinder operated for height adjustments. The chair is available in multiple vinyl color combinations.
D7090	Utility, Center, Dental, Floor Mounted or Wall Mounted	1	VC	Utility center. The unit contains electrical and quick connect air, waste and water utility connections. The center accommodates one umbilical and includes shut-off valves and regulators for both the air and water supplies.
D8560	Oral Surgery System, Mobile	1	VV	Mobile oral surgical unit. The unit includes an air-drive for dental handpieces, a mobile stand, a variable foot control, a removable instrument holder, one high speed surgical handpiece, one surgical straight air turbine handpiece, an instrument tray, a three function syringe and 10 feet of electrically conductive tubing with fittings. The unit requires a utility mounting box, see JSN D7090, which is often included. The unit is also available in a doctor/assistant configuration with all the instruments for both. The unit is used in dental operatories where the delivery system is not part of the dental chair.
E0948	Cart, General Storage, Mobile 42x22x32	1	VV	This Typically include: 1 Cart Body, Style-A Narrow, w/Raised Edge Top, 1 Accessory Rail, Side, 2 Drawers, 3" H (76mm), 4 Drawers, 6" H (152mm), Drawer Organizer Bins.
F0355	Footstool, Straight	1	VV	Step stool. Used to assist patients getting on and off exam or surgical tables. Fitted with electrically conductive rubber tips.
F2010	Basket, Wastepaper, Step-On	1	VV	"Step-on" wastepaper basket with inner liner and foot pedal activated flip top.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).

ORAL SURGERY, MINOR PROCEDURE ROOM (DN1S1)

Equipment List

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
M0750	Flowmeter, Air Connect w/50 PSI Supply	1	VV	Air flowmeter. Unit has a stainless steel needle valve with clear flowtube for connection to 50 PSI air outlet from central pipeline system. Requires the appropriate adapter for connection to the wall outlet and fitting to connect to tubing. Database prices reflect fittings with an attached DISS power outlet. Other outlet and adapter configurations are available. For use with medical air only.
M0755	Flowmeter, Oxygen, Low Flow	1	VV	Oxygen flowmeter. Consists of a clear crystal flowtube calibrated to 3.5 or 8 LPM depending on manufacturer. For oxygen regulation in hospital settings. Database pricing includes DISS fitting and DISS power outlet and wall adapter. Other fitting and adapter configurations are available.
M0765	Regulator, Vacuum	1	VV	Vacuum pressure regulator for connection to central piped vacuum system. Standard display scale is graduated at least from 0 to 200 mm Hg of vacuum. Displays on specialized regulators may cover other vacuum ranges. Regulator type (continuous, intermittent, continuous/intermittent, surgical, pediatric, thoracic, etc.) as required. To be used in delivery, neonatal, pediatrics or any area where suction is required. Database pricing reflects continuous regulators graduated to 200 mm Hg with a full line vacuum selection switch and DISS configured inlets and outlets.
M1801	Computer, Microprocessing, w/ Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing micro tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: 3.1 GHz 1 x Pentium processor; 4 GB RAM; 500GB hard drive; CDROMDVD combo; HD Graphics; a 15 inch flat panel color monitor. The computer is used throughout the facility to input, manipulate and retrieve information.
M3072	Frame Infectious Waste Bag	1	VV	Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging infectious waste at point of waste generation.

ORAL SURGERY, MINOR PROCEDURE ROOM (DN1S1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
M4255	Stand, IV, Adjustable	1	VV	Adjustable IV stand with 4-hook arrangement. Stand has stainless steel construction with heavy weight base. It adjusts from 66 inches to 100 inches and is mounted on conductive rubber, ball bearing, swivel casters. Stand is used for administering intravenous solutions.
M4266	Pump, Volumetric, Infusion, Multiple Line	1	VV	Volumetric infusion pump. Pump is self-regulating with automatic sensor and adjustable rate. Equipped with visual and audible alarms and up to 10 hour capacity battery. For the administration of a wide variety of therapeutic agents where precise control is required. Unit provides individual control to IV lines simultaneously.
M7845	Monitor, Physiological, Bedside, 4 Channel	1	VV	4 channel bedside physiological monitor. The unit consist of a four-channel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to four waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitoring station. The unit monitors patients in most acute care areas, step-down units, procedure rooms and emergency rooms.
M8805	Table, Instrument, Straddle	1	VV	Instrument table to straddle an operating table. All stainless steel welded construction, mounted on 3" ball-bearing casters with foot brakes. Adjustable height from approximately 40 to 60 inches. For instruments and diagnostic equipment during surgery.
X6600	Radiographic Unit, Dental, Wall Mounted, 7mA	1	VV	Dental radiographic unit. Wall mounted, 7 mA, 70 kVp, 120 VAC, electronic remote exposure control unit. The unit shall have electronic timing with automatic reset timing capability and main power correction unit to adjust for line voltage fluctuations. Tube head shall be of the oil immersed, shield type with total inherent filtration of 1.5 mm AL , with a focal spot of 0.6.

ORAL SURGERY, MINOR PROCEDURE ROOM (DNST1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
X6610	Sensor, Dental, Imaging System	1	VV	A filmless digital imaging system using a sensor to acquire and digitize dental x-ray images for viewing, storing or printing. The sensor is used in conjunction with a film based x-ray system. Images are digitized and transmitted to a computer via a standard USB port and is compatible with laptop or desktop systems.
_0023	Light, Surgical Ceiling Mounted with Monitor	1	N/A	Ceiling mounted surgical light and monitor. Surgical light should be of LED quality with intensity control and the ability to minimize or eliminate the blue wavelength. The monitor is of surgical quality, has built in speakers 1080 dp, HDMI connections. Minimum monitor size is 32". Configuration optional.

ORAL SURGERY, MINOR PROCEDURE ROOM (DN1S1)

Room Data Sheet

ARCHITECTURAL

Ceiling:	AT(SP) or GWB
Ceiling Height:	9'-0"
Wall Finish:	Paint (SC)
Base:	RF
Floor Finish:	RF (Note 1)
Door:	1/2 X (4'-0" W x 7'-0" H)
Hardware:	4B
Glazing:	

Notes:

1. Seamless Rubber Floor with Integral Base

LIGHTING

General:

1. Four (4) of 2' x 4' (600 mm x 1200mm) Fluorescent Light Fixture, Acrylic Lens with T8 Lamps CRI ≥ 85 Color Temperature Between 5000K and 6000K
2. Provide Ballasts Per Fixture for Desired Switching Configuration and to Provide Practical Uniform Lighting Level.
3. Lighting Level: Variable 300fc - 1000fc
4. Ceiling Mounted Track Dental Light

POWER

General:	As Shown and Required by Code
Special:	
Emergency:	As Determined by the Facility

Notes:

Coordinate electrical requirements with specific equipment.

COMMUNICATIONS/SPECIAL SYSTEMS

Patient Monitor:	Yes and Ceiling Track Mounted Monitor
Nurse Call:	
CCTV:	
Telephone:	Yes
Pub. Address:	
Radio:	
Data:	Yes
Panic Call:	Yes
Battery Operated Clock:	Yes
Intercom:	Note 1

Staff/Duty Station:

In Use Light:

Note 1. Dedicated IC system throughout dental services. Telephone hands-free instruments may be substituted for formal IC system.

HEATING, VENTILATING AND AIR CONDITIONING

Dry Bulb Temp Cooling:	75° F (24° C)
Dry Bulb Temp Heating:	70° F (21° C)
Minimum % Outside Air:	3
100% Exhaust Air:	
Noise Criteria:	35
Steam:	
Relative Humidity/Cooling:	60
Relative Humidity/Heating:	20
Minimum Air Changes/Hr:	15
Room Pressure:	Positive (+)
AC Load Lights:	As Required
AC Load Equipment:	As Required
Number of People:	3
Special Equipment:	

PLUMBING AND MEDICAL GASES

Cold Water:	Yes
Hot Water:	Yes
Laboratory Air:	
Laboratory Vacuum:	
Sanitary/Vent:	Yes
Medical Air:	Note 1
Medical Vacuum:	Note 1
Dental Air:	Yes
Dental Vacuum:	Yes
Oxygen:	Yes
Nitrogen Oxide:	Yes
Nitrogen:	Yes
Natural Gas:	Yes
Sprinkler:	Yes
Tempered Water:	
Water Control:	Foot/Knee or Infrared

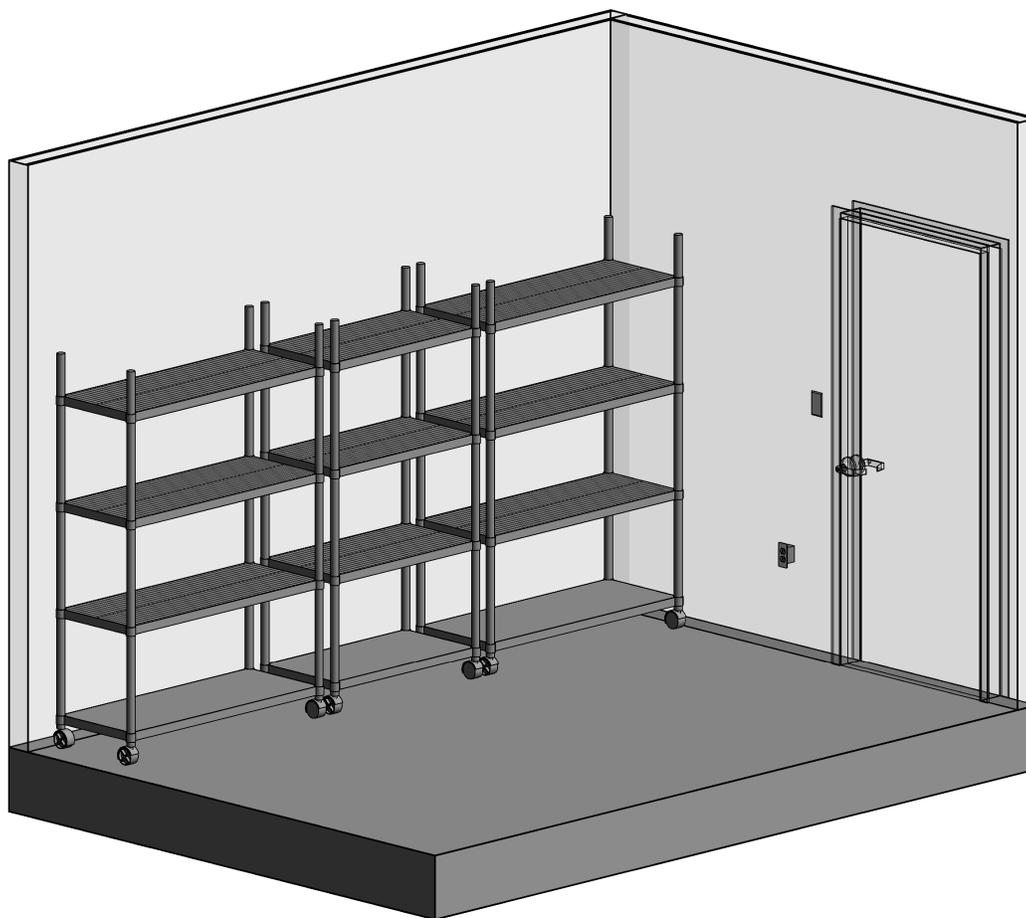
Note 1: Per Facility Requirements

SPECIAL EQUIPMENT

See Equipment List.

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STORAGE, STERILE INSTRUMENTS (DNSC3)



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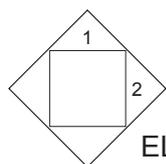
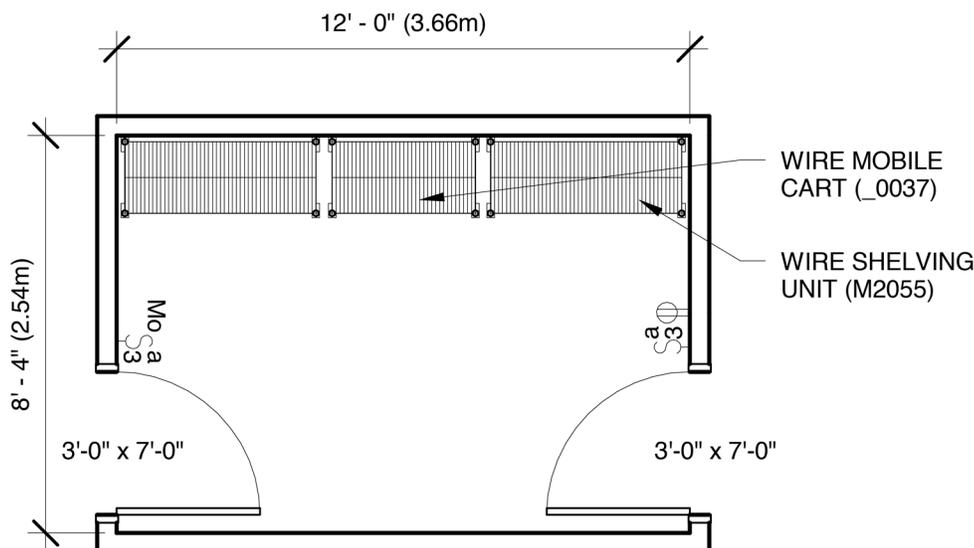
STORAGE, STERILE INSTRUMENTS (DNSC3)

Dental Service
Axonometric View (100 NSF / 9.3 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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STORAGE, STERILE INSTRUMENTS (DNSC3)



ELEVATION KEY

SCALE 1/4" = 1'-0"

STORAGE,
STERILE INSTRUMENTS (DNSC3)

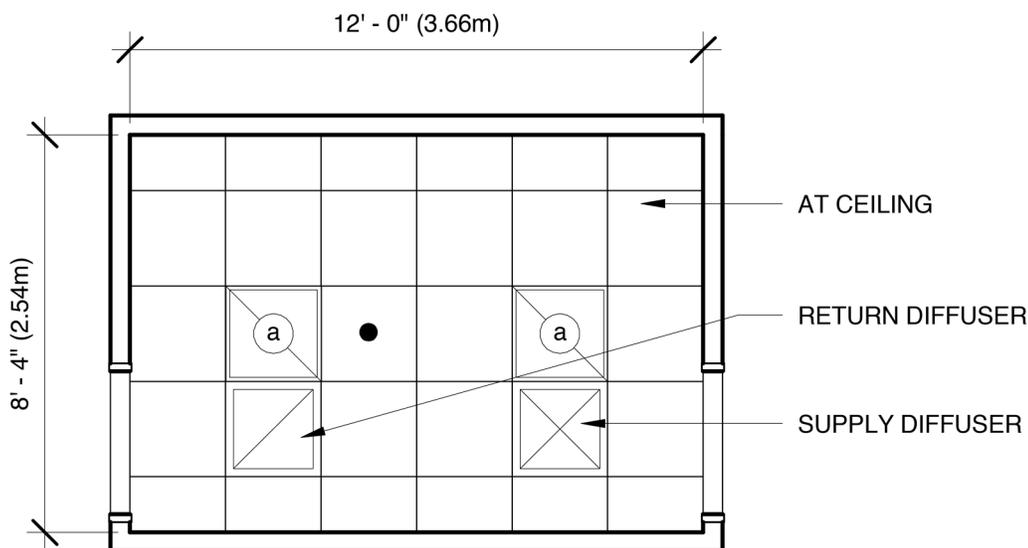


Dental Service
Floor/Equipment Plan (100 NSF / 9.3 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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STORAGE, STERILE INSTRUMENTS (DNSC3)



STORAGE, STERILE INSTRUMENTS (DNSC3)

SCALE 1/4" = 1'-0"

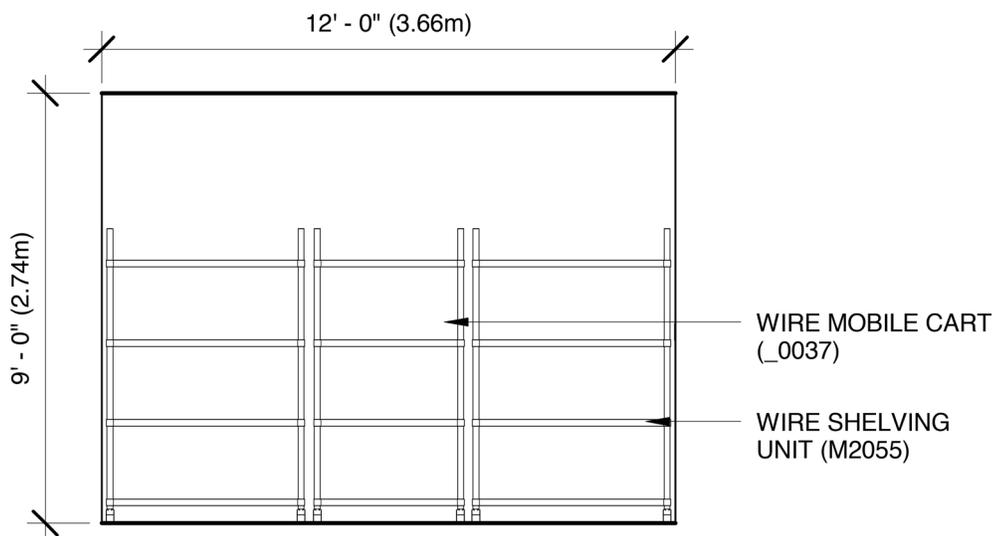


Dental Service
Reflected Ceiling Plan

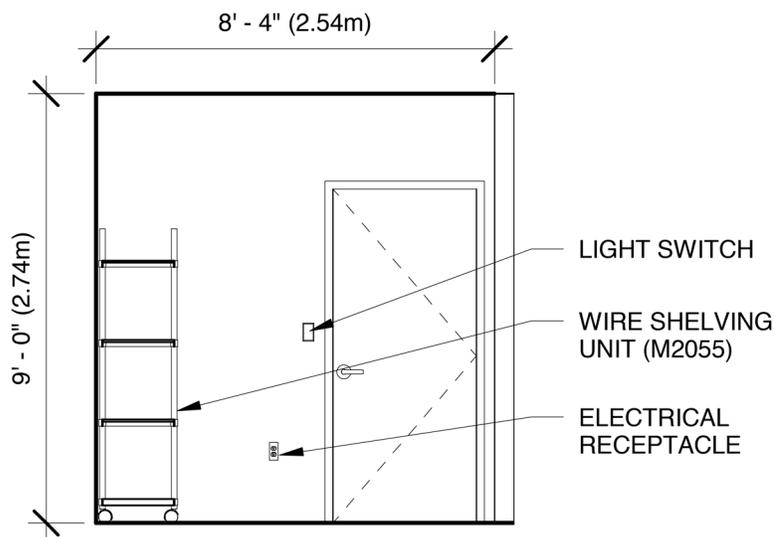
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STORAGE, STERILE INSTRUMENTS (DNSC3)



Elevation 1



Elevation 2

STORAGE, STERILE INSTRUMENTS (DNSC3)

SCALE 1/4" = 1'-0"



Dental Service Elevations

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STORAGE, STERILE INSTRUMENTS (DNSC3)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
M2055	Shelving, Storage, Wire, w/ Adjustable Shelves 72"H x 48"W x 18"D	2	CC	Stationary, wire, shelving unit. Unit has fully adjustable shelves constructed of stainless steel. For use in general purpose storage areas. Shelving is provided in various sizes and configurations. Dimensions approx. 72"H x 48"W x 18"D.
_0037	Cart, Wire, Mobile, 72"H x 36"W x 18"D	1	CC	Mobile, wire, storage rack. Unit has open, fully adjustable, corrosion resistant wire surfaces and is mounted on stem casters. Used for general purpose storage and transport. Racks are provided in various sizes and configurations. Dimensions approximately 72"H x 36"W x 18"D with 3" casters, two swivel and two braking.

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STORAGE, STERILE INSTRUMENTS (DNSC3)
Room Data Sheet

ARCHITECTURAL	
Ceiling:	AT
Ceiling Height:	9'-0"
Wall Finish:	Paint
Base:	RB
Floor Finish:	RF
Door:	1/2 U-T (3'-4" W x 7'-0" H) 4K (3'-6" W x 7'-0" H)
Hardware:	
Glazing:	
Notes:	

LIGHTING	
General:	
1. Two (2) of 2' x 4' (600 mm x 1200mm) Fluorescent Light Fixture, Acrylic, Prismatic Lens with F32T8 Lamps, 3500°K CRU > 70	
2. Provide Ballasts Per Fixture for Desired Switching Configuration and to Provide Practical Uniform Lighting Level.	
3. Lighting Level: Variable 30fc	
4. Wall or ceiling mounted Vacancy Sensor	

POWER	
General:	As Shown and Required by Code
Special:	
Emergency:	As Determined by the Facility
Notes:	
Coordinate electrical requirements with specific equipment.	

COMMUNICATIONS/SPECIAL SYSTEMS	
Patient Monitor:	
Nurse Call:	
CCTV:	
Telephone:	
Pub. Address:	Yes
Radio:	
Data:	
Panic Call:	
Battery Operated Clock:	Yes
Intercom:	
Staff/Duty Station:	
In Use Light:	

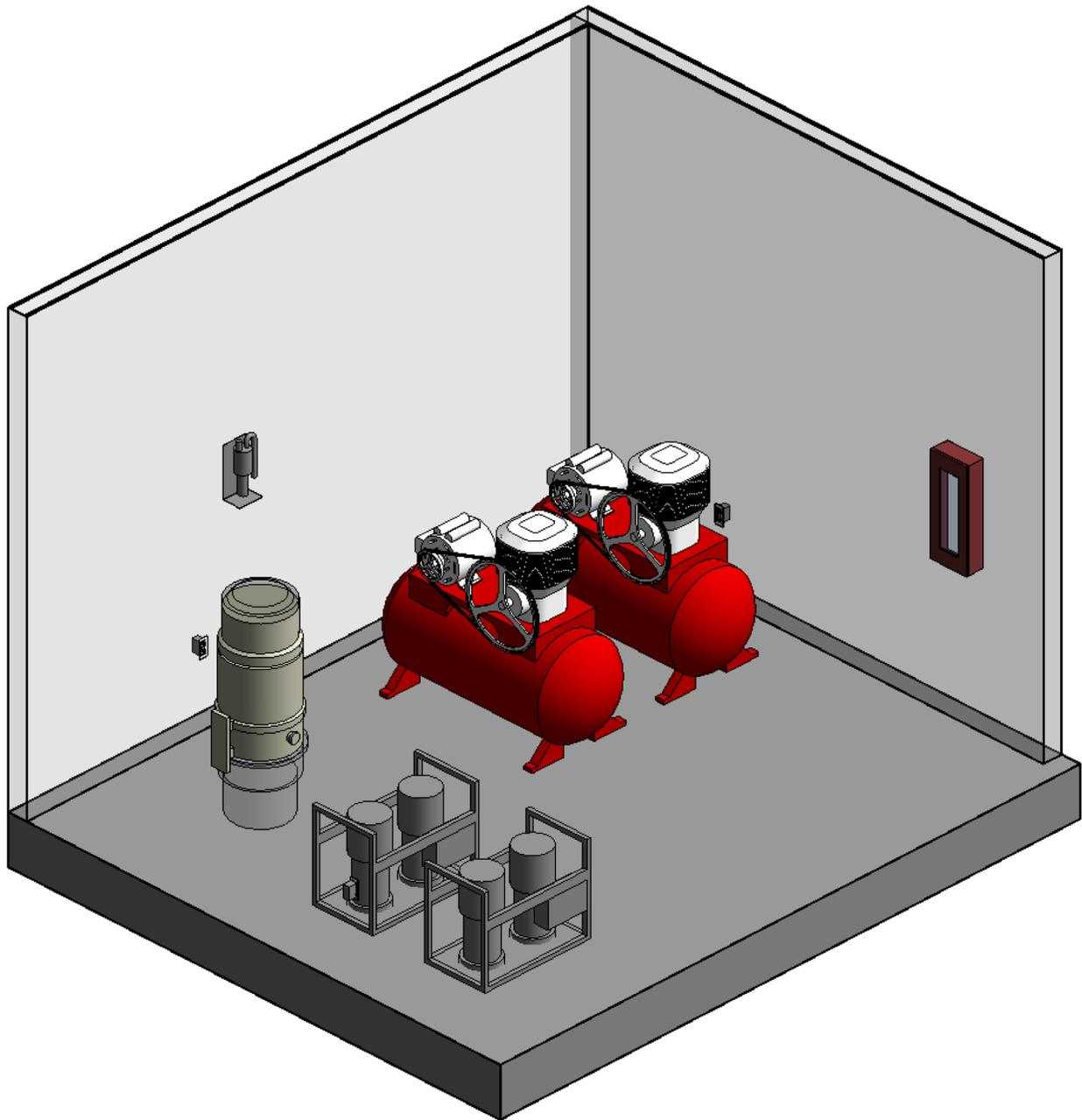
HEATING, VENTILATING AND AIR CONDITIONING	
Dry Bulb Temp Cooling:	72° F (22° C)
Dry Bulb Temp Heating:	72° F (22° C)
Minimum % Outside Air:	
100% Exhaust Air:	
Noise Criteria:	40
Steam:	
Relative Humidity/Cooling:	60
Relative Humidity/Heating:	20
Minimum Air Changes/Hr:	4
Room Pressure:	Positive (+)
AC Load Lights:	As Required
AC Load Equipment:	As Required
Number of People:	
Special Equipment:	

PLUMBING AND MEDICAL GASES	
Cold Water:	
Hot Water:	
Laboratory Air:	
Laboratory Vacuum:	
Sanitary/Vent:	
Medical Air:	
Medical Vacuum:	
Dental Air:	
Dental Vacuum:	
Oxygen:	
Nitrogen Oxide:	
Nitrogen:	
Natural Gas:	
Sprinkler:	Yes
Tempered Water:	
Water Control:	

SPECIAL EQUIPMENT	

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DENTAL EQUIPMENT MECHANICAL ROOM (MECH1)

DENTAL EQUIPMENT
MECHANICAL ROOM (MECH1)

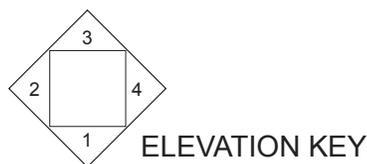
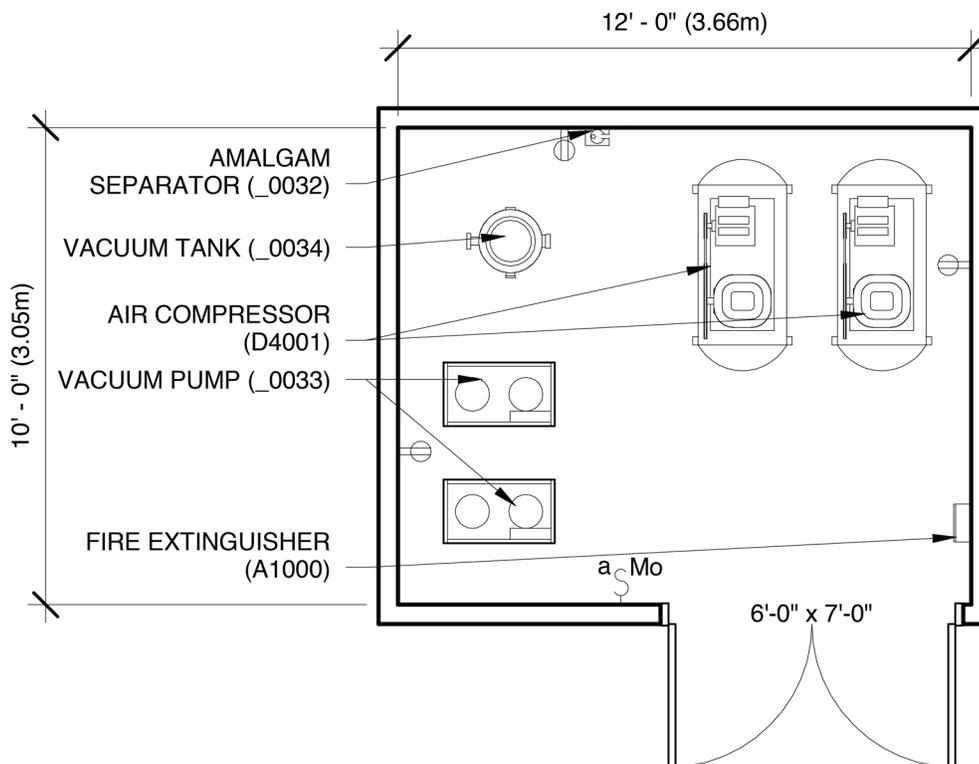
SCALE NTS

Dental Service
Axonometric View (120 NSF / 11.1 NSM)

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DENTAL EQUIPMENT MECHANICAL ROOM (MECH1)



DENTAL EQUIPMENT MECHANICAL ROOM (MECH1)

SCALE 1/4" = 1'-0"

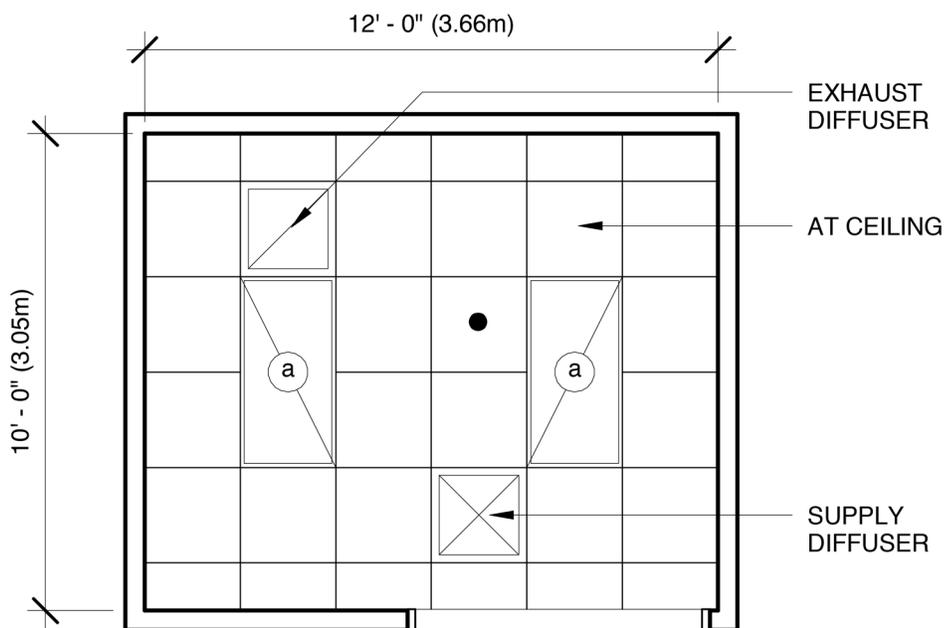


Dental Service
Floor/Equipment Plan (120 NSF / 11.1 NSM)

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DENTAL EQUIPMENT MECHANICAL ROOM (MECH1)



DENTAL EQUIPMENT MECHANICAL ROOM (MECH1)

SCALE 1/4" = 1'-0"

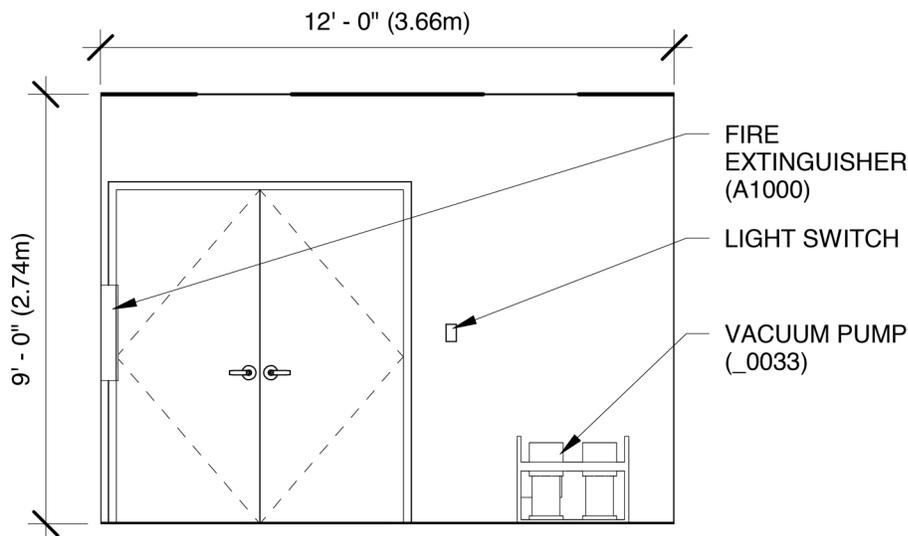


Dental Service
Reflected Ceiling Plan

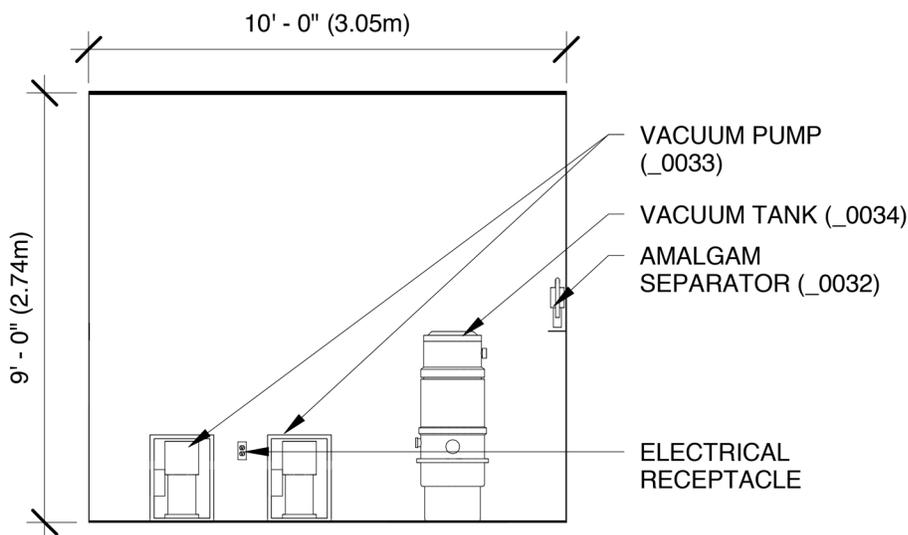
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DENTAL EQUIPMENT MECHANICAL ROOM (MECH1)



Elevation 1



Elevation 2

DENTAL EQUIPMENT MECHANICAL ROOM (MECH1)

SCALE 1/4" = 1'-0"

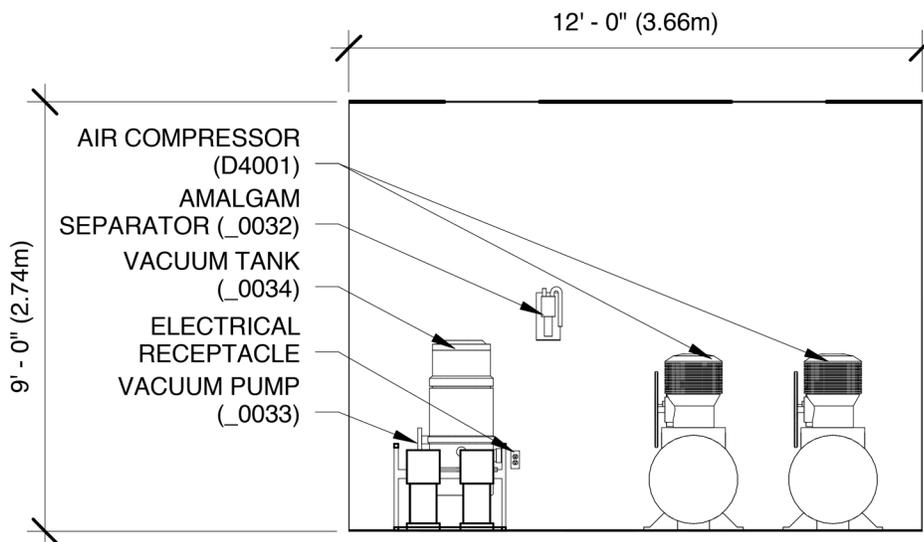


Dental Service Elevations

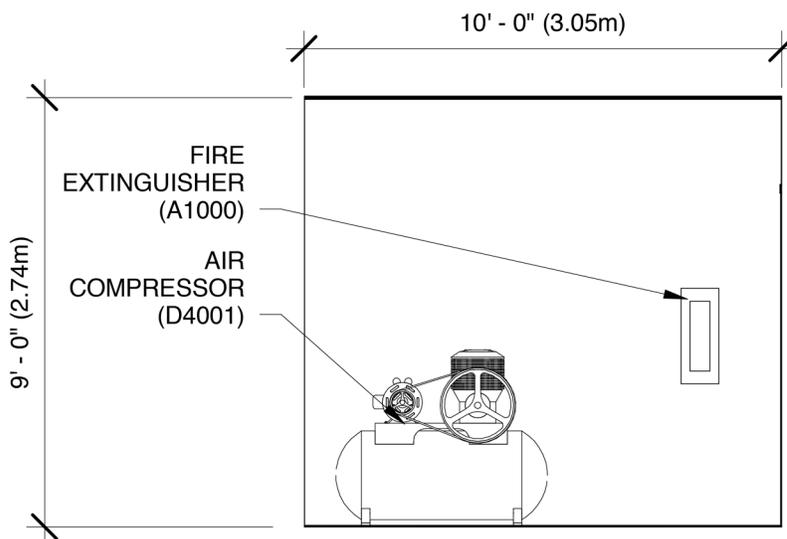
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DENTAL EQUIPMENT MECHANICAL ROOM (MECH1)



Elevation 3



Elevation 4

DENTAL EQUIPMENT MECHANICAL ROOM (MECH1)

SCALE 1/4" = 1'-0"



Dental Service Elevations

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DENTAL EQUIPMENT MECHANICAL ROOM (MECH1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
A1000	Extinguisher, Fire	1	VV	10 pound dry chemical fire extinguisher with charging gauge. Other types and sizes are available.
D4001	Compressor, Dental Air, System	2	CC	Dental air compressor system. Two or more equally sized compressors, with provisions for automatic, alternating and simultaneous operation shall be provided for dental air (DA) such that the design load is provided with one unit out of service. Dental compressed air (DCA), shall be oil-free air with the following air standards: First stage dryer - dry to a pressure dew point of 2 degrees C (35 degrees F) or better at design pressure under full load conditions at site. Second stage dryer – water vapor shall be eliminated to a pressure dew point of minus 68 degrees C (minus 90 degrees F). The system consists of, but not limited to, the following: compressor intake filters, compressors, after-coolers (air cooled), air receiver, pre-filter, dryer (refrigerated and/or desiccant), after-filter and in accordance with VA Master Spec 22 61 19.74.
_0032	Amalgam Separator	1	N/A	Amalgam separators captures microscopic particles of mercury to keep sewer systems free of heavy metals.
_0033	Vacuum Pump	2	N/A	Dental oral evacuation vacuum pump is a vacuum system with ability to eliminate water and small particles and has the capability to configure with an amalgam collector system. Minimum system demand shall be based on 7 scfm (standard cubic feet per minute) per dental chair and at an operating pressure of 6 to 8 inHg. A minimum vacuum of 6 inHg shall be maintained at the most distant outlet in accordance with VA Master Spec 22 62 19. 74.
_0034	Vacuum Separator Tank	1	N/A	Vacuum tank, with high-low liquid sensor, pump to drain, with vacuum pressure switch. Pressure tested for 18inHg, freestanding with legs. Tanks come in optional sizes.

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DENTAL EQUIPMENT MECHANICAL ROOM (MECH1)
Room Data Sheet

ARCHITECTURAL	
Ceiling:	AT
Ceiling Height:	9'-0"
Wall Finish:	Paint
Base:	RB
Floor Finish:	Sealed Concrete
Door:	S (3'-0" W x 7'-0" H) S (3'-0" W x 7'-0" H)
Hardware:	11B
Glazing:	

Notes: Special attention needs to be reviewed for sound control

LIGHTING	
General:	
1. Two (2) of 2' x 4' (600 mm x 1200mm) Fluorescent Light Fixture, Acrylic, Prismatic Lens with F32T8 Lamps, 3500°K CRU > 70	
2. Provide Ballasts Per Fixture for Desired Switching Configuration and to Provide Practical Uniform Lighting Level.	
3. Lighting Level: Variable 30fc	
4. Wall or ceiling mounted Vacancy Sensor	

POWER	
General:	As Shown and Required by Code
Special:	
Emergency:	As Determined by the Facility
Notes: Vacuum pumps and air compressor on delayed automatic connection to alternate power source. Remote switching of vacuum pumps.	
Coordinate electrical requirements with specific equipment.	

COMMUNICATIONS/SPECIAL SYSTEMS	
Patient Monitor:	
Nurse Call:	
CCTV:	
Telephone:	
Pub. Address:	
Radio:	
Data:	
Panic Call:	
Battery Operated Clock:	
Intercom:	
Staff/Duty Station:	
In Use Light:	

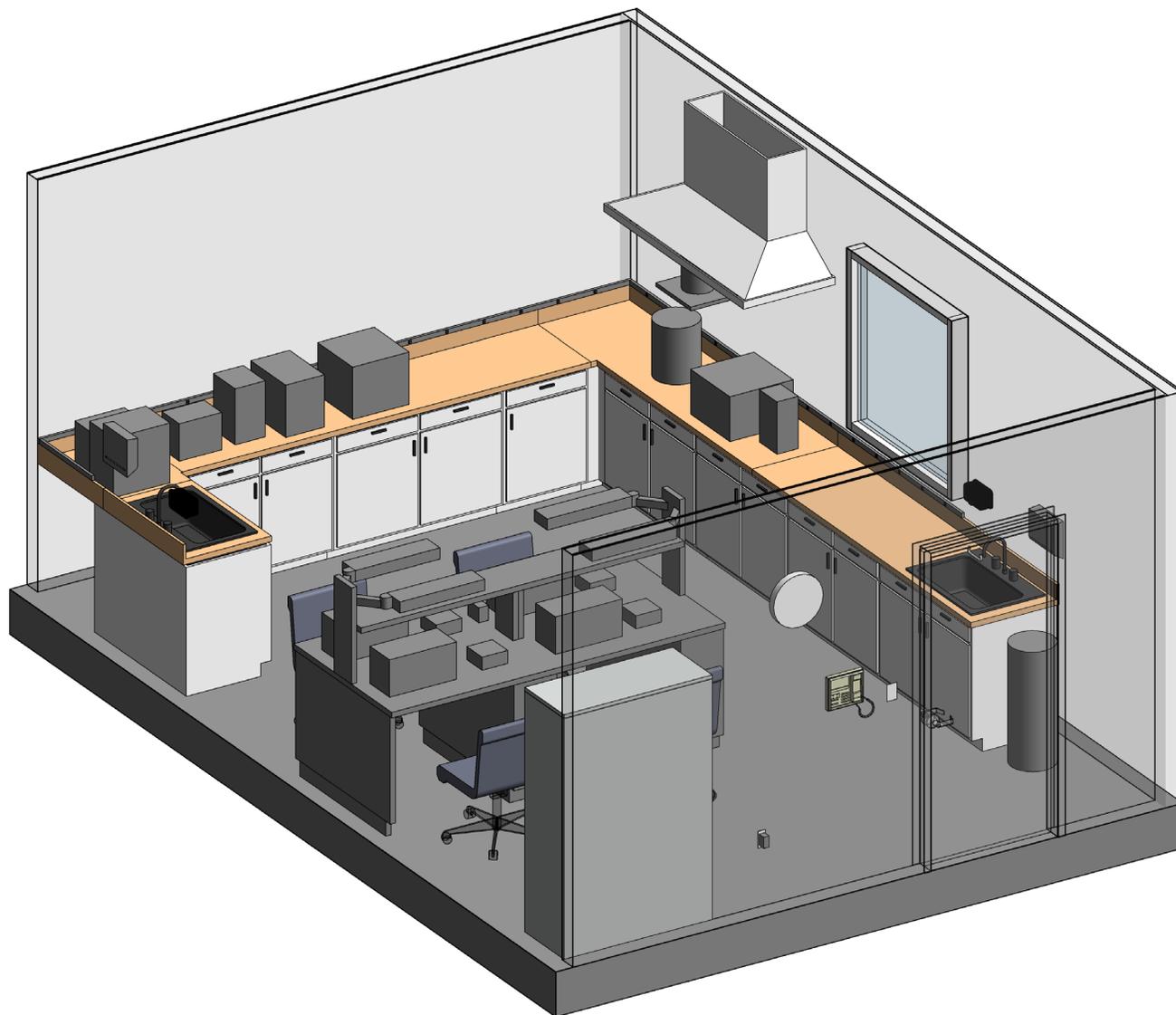
HEATING, VENTILATING AND AIR CONDITIONING	
Dry Bulb Temp Cooling:	
Dry Bulb Temp Heating:	
Minimum % Outside Air:	
100% Exhaust Air:	
Noise Criteria:	
Steam:	
Relative Humidity/Cooling:	
Relative Humidity/Heating:	
Minimum Air Changes/Hr:	
Room Pressure:	
AC Load Lights:	As Required
AC Load Equipment:	As Required
Number of People:	0
Special Equipment:	

PLUMBING AND MEDICAL GASES	
Cold Water:	Yes
Hot Water:	
Laboratory Air:	
Laboratory Vacuum:	
Sanitary/Vent:	Yes / Floor Drain
Medical Air:	
Medical Vacuum:	
Dental Air:	
Dental Vacuum:	
Oxygen:	
Nitrogen Oxide:	
Nitrogen:	
Natural Gas:	
Sprinkler:	Yes
Tempered Water:	
Water Control:	

SPECIAL EQUIPMENT	
See Equipment List	

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LABORATORY, GENERAL PURPOSE (DNPL1)



LABORATORY,
GENERAL PURPOSE (DNPL1)

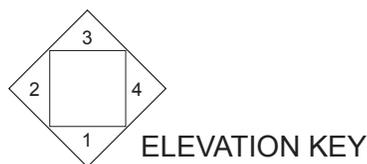
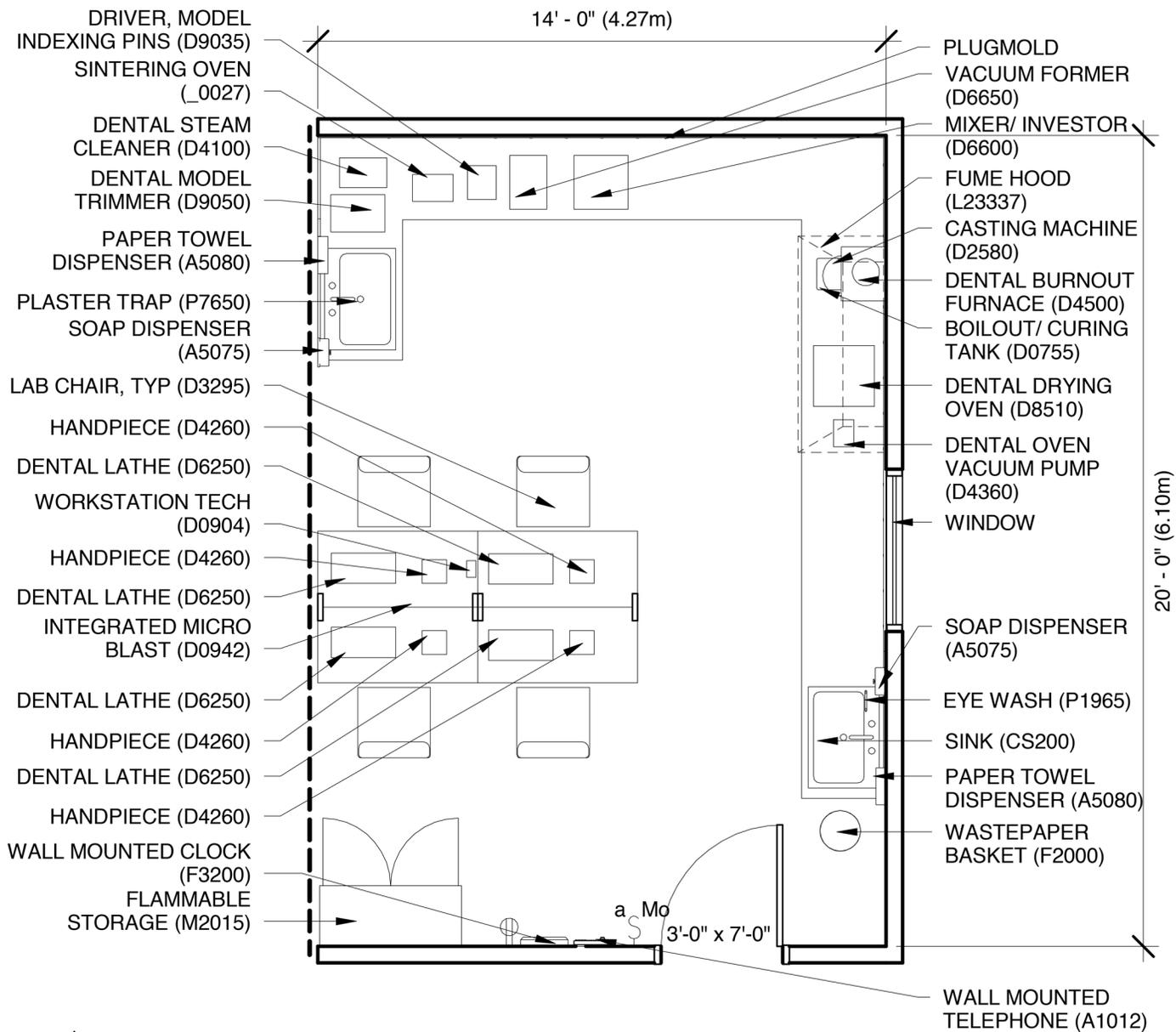
SCALE NTS

Dental Service
Axonometric View (280 NSF / 26 NSM)

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LABORATORY, GENERAL PURPOSE (DNPL1)



LABORATORY,
GENERAL PURPOSE (DNPL1)

SCALE 1/4" = 1'-0"

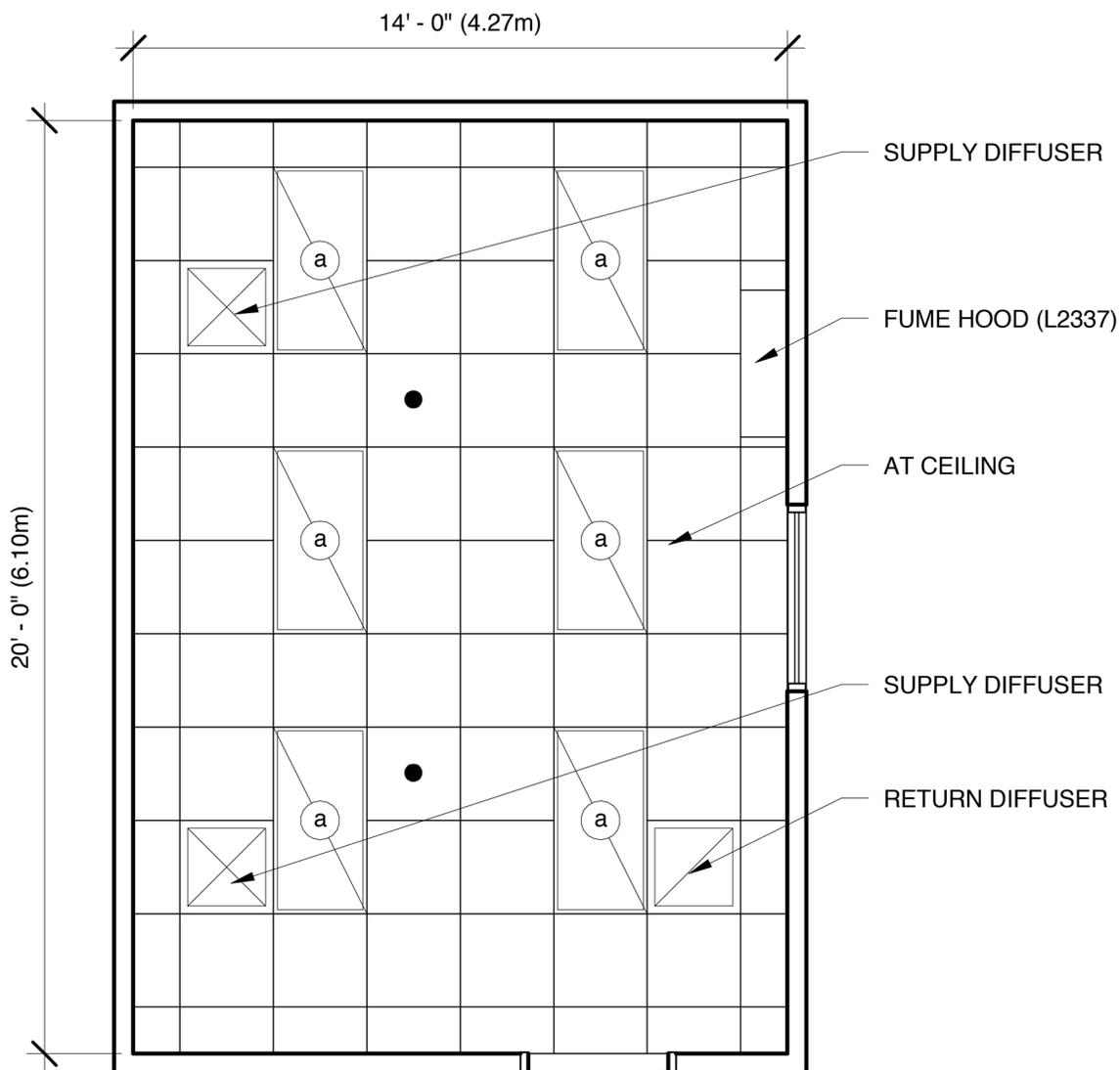


Dental Service
Floor/Equipment Plan (280 NSF / 26 NSM)

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LABORATORY, GENERAL PURPOSE (DNPL1)



LABORATORY,
GENERAL PURPOSE (DNPL1)

SCALE 1/4" = 1'-0"

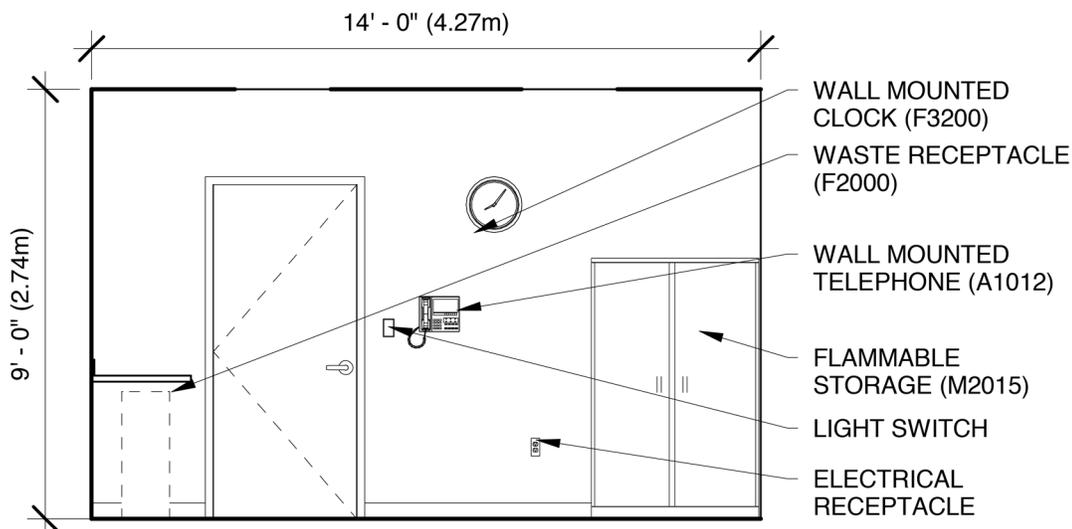


Dental Service
Reflected Ceiling Plan

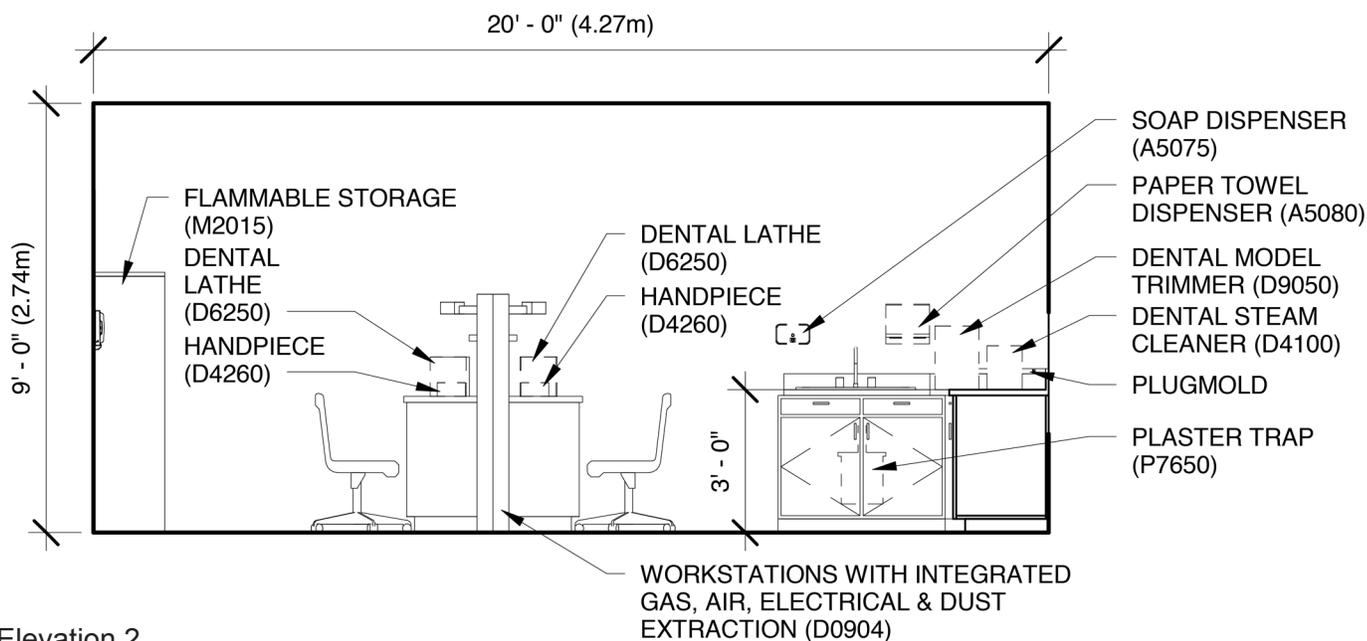
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LABORATORY, GENERAL PURPOSE (DNPL1)



Elevation 1



Elevation 2

LABORATORY,
GENERAL PURPOSE (DNPL1)

SCALE 1/4" = 1'-0"

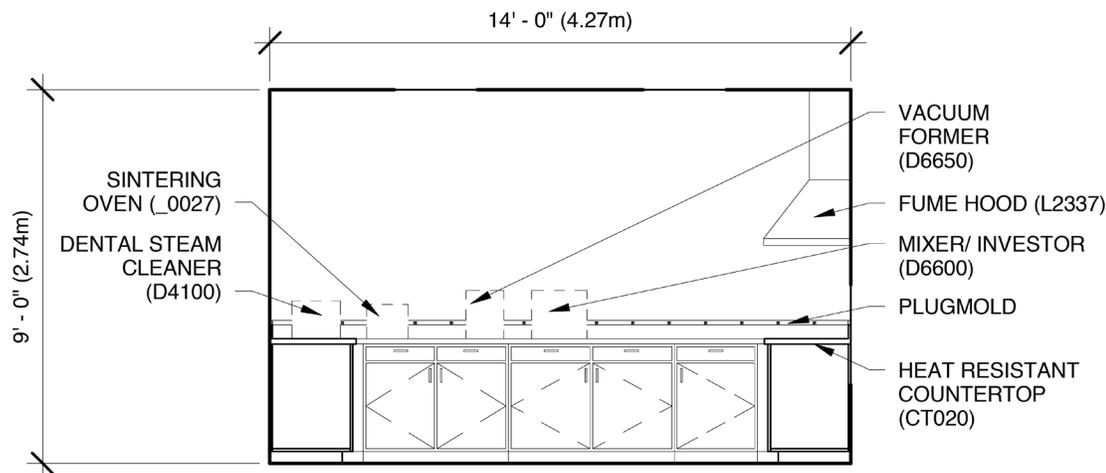


Dental Service
Elevations

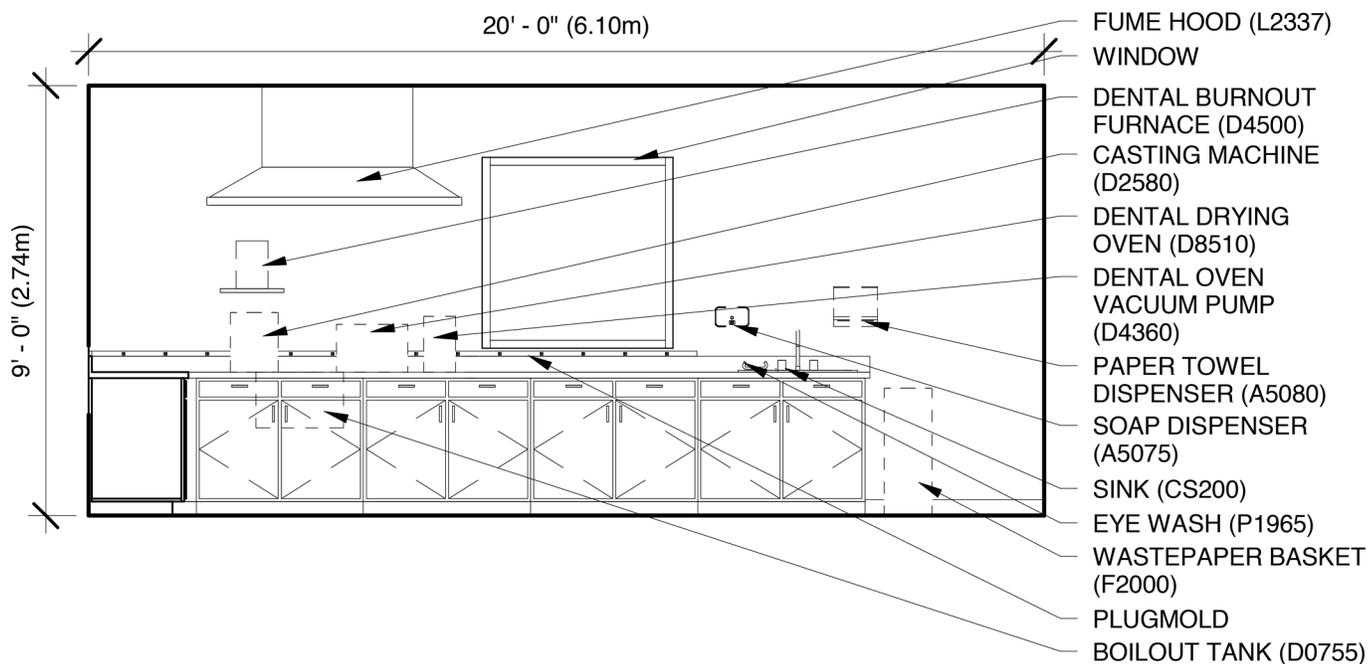
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LABORATORY, GENERAL PURPOSE (DNPL1)



Elevation 3



Elevation 4

LABORATORY,
GENERAL PURPOSE (DNPL1)

SCALE 1/4" = 1'-0"



Dental Service
Elevations

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LABORATORY, GENERAL PURPOSE (DNPL1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
A1010	Telecommunication Outlet	2	CC	Telecommunication outlet location.
A1012	Telephone, Wall Mounted, 1 Line	1	CC	Telephone, wall mounted, 1 line.
A5075	Dispenser, Soap, Disposable	2	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5080	Dispenser, Paper Towel, SS, Surface Mounted	2	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility.
C02C0	Cabinet, U/C/B 1 Shelf, 1 Drawer, 1 DO, 36x24x22	1	CC	Standing height under counter base cabinet with an adjustable shelf and a full width drawer above a solid right or left-hinged door (appropriate door hinge configuration to be indicated on equipment elevation drawings). Also referred to as a combination cabinet or a drawer and cupboard cabinet. For general purpose use throughout the facility.
C03P0	Cabinet, Sink, U/C/B, 2 Door, 30"W	2	CC	Standing height under counter base sink cabinet. 36" H x 30" W x 22" D with two solid hinged doors. Also referred to as a double-door sink cabinet. For general purpose use throughout the facility where a sink is to be used. Coordinate actual clear cabinet dimension with the actual outside dimension of sink that is specified to ensure that they are compatible.
C04F0	Cabinet, U/C/B 1 Shelf, 2 Half DR, 2 DO, 36x36x22	5	CC	Standing height under counter base cabinet with an adjustable shelf and two half width drawers above solid hinged doors. Also referred to as a combination cabinet or a drawer and cupboard cabinet. For general purpose use throughout the facility.
CS200	Sink, SS, Single Compartment, 12x28x16 ID	2	CC	Single compartment stainless steel sink, drop-in, self-rimming, ledge-type, connected with a drain and provided with a mixing faucet. It shall also be provided with pre-punched fixture holes on 4" center, integral back ledge to accommodate deck-mounted fixtures, brushed/polished interior and top surfaces, and sound deadened. Recommended for use in suspended or U/C/B sink cabinets having a solid nonporous surface countertop. Coordinate actual outside sink dimensions with the actual clear dimension of cabinet specified to ensure that they are compatible. For general purpose use throughout the facility.

LABORATORY, GENERAL PURPOSE (DNPL1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
CT020	Countertop, Solid Surface	AR	CC	A solid, nonporous countertop with a smooth seamless appearance. Easy to clean and maintain and with proper cleaning does not support the growth of mold. An acrylic-based solid surface product. Standard thickness of 1", and a 4" butt backsplash/curb. Also referred to as a work surface or work top. Available in a choice of colors and depths. Used in lab and other hospital areas requiring optimum physical and chemical resisting properties.
D4360	Pump, Vacuum, Dental Oven	1	VV	Vacuum pump. The pump is used in dental laboratories to provide a vacuum source for the vacuum oven or furnace.
D0755	Tank Assembly, Boilout/Curing, Double	1	CC	Two basis washout and boil-out tank assembly with stainless steel tanks and gas heating elements. The unit includes a recirculating pump, wax trap and drain valve. The assembly requires an appropriate cabinet for support. May be located in either the General Purpose Laboratory or the Acrylic Processing Laboratory.
D0904	Workstation, Tech, Dental Lab	4	CC	Modular technician's workstation for the dental laboratory. The workstation features integrated gas, air and electrical lines which all connect to building supplies from a single utility panel. The unit contains an overhead task lighting (approx. 3000 Lux) array. The workstation also includes a dust extraction system with filtration to be connected to a central system, a minimum of 4 drawers for storage, an air gun, a gas valve for a Bunsen burner and electrical outlets for accessory equipment. The desktop is made from a fiber/ cement mixture or similar material to resist heat, abrasion, and chemical attack. This unit has a standard length work surface that varies among manufacturers but is nominally 43". Depending on the manufacturer, workstation package configurations may include seating and other minor accessories. The workstation may require more than one electrical connection to the facility power grid to run the equipment used on the bench. See JSN D0975 for an extended length workstation.

LABORATORY, GENERAL PURPOSE (DNPL1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
D0942	Workstation, Dental Lab, Microblasting	1	CC	Complete micro-blaster and dust extraction device integrated into a 34" high x 24" wide x 24" deep (nominal) cabinet. The micro-blaster can use 25 to 250 micron aluminum oxide, sand, glass bead or walnut shell abrasives. The unit includes micro-blasting pencils, canisters for clean blasting, one recirculating nozzle for gross blasting, an air chisel, an air nozzle and a protective safety shield. The micro-blaster connects to a dust extraction system suitably sized for the micro-blaster.
D2580	Casting Machine, Induction, Bench Mounted	1	VV	Bench mounted controlled induction centrifugal casting method for use with precious and nonprecious dental alloys. Casting temperatures up to 2822 degrees F.
D3295	Chair, Rotary, Laboratory, Dental	4	VV	Rotary dental laboratory chair. The chair is used by technicians while working at a bench. Chairs also have casters and an adjustable backrest.
D4100	Cleaner, Steam Dental	1	VV	Dental steam cleaner. The cleaner has a variable temperature control and is capable of generating up to 80 PSI of pressure. The unit is used for flushing out dirt, debris, wax and polishing compounds from models, dentures, impression trays and instruments.
D4260	Handpiece, Laboratory, Dental, Electric	4	VV	Portable dental laboratory handpiece. The unit has a straight handle and is electrically powered. The handpiece includes a controller and power cables. Unit is used to grind, polish or finish precious and non-precious metal alloys.
D4500	Furnace, Laboratory, Dental, Burnout	1	VV	Dental burnout furnace. The unit is used in dental laboratories for burnout of dental alloy rings and flasks. The furnace is capable of automatic or manual operation and has an automatic selfcalibration system as well as a digital readout. The unit can hold a minimum of fifteen 1-3/4" inlay rings. Some model lines are available with several sizes of heating elements and/or for other power configurations.

LABORATORY, GENERAL PURPOSE (DNPL1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
D6250	Lathe, Dental, Bench Mounted	4	VV	Dental lathe which can perform grinding or polishing work depending on the attachments to the spindles. The unit is bench mounted and has two speeds, generally 1725 and 3450 rpm, or is variable across its entire operating range up to 3600 rpm.
D6600	Mixer / Investor, With Vacuum	1	VC	Dental vacuum mixer-investor. Unit is used in dental laboratories to mix alginates and other materials as well as investing materials for inlays and crowns. Some units are equipped with a vibrating arm to assist in moving investments from the mixing chamber into the casting rings. Some models are microprocessor controlled. Units are mounted to a wall or bench for stability. Specify mounting when ordering.
D6650	Former, Vacuum, With Motor, Vacuum Pump, Heater	1	VV	Vacuum former. Used in dental laboratories for adaptation of thermoplastic resins. Unit has a self contained motor, vacuum pump and heater.
D8510	Oven, Drying, Dental	1	VV	Dental model drying oven. The oven is used to dehydrate refractory models prior to bee's wax dipping. The unit provides efficient circulation of air to eliminate moisture as it evaporates. The unit has an adjustable damper, two shelves, a built-in thermostat, a secondary temperature controller and a glass thermometer.
D9035	Driver, Model Indexing Pins	1	VV	Model indexing pin driver used to accurately place indexing pins in multiple piece dental models and multiple piece die sets. The bench top instrument provides a means to accurately align, drill and insert indexing pins.
D9050	Trimmer, Model, Dental, 1/4 HP	1	VC	Dental model trimmer with a 1/4 or 1/3 HP motor and a 10" abrasive wheel. The trimmer is used in dental laboratories for trimming plaster and stone dental impression models. This is a light duty unit and its commonly used accessories include floor switches, water valves, water spray heads and splash shields. The database pricing is for the basic unit only.
F2000	Basket, Wastepaper, Round, Metal	1	VV	Round wastepaper basket, approximately 18" high X 16" diameter. This metal unit is used to collect and temporarily store small quantities of paper refuse in patient rooms, administrative areas and nursing stations.

LABORATORY, GENERAL PURPOSE (DNPL1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
F3200	Clock, Battery 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
L2337	Canopy, Fume Hood 6 foot	1	CC	Canopy fumehood. The unit includes a switched fan unit with pilot light; corrosion resistant steel, aluminum, or chemical resistant and fire retardant seamless fiberglass construction; dimensions as indicated on design drawings; fire suppression systems and any other special requirements to be defined during the facility design. It also includes a 3/4 horsepower motor blower. The static pressure loss shall not exceed 0.91 at 1290 cfm and 1.65 at 1935 cfm. It is equipped with baffles to maximize slot velocities and control fumes. Used in laboratories for low to moderate risk biological agents. Other sizes may be available. Blower motor mounted separate from the canopy and may not be included in the size specification.
M2015	Cabinet, Storage, Flammable, Freestanding	1	VV	Freestanding flammable safety storage cabinet. Size as required. Unit is of all welded steel wall construction with vented grounding attachments, raised leak proof door sill and adjustable shelving. Equipped with swinging doors and built-in key lock. Designed for storage of flammable fluids. Complies with OSHA standards, is FM approved and designed IAW NFPA 30
P1965	Eyewash, Eye/Face, Sink Mounted, Hands-free	1	CC	A sink mounted eyewash station. The unit is designed for emergency eye and face rinsing from soft flow dual spray-heads. The Flow must be activated by the single momentary action and remain on until terminated.
P7650	Trap, Plaster, Small	1	CC	Plastic or metal bodied plaster trap. The unit has a one piece body which is approximately 12 inches deep. The top has 1.5 inch inlet and drain connections. The trap is used in laboratories to capture solids and preclude the clogging of drain lines. The installation must allow sufficient clearance above or below the unit (depending on the manufacturer) to remove the basket for cleaning.

LABORATORY, GENERAL PURPOSE (DNPL1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
_0025	Valve, mixing, Thermostatic	1	CC	Thermostatic mixing valve for emergency fixture. Used with emergency eyewash and emergency shower. Thermostatic valve is used to maintain temperature between 65 and 100 degree Fahrenheit, with a flow rate of 19 gallons a minute. Used for eyewash stations and emergency showers.
_0026	Cart, Laboratory Transport	1	N/A	Small cart made of polished steel and vinyl matting. 5" swivel caster wheels, with fold down push bar. Cart has a rubber bumper to prevent damage to walls. Weight capacity is 600 lbs. Cart platform measures minimum 23 x 35.
_0027	Oven, Sintering	1	N/A	Fully programmable sintering oven with adjustable temperature capable of creating custom cycles, stainless steel construction with internal fans.

LABORATORY, GENERAL PURPOSE (DNPL1)
Room Data Sheet

ARCHITECTURAL

Ceiling:	AT
Ceiling Height:	9'-0"
Wall Finish:	Paint
Base:	RES3
Floor Finish:	RES3
Door:	1/2 S (3'-0" W x 7'-0" H) -T (3'-0" W x 7'-0" H)
Hardware:	4G
Glazing:	
Notes:	

LIGHTING

General:	
1. Two (2) of 2' x 4' (600 mm x 1200mm) Fluorescent Light Fixture, Acrylic, Prismatic Lens with T8 Lamps, 5000-6000°K CRI ≥ 85	
2. Provide Ballasts Per Fixture for Desired Switching Configuration and to Provide Practical Uniform Lighting Level.	
3. Lighting Level: 50fc - 150fc	
4. Wall or Ceiling Mounted Vacancy Sensor	

POWER

General:	As Shown and Required by Code
Special:	
Emergency:	As Determined by the Facility
Notes:	
Provide plug mold above countertop backsplash	
Coordinate electrical requirements with specific equipment.	

COMMUNICATIONS/SPECIAL SYSTEMS

Patient Monitor:	
Nurse Call:	
CCTV:	
Telephone:	Yes
Pub. Address:	Yes
Radio:	
Data:	Yes
Panic Call:	
Battery Operated Clock:	Yes
Intercom:	Note 1
Staff/Duty Station:	
In Use Light:	
Note 1. Dedicated IC system throughout dental services. Telephone hands-free instruments may be substituted for formal IC system.	

HEATING, VENTILATING AND AIR CONDITIONING

Dry Bulb Temp Cooling:	75° F (24° C)
Dry Bulb Temp Heating:	70° F (21° C)
Minimum % Outside Air:	
100% Exhaust Air:	
Noise Criteria:	
Steam:	
Relative Humidity/Cooling:	60
Relative Humidity/Heating:	20
Minimum Air Changes/Hr:	6
Room Pressure:	Negative (-)
AC Load Lights:	As Required
AC Load Equipment:	As Required
Number of People:	
Special Equipment:	Hood at Boil-Out Sink
Sized at 100fpm (0.5m/s)face velocity. Provide exhaust at each workstation	

PLUMBING AND MEDICAL GASES

Cold Water:	Yes
Hot Water:	Yes
Laboratory Air:	Yes
Laboratory Vacuum:	Yes
Sanitary/Vent:	Yes
Medical Air:	
Medical Vacuum:	
Dental Air:	
Dental Vacuum:	
Oxygen:	
Nitrogen Oxide:	
Nitrogen:	
Natural Gas:	Yes
Sprinkler:	Yes
Eye Wash:	Yes
Water Control:	

SPECIAL EQUIPMENT

See Equipment List.	

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LABORATORY, PORCELAIN/CERAMICS (DNPC1)



LABORATORY,
PORCELAIN/CERAMICS (DNPC1)

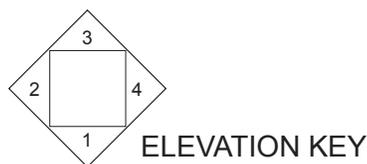
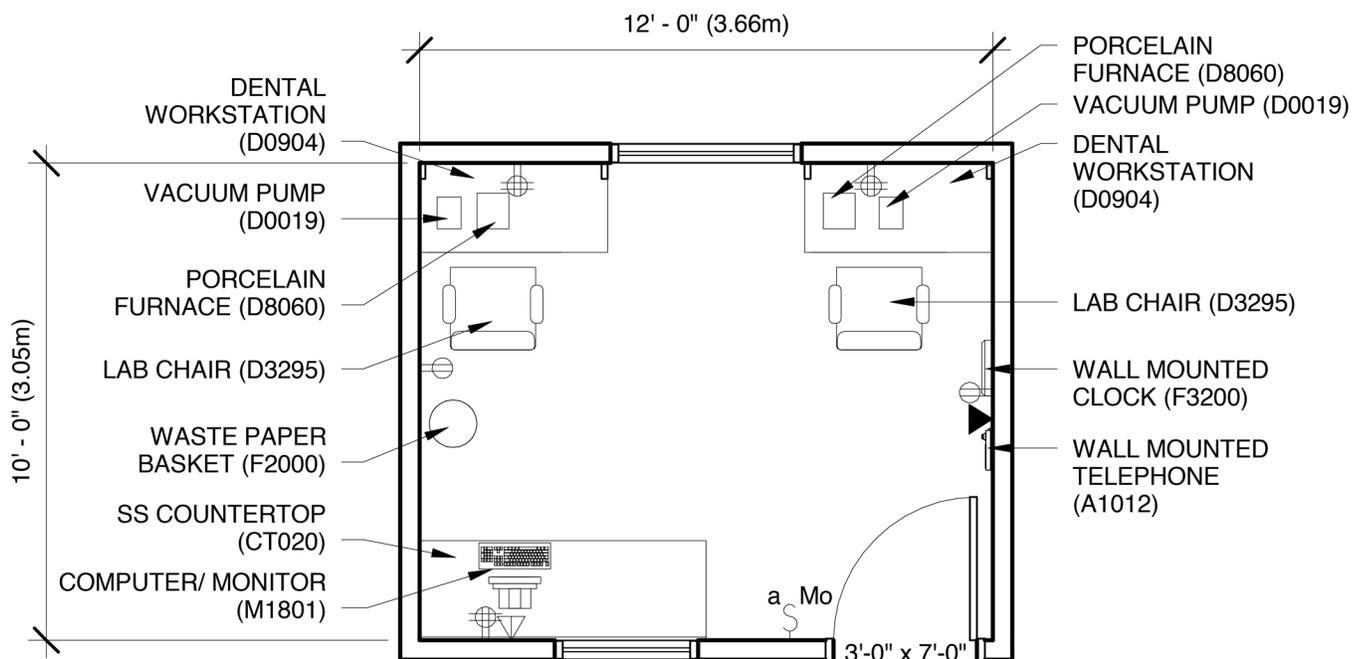
SCALE NTS

Dental Service
Axonometric View (120 NSF / 11.1 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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LABORATORY, PORCELAIN/CERAMICS (DNPC1)



LABORATORY,
PORCELAIN/CERAMICS (DNPC1)

SCALE 1/4" = 1'-0"

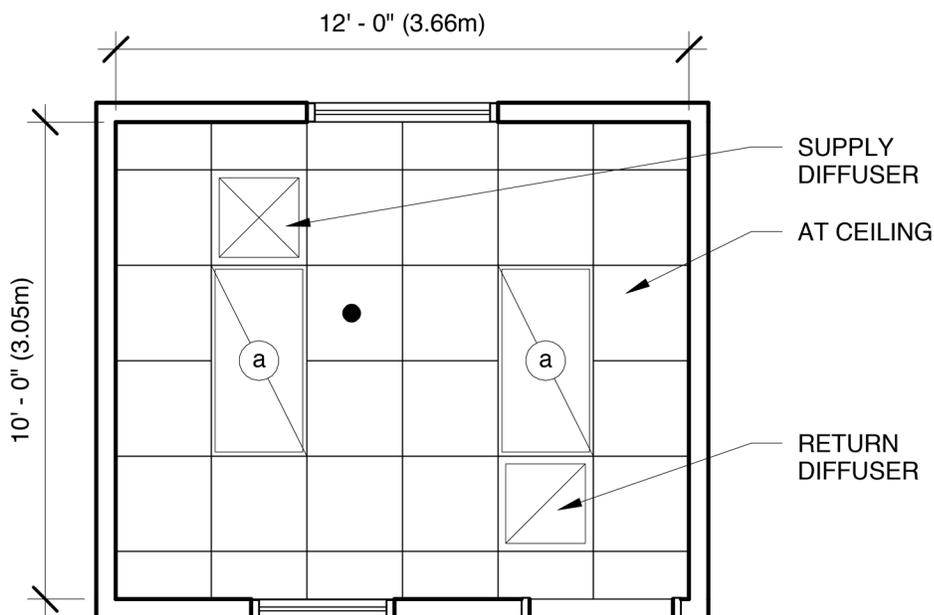


Dental Service
Floor/Equipment Plan (120 NSF / 11.1 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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LABORATORY, PORCELAIN/CERAMICS (DNPC1)



LABORATORY,
PORCELAIN/CERAMICS (DNPC1)

SCALE 1/4" = 1'-0"

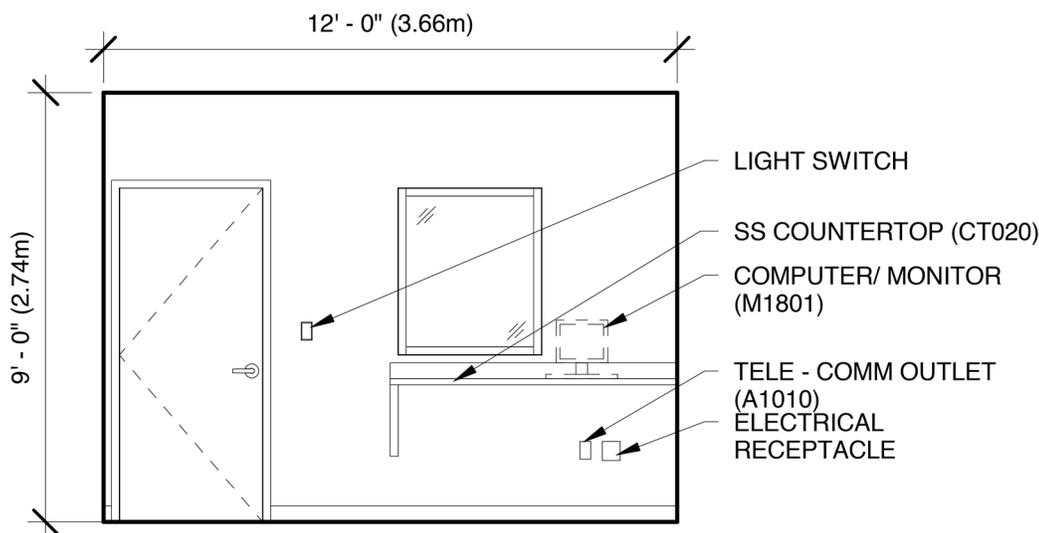


Dental Service
Reflected Ceiling Plan

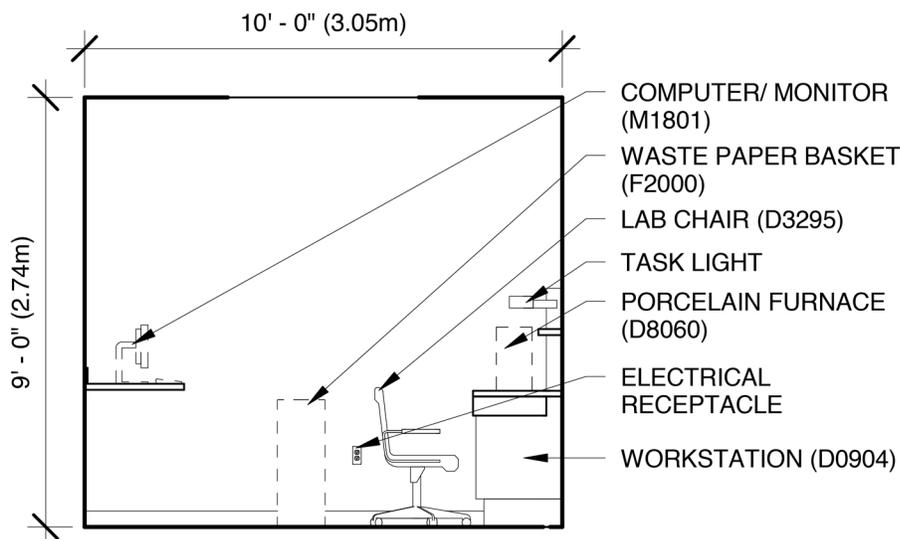
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LABORATORY, PORCELAIN/CERAMICS (DNPC1)



Elevation 1



Elevation 2

LABORATORY,
PORCELAIN/CERAMICS (DNPC1)

SCALE 1/4" = 1'-0"

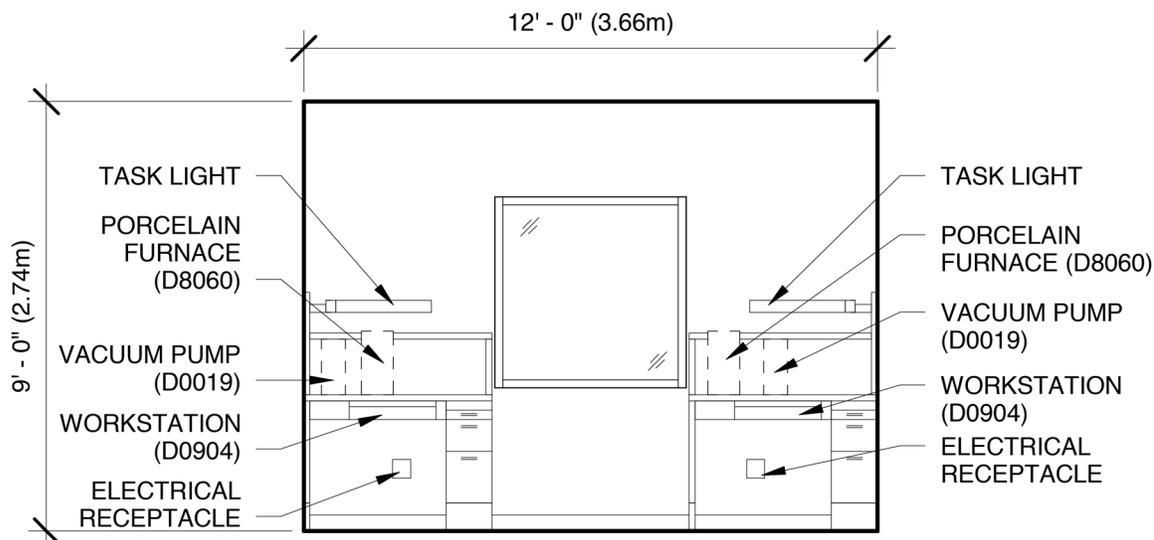


Dental Service
Elevations

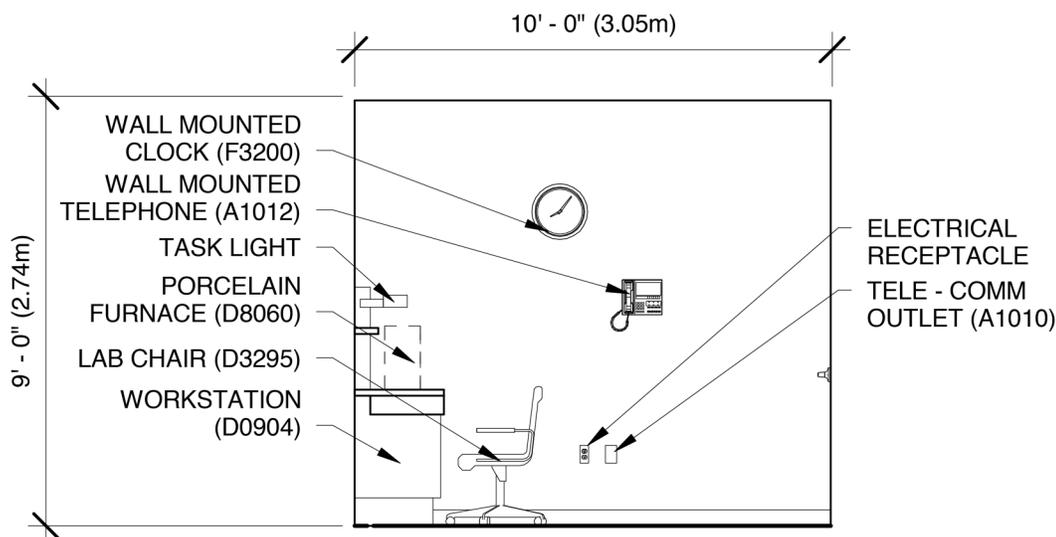
NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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LABORATORY, PORCELAIN/CERAMICS (DNPC1)



Elevation 3



Elevation 4

LABORATORY,
PORCELAIN/CERAMICS (DNPC1)

SCALE 1/4" = 1'-0"



Dental Service
Elevations

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

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LABORATORY, PORCELAIN/CERAMICS (DNPC1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
A1010	Telecommunication Outlet	1	CC	Telecommunication outlet location.
A1012	Telephone, Wall Mounted, 1 Line	1	CC	Telephone, wall mounted, 1 line.
CT020	Counter Top, Solid Surface	AR	CC	A solid, nonporous countertop with a smooth seamless appearance. Easy to clean and maintain and with proper cleaning does not support the growth of mold. An acrylic-based solid surface product. Standard thickness of 1", and a 4" butt backsplash/curb. Also referred to as a work surface or work top. Available in a choice of colors and depths. Used in lab and other hospital areas requiring optimum physical and chemical resisting properties.
D0904	Workstation, Tech, Dental, Lab	2	CC	Modular technician's workstation for the dental laboratory. The workstation features integrated gas, air and electrical lines which all connect to building supplies from a single utility panel. The unit contains an overhead task lighting (approx. 3000 Lux) array. The workstation also includes a dust extraction system with filtration to be connected to a central system, a minimum of 4 drawers for storage, an air gun, a gas valve for a Bunsen burner and electrical outlets for accessory equipment. The desktop is made from a fiber/ cement mixture or similar material to resist heat, abrasion, and chemical attack. This unit has a standard length work surface that varies among manufacturers but is nominally 43". Depending on the manufacturer, workstation package configurations may include seating and other minor accessories. The workstation may require more than one electrical connection to the facility power grid to run the equipment used on the bench. See JSN D0975 for an extended length workstation.
D3295	Chair, Laboratory Dental	2	VV	Rotary dental laboratory chair. The chair is used by technicians while working at a bench. Chairs also have casters and an adjustable backrest.
D4360	Pump, Vacuum, Dental Oven	2	VV	Vacuum pump. The pump is used in dental laboratories to provide a vacuum source for the vacuum oven or furnace.

LABORATORY, PORCELAIN/CERAMICS (DNPC1)**Equipment List**

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
D8060	Furnace, Porcelain, Vacuum	2	VV	Vacuum porcelain furnace. Used in dental laboratories to fire porcelain molds for dental appliances. Unit shall include a vacuum pump capable of producing 27 inches of mercury in thirty seconds.
F2000	Basket, Wastepaper	1	VV	Round wastepaper basket, approximately 18" high X 16" diameter. This metal unit is used to collect and temporarily store small quantities of paper refuse in patient rooms, administrative areas and nursing stations.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
M1801	Computer, Microprocessing, w/ Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing micro tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: 3.1 GHz 1 x Pentium processor; 4 GB RAM; 500GB hard drive; CDROMDVD combo; HD Graphics; a 15 inch flat panel color monitor. The computer is used throughout the facility to input, manipulate and retrieve information.

LABORATORY, PORCELAIN/CERAMICS (DNPC1)
Room Data Sheet

ARCHITECTURAL

Ceiling:	AT
Ceiling Height:	9'-0"
Wall Finish:	Paint
Base:	RES3
Floor Finish:	RES3
Door:	1/2 S (3'-0" W x 7'-0" H) -T (3'-0" W x 7'-0" H)
Hardware:	4G
Glazing:	

Notes:

LIGHTING

- General:
- Two (2) of 2' x 4' (600 mm x 1200mm) Fluorescent Light Fixture, Acrylic, Prismatic Lens with T8 Lamps, 5000-6000K CRI ≥ 85
 - Provide Ballasts Per Fixture for Desired Switching Configuration and to Provide Practical Uniform Lighting Level.
 - Lighting Level: 50fc
 - Wall or Ceiling Mounted Vacancy Sensor

POWER

General:	As Shown and Required by Code
Special:	
Emergency:	As Determined by the Facility
Notes:	
Coordinate electrical requirements with specific equipment	

COMMUNICATIONS/SPECIAL SYSTEMS

Patient Monitor:	
Nurse Call:	
CCTV:	
Telephone:	Yes
Pub. Address:	Yes
Radio:	
Data:	Yes
Panic Call:	
Battery Operated Clock:	Yes
Intercom:	
Staff/Duty Station:	
In Use Light:	

HEATING, VENTILATING AND AIR CONDITIONING

Dry Bulb Temp Cooling:	75° F (24° C)
Dry Bulb Temp Heating:	70° F (21° C)
Minimum % Outside Air:	
100% Exhaust Air:	
Noise Criteria:	
Steam:	
Relative Humidity/Cooling:	60
Relative Humidity/Heating:	20
Minimum Air Changes/Hr:	6
Room Pressure:	Negative (-)
AC Load Lights:	As Required
AC Load Equipment:	As Required
Number of People:	
Special Equipment:	

PLUMBING AND MEDICAL GASES

Cold Water:	Yes
Hot Water:	Yes
Laboratory Air:	Yes
Laboratory Vacuum:	Yes
Sanitary/Vent:	
Medical Air:	
Medical Vacuum:	
Dental Air:	
Dental Vacuum:	
Oxygen:	
Nitrogen Oxide:	
Nitrogen:	
Natural Gas:	Yes
Sprinkler:	Yes
Eye Wash:	
Water Control:	

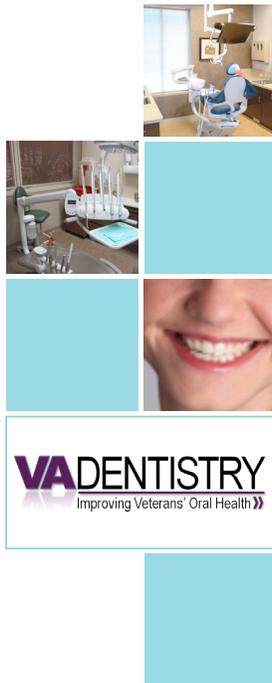
SPECIAL EQUIPMENT

See Equipment List.

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SECTION 5 - APPENDIX

TECHNICAL REFERENCES



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SECTION 5 - APPENDIX

TECHNICAL REFERENCES

The references listed below are comprised of both a summary of current relevant VA standards and criteria followed by a summary of current industry standards, all of which have guided the information in this Dental Service Design Guide. The Design Guide refers to the sources throughout the text when information is more detailed or extensive than would be appropriate to be included in this guide. VA sources can be accessed on VA website.

VA Standards and Criteria

[VA Space Planning Criteria Chapter 222](#)

Accessibility and Barrier-Free Design Guide [PG-18-13](#)

Design and Construction Procedures [PG-18-3](#)

Equipment Information [PG-18-5](#)

Master Construction Specifications [PG-18-1](#)

Standard Details [PG-18-4](#)

Room Finishes, Door and Hardware Schedule [PG-18-14](#)

[Seismic \(Structural\) Design Requirements H-18-8](#)

[VA Signage Design Guide](#)

Space Planning Criteria [PG-18-9](#)

[Sustainable Design and Energy Reduction Manual May 2014](#)

VA Technical Criteria ([PG-18-10 Design Manuals](#)) pertaining to Architectural, Interior Design, HVAC, Plumbing, and Electrical Ambulatory Care/Outpatient Clinic/Interior Design Manual for New Construction and Renovations of Hospitals and Clinics

[Design Guide Office of Information and Technology \(OI&T\) for Information Management Systems Physical Security Design Manual \(Final Draft\)](#)

Emergency Power & Water Supply During Natural Disasters, Phase 2

[VA Fire Protection Design Manual 2011](#)

Energy Conservation (EPACT 2005 and DOE – Final Rule)

[Energy Conservation](#) (Executive Order No. 13423 Dated January 24, 2007: Strengthening Federal Environmental, Energy, and Transportation Management)

[Memorandum of Understanding \(MOU\): Federal Leadership in High Performance and Sustainable Buildings.](#)

[Commissioning Guidelines](#) (May 2013)

Industry Standards and Criteria

ADA Standards for Accessible Design 2010

International Building Code, 2012

NFPA 101, 2012

FGI Guidelines for Design and Construction of Health Care Facilities - 2014

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