

SECTION 10 25 13
PATIENT BED SERVICE WALLS

Revised
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PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:

1. This section specifies the Patient Care Headwall as detailed on the drawings, including related components and accessories required to form an integral unit. Components shown on the drawings but not specified below shall be included as part of the work under this section, and applicable portions of the specification shall apply to these items. Each like item of the Headwall shall be of the same design and other products that are considered integral to the system shall be manufactured by one manufacturer.
2. Furnish all labor, materials, tools, equipment, and services for all Headwall components as indicated and in accordance with provisions of Contract Documents.
3. Coordinate this work with work of all other trades.
4. Although such work is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances, and devices incidental to or necessary for sound, secure, and complete installation.

1.02 RELATED REQUIREMENTS

- A. Section 09 06 00, SCHEDULE FOR FINISHES: Color and finishes of the patient wall units.
- B. Section 22 63 00, GAS SYSTEMS FOR LABORATORY AND HEALTHCARE FACILITIES: Requirements for air, oxygen and vacuum outlets in the patient wall units.
- C. Section 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS: General electrical requirements that are common to more than one section of Division 26.
- D. Section 26 05 33, RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS: Raceways and outlet boxes for wiring.
- E. Section 26 05 21, LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES (600 VOLTS AND BELOW): Cables and wiring.
- F. Section 26 27 26, WIRING DEVICES: Wiring devices to be installed in the patient wall units.
- G. Section 26 24 16, PANELBOARDS: Panelboard requirements for patient wall units with a panelboard.

H. Section 26 05 26, GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS:

Requirements for personnel safety and to provide a low impedance path to ground for possible ground currents.

I. Section 26 51 00, INTERIOR LIGHTING: Lighting fixture requirements when installed in or connected to the patient wall units.

J. Section 27 52 23, NURSE CALL/CODE BLUE SYSTEMS: Nurse Call and Code One requirements for installation in the patient wall units.

K. Section 12 34 00, MANUFACTURED CASEWORK

1.03 HEADWALL COMPONENTS

- A. Ceiling Mounting Plate
- B. Enclosure with Vertical Equipment Rails
- C. Fascias and Panels
- D. Medical Gas Piping and Outlets
- E. Electrical Wiring and Receptacles
- F. Optional Electrical and Communication Components
- G. Provisions
- H. Miscellaneous and Support Accessories

1.02 REFERENCES

- A. Approval by Contracting Officer is required of manufacturer and installer based upon certification of qualifications specified.
- B. Reference Standards:
 - 1. American National Standards Institute (ANSI/Underwriters Laboratories (UL)):
 - a. ANSI/UL 514A metallic outlet boxes.
 - b. ANSI/BIFMA standards.
 - 2. American Society of Mechanical Engineers (ASME):
 - a. ASME B16.22 Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.
 - 3. Compressed Gas Association (CGA):
 - a. CGA V-5 Diameter Index Safety System (Non-interchangeable Low Pressure Connections for Medical Gas Applications).
 - 4. National Fire Protection Association (NFPA):
 - a. NFPA 70 National Electrical Code (NEC).
 - b. NFPA 99 Health Care Facilities.
 - 5. Underwriters Laboratories, Inc. (UL):
 - a. UL 1047 Isolated Power Systems Equipment.
 - 6. HB Flammability Requirements of UL 94 for Plastic Parts
 - 7. System components shall be GreenGuard Certified
 - 8. National Building, Plumbing, and Electrical Codes

9. American Society for Testing and Materials (ASTM):

- a. ASTM A167-99, Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip

C. Design Criteria

1. The intent of this specification is to provide a high-quality functional Patient Care Headwall in environments that require an aesthetically and hospitable solution. The Headwall's components must have the inherent qualities of durability, aesthetic value, and safety while also providing maximum functionality within a healthcare setting.
2. The Headwall shall allow the healthcare facility to be space efficient by making maximum use of vertical space and by providing a highly organized and versatile way of storing the materials unique to medical requirements. The Headwall shall also provide an opportunity to deliver the necessary medical gases and other utilities to the patient.
3. The Headwall shall be mounted in the wall for maximum use of floor space.
4. The Headwall shall be designed and constructed to facilitate ease of installation and cleaning.

D. Installer/Erector Qualifications

1. Furnish proof of familiarity with equipment to be installed.
2. Furnish proof of financial and technical resources to assure prompt performance in delivery and installation and in-service training of healthcare personnel.
3. Provide competent supervision and installation persons.

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate work of this section with work of other trades for proper time and sequence to avoid construction delays. Comply with section 01 17 00 - EXECUTION REQUIREMENTS.
- B. Preinstallation meetings: Conduct preinstallation meeting [one week] prior to commencing [work of this section] [and] [onsite installations] to verify project requirements, substrate conditions and coordination with other building subtrades and to review manufacturer's installation instructions and manufacturer's warranty requirements. Comply with section [01 31 00 - Project Management and Coordination].
- C. Sequencing: Sequence work of this section in accordance with section 01 17 00 - EXECUTION REQUIREMENTS. and manufacturer's written recommendations for sequencing construction operations.

- D. Scheduling: Schedule work of this section in accordance with Section 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

1.04 ACTION SUBMITTALS

- A. General: Submit listed submittals in accordance with Contract Conditions and Section 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Product Data: Submit specified products as follows:
1. Manufacturer's product data, including manufacturer's SPEC-DATA product sheet.
 2. Manufacturer's installation instructions.
 3. Catalog pages illustrating products to be incorporated into project.
 4. Material Safety Data Sheets (MSDS).
- C. Shop Drawings: Indicate information on shop drawings as follows:
1. Elevation of patient bed service wall(s) showing layout of panels, locations of utility outlets and locations of accessories.
 2. Details of mounting for framing, utility piping and wiring, service panels and accessories.
 3. Piping and wiring diagrams for utilities.
 4. Sufficient information, clearly presented, shall be included to determine compliance with drawings and specifications.
 5. Electrical ratings, dimensions, installation details, front view, side view, equipment and device arrangement, wiring diagrams, material specifications, and connection diagrams shall be included.
 6. Final layout of each style of patient Headwall shall be determined at this stage. Configuration drawings showing all device locations (nurse call, medical gases, electrical receptacles, switches, etc.) shall be included.
- D. Samples: Submit as follows:
1. Provide samples of all finishes and colors.
 - a. Provide 12"x12" samples of plastic laminate.

1.05 INFORMATION SUBMITTALS

Manufacturer's Instructions: Submit manufacturer's storage and installation instructions.

- A. Source Quality Control: Submit documentation verifying that components and materials specified in this Section are from single manufacturer.
- B. Qualification Statements:
1. Submit letter of verification for Manufacturer's Qualifications.
 2. Submit letter of verification for Installer's Qualifications.

1.06 CLOSEOUT SUBMITTALS

A. General: Submit listed submittals in accordance with Contract Conditions and Section 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Operation and Maintenance Data:

1. Complete maintenance and operating manuals including wiring diagrams, technical data sheets, and information for ordering replacement parts:

- a. Include complete "As Installed" diagrams which indicate all items of equipment and their interconnecting wiring and interconnecting piping.
- b. Include complete diagrams of the internal wiring for each of the items of equipment, including "As Installed" revisions of the diagrams.
- c. Identify terminals on the wiring diagrams to facilitate installation, maintenance, and operation.

2. Warranties: See Section 1.10.

1.07 QUALITY ASSURANCE

A. Qualifications:

1. Manufacturer:

- a. Having [5] years' experience manufacturing components similar to
or exceeding requirements of project.
- b. Having sufficient capacity to produce and deliver required materials without causing delay in work.
- c. Capable of providing field service representation during construction.

2. Installer: Acceptable to the manufacturer, experienced in performing work of this section and specialized in installation of work similar to that required for this project.

B. Field Samples (Mock-Ups)

1. As directed by Owner, construct fully functional Mock-Up unit for the purpose of evaluating quality of work, operation of equipment, product application, system integration, and facility preparation.

2. Construct per approved Submittal.

3. As directed by Owner, may or may not remain part of finished work.

4. Work may proceed only after written acceptance of Mock-Up is received

C. Substitutions: No substitution will be considered unless the architect has received a request for approval as required in SECTION 001000 - GENERAL REQUIREMENTS.

1.08 DELIVERY, STORAGE & HANDLING

A. Delivery and Acceptance Requirements:

1. Deliver material in accordance with manufacturer's written instructions.
 2. Deliver materials in manufacturer's original packaging, with identification labels intact and in sizes to suit project.
 3. Time deliveries to assure components are available at site when required for installation.
- B. Storage and Handling Requirements:
1. Store materials protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.
- C. Packaging Waste Management:
1. Separate waste materials for recycling in accordance with Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT.
 2. Remove packaging materials from site and dispose of at appropriate recycling facilities.
 3. Collect and separate for disposal paper, plastic, polystyrene, & corrugated cardboard packaging material in appropriate onsite bins for recycling.
 4. Fold metal and plastic banding, flatten and place in designated area for recycling.
 5. Remove:
 - a. Pallets from site and return to supplier or manufacturer.

1.09 JOB CONDITIONS

- A. Existing Conditions
1. Assure that walls scheduled to receive attachment of system components are adequately reinforced to accept installation of this work.
 2. Assure that wall, floor, and ceiling work is finished.
 3. Report all deficiencies to Contractor for necessary correction.
- B. Protection
1. Assure that adjoining work is not damaged by installation of this work.
 2. Provide temporary protection as required, and repair all damage to such work.
- C. Sequencing
1. Sequence this work to allow work by electrical and plumbing contractors to be performed without interference.
 2. Coordinate this work with other operations in same area to avoid conflicts.
- D. Field Measurements

1. Verify actual dimensions of construction contiguous with Headwall by field measurements before fabrication.
2. Field measurements to be provided by general contractor.

1.09 SEQUENCING

- A. Coordinate work in this Section with work of other trades for proper time and sequence in order to avoid delays.
- B. Coordinate this work with other operations taking place in the same area to avoid conflicts.

PART 2 PRODUCTS

2.01 PATIENT BED SERVICE WALLS

- A. Products
 1. The design is based on the following product: Array™ Patient Care Headwalls by Hospital Systems Inc. (HSI), 750 Garcia Avenue, Pittsburg, California 94565 USA; Telephone (925) 427-7800; Fax (925) 427-0800; Email info@hospitalssystem.com; Website www.hospitalssystem.com
 2. Single Source Responsibility: Components and materials specified in this section provided by a single manufacturer.
 3. Other manufacturers desiring approval shall demonstrate compliance of essential characteristics with requirements of this section, and contract documents and drawings.
 4. Requests for substitutions must comply with provisions of Paragraph 1.07 A.
- B. Design Criteria
 1. High-quality functional Patient Care Headwall with the inherent attributes of durability, aesthetic value, and safety while providing maximum functionality.
 2. Effective means to deliver necessary medical gases and other utilities to the patient.
 3. Space efficient solution making maximum use of vertical space and maximizing floor space with in-wall mounting.
 4. Highly organized and versatile method of storing materials unique to medical requirements.
 5. Facilitate ease of Headwall installation and cleaning.
- C. Regulatory Requirements
 1. Meets or exceeds NFPA 99, 56A, 76B requirements.
 2. **Complies with NFPA 70 (NEC) requirements.**
 3. **UL listed and labeled.**

2.02 GENERAL SUMMARY

A. Section includes factory built products that are pre-installed within pre-fabricated building partitions that are delivered to the site as a pre-fabricated steel stud interior partition service wall. These partitions include pre-piping and pre-wiring all services to above the ceiling line or as indicated. Unit is provided in multiple vertical sections that are installed together to form a consolidated horizontal system that becomes an integral part of the partition. The vertical sections include a precision alignment mechanism that allows the units to easily interlock and ensures proper position of the carrier extrusion receiving the continuous horizontal channel. These units can incorporate continuous horizontal or vertical accessory channels that run the length and/or height of the unit. The accessory channels are to be constructed of extra-heavy gauge 6063-T5 alloy extruded aluminum. The accessory channels are internal type and are flush with the front face of the device mounting panels.

2.03 MATERIALS

- A. Units will consist of 16 gauge metal studs with a device mounting panel installed after adjacent drywall. The unit is built in individual vertical modules per project drawings and hospital requirements. Horizontal nailers (headers) are provided for attachment of the wall finish surrounding the pre-fabricated unit.
- B. Each unit will include junction boxes located above the ceiling line and/or as indicated on the project drawings for normal, emergency, and low voltage services. Connections to building services are to be made within the junction boxes. The medical gas piping will be extended to above the ceiling line and/or as indicated on the project drawings.
- C. Mounting panels for the patient services will be 5/8" MDF core finished with a U.L. listed decorative high pressure laminate. Each mounting panel will contain a series of clearance openings for electrical and communication devices.

2.04 COMPONENTS

- A. Medical Gas Piping and Medical Gas / Vacuum Outlets
 - 1. Medical Gas Piping
 - a. Type L copper pipe, cleaned, capped, and properly identified.
 - b. Factory installed and manifolded for single-point connection to building services in accordance with facility requirements and shop drawings.

- c. Factory tested.
- 2. Medical Gas / Vacuum Outlets
 - a. Location and quantity will meet the configuration of services detailed on the shop drawings and in the submittal.
 - b. Provided per Section 22 62 00 and 22 63 00.
 - c. Factory installed and tested.
 - d. Medical gas outlet manufacturer's standard cover plates.
 - e. Fixed medical gas outlets are permanently installed in one location, however, solutions to allow for future relocation or addition of outlets without requiring recertification can be incorporated during the design phase.
- B. Electrical Wiring and Electrical Receptacles
 - 1. Electrical Wiring
 - a. Normal (Standard) and Emergency (Critical) Branch Power: #12 THHN stranded copper wire, 600 Volt, with heat resistant thermo-plastic insulation.
 - b. Ground: #10 THHN stranded copper wire.
 - c. Factory installed for single-point connection to building power in accordance with facility requirements and shop drawings. Termination points at integrated terminal compartments.
 - d. Factory tested.
 - 2. Electrical Receptacles
 - a. Location and quantity will meet the configuration of services detailed on the shop drawings and in the submittal.
 - b. Hospital Grade NEMA 5-15R or NEMA 5-20R.
 - c. Colors: White for use on normal (standard) circuits and red for use on emergency (critical) circuits, unless otherwise specified.
 - d. Factory installed and tested.
- C. Integrated Accessory Tracks
 - 1. Integrated horizontal and/or vertical accessory tracks flush with the front face of the device mounting panels.
 - 2. RapidMount accessory mount for use with Eclipse Utility Rail
 - 3. Configuration and quantity as shown on shop drawings.
- D. Provisions
 - 1. Can accommodate provisions for, but not limited to, Nurse Call Equipment, Monitoring Equipment, Data Jacks, Phone Jacks, Lighting, etc. Low Voltage Controller for lighting fixtures by others can be provided and factory installed when specified.

2. Required raceway/conduit to junction boxes and labeled pull cords factory installed.
 3. Blank cover plates provided for all provisions with the exception of Nurse Call equipment.
- E. Optional Electrical Components - Provided and Factory Installed As Shown On Shop Drawings
1. Switches
 - a. Industrial Grade, 120/277 Volt, 20 Amp
 - b. Toggle, Decora, 3-Way, Momentary, etc.
 - c. Colors: White for use on normal (standard) circuits and red for use on emergency (critical) circuits, unless otherwise specified.
 2. REACT Timer
 - a. Digital time of day and elapsed timer.
 - b. Allows activation of elapsed time indicator by manual depression of Start switch, or by patient ventricular alarm condition broadcast through bedside physiological monitor.
 - c. Manually operated Stop/Start, Reset, and Mode switches pre-wired within the REACT unit.
 - d. Installing contractor performs wiring and electrical actuation between the monitor and the REACT unit.
 3. Grounding Jacks
 - a. Solid brass receptacles enclosed in non-conductive housing.
 - b. Spring loaded with twist-to-lock action.
 - c. Meets requirements of NEC article 517 and NFPA 99.
 4. Secondary Circuit Breakers
 - a. Includes breaker box and door with concealed hinges for access to circuit breaker handles.

2.05 LIGHTING (OPTIONAL)

- A. Aurora™ Overbed Light Fixture
 1. 2-Way Multi-Directional Fluorescent: Indirect (up), Direct (down), and High-Intensity Exam.
 2. Safety shut-off feature to prevent damage from rising electric beds.
- B. Horizon™ 8 Overbed Light Fixture
 1. 2-Way Fluorescent: Indirect (up) and Direct (down).
- C. Qualux 50GX™ Exam/Reading Light
 1. Dual-Intensity Halogen: Exam (spot) and Reading (flood).
 2. 38-Inch knuckle-joint arm.
- D. Qualux 50SX™ Exam/Reading Light

1. Dual-Intensity Halogen: Exam (spot) and Reading (flood).
 2. 31.5-Inch gooseneck arm.
- E. Series MLC Exam/Reading Light
1. Fluorescent/Incandescent.
 2. 45-Inch adjustable arm.
- F. Series ARL Exam/Reading Light
1. Incandescent.
 2. 45-Inch or 50-Inch adjustable arm.

2.06 ACCESSORIES

- A. Large selection of optional accessories to be available including Vacuum Bottle Slides, Monitor Mounting Channels and Arms, Bed Bumpers and Docking Stations, Diagnostic Equipment, Sharps, Glove Holders, I.V. Poles, Vacuum Bottles and Slides, etc.
- B. Accessories to be manufactured by same manufacturer of Headwall to ensure compatibility.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions: Verify that conditions of substrates and service rough-ins previously installed under other sections or contracts are acceptable for product installation in accordance with manufacturer's instructions prior to patient bed service wall installation.
1. Inform COTR of unacceptable conditions immediately upon discovery.
 2. Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval from COTR.

3.02 PREPARATION

- A. Ensure structure or substrate is adequate to support patient bed service wall.
- B. Surface Preparation: Prepare surface in accordance with manufacturer's written recommendations.

3.03 INSTALLATION

- A. Patient care headwall manufacturer shall provide a Ceiling Mounting Plate with knockouts for building service connections.
1. Ceiling Mounting Plate shall be provided in advance of Headwall for pre-installation of electrical medical gas services when required.
 2. Ceiling Mounting Plate shall be furnished with instructions.
 3. Headwall shall be attached to Ceiling Mounting Plate by the installer or contractor.

4. Hardware shall be furnished by the installer or contractor
- B. Coordinate patient bed service wall work with work of other trades for proper time and sequence to avoid construction delays.
- C. Install patient bed service walls plumb and level.
- D. Accurately fit, align, securely fasten and install free from distortion or defects.

3.04 FIELD QUALITY CONTROL

- A. Repair, if acceptable, or replace all damaged or improperly operating items.

3.05 ADJUSTING

- A. Adjust components and systems for correct function and operation in accordance with manufacturer's written instructions. Coordinate with Section 01 17 00 - EXECUTION REQUIREMENTS.

3.06 CLEANING

- A. Perform cleanup in accordance with Section 01 74 190 - CONSTRUCTION WASTE MANAGEMENT and Section 01 77 00 - CLOSEOUT PROCEDURES.
 1. Clean all surfaces to remove all marks, soil, and foreign matter immediately after installation.
 2. Just prior to substantial completion, recheck all components and perform all required additional cleaning.
- B. Upon completion, remove surplus materials, rubbish, tools and equipment in accordance with Section 01 77 00 - CLOSEOUT PROCEDURES.
- C. Waste Management:
 1. Coordinate recycling of waste materials with Section 01 74 19 - CONSTRUCTION WASTE MANAGEMENT.
 2. Collect recyclable waste and dispose of or recycle field generated construction waste created during demolition, construction or final cleaning.
 3. Remove recycling containers and bins from site.

3.07 PROTECTION

- A. Protect installed product from damage during construction in accordance with Section 01 17 00 - EXECUTION REQUIREMENTS.
- B. Repair damage to adjacent materials caused by patient bed service wall installation.

3.08 MAINTENANCE

- A. Coordinate maintenance requirements with Section 01 77 00 - Closeout Procedures and Section 01 17 00 - EXECUTION REQUIREMENTS.

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