NJRA Architects, Inc.
5272 S. College Drive, Suite 104 | Murray, Utah 84123 | 801.364.9259 | www.njraarchitects.com

ADDENDUM

Date Issued:	Nov 24, 2020
Project:	Intermountain Healthcare Intermountain Logan Regional Hospital - ASC 1350 North 500 East Logan, UT 84341
Addendum Number:	2

The Contractors submitting proposals on the above-captioned project shall be governed by the following addendum, changes and explanations to the drawings and specifications and shall submit their bids in accordance therewith.

Item Number	General Items Description
1	Questions by contractors and their response: **Question #1:** Can you verify that we are to provide 2 24 strand SM fibers & 50 Pair Cat5 from Room 114 to the Communications Room TDR A459? If so, can you provide a plan showing where the Room 114 is located? **Response:** The room tag is intended to be A459 in the detail; no additional fiber or copper cabling will be provided as part of this project. **Question # 2:** Is the Nurse Call System going direct to Owner? Should we cover the cabling for this system? **Response:** Hill-Rom will be contracted directly with Intermountain for nurse call systems. The contractor is responsible for rough-in and cabling between the TDR/head end location to the RCB2 controller at each space. Refer to general scope note added to sheet EYA101. **Question #3:** In room A401, it shows a floor box in an existing floor. Do they really want us to chip the existing cement to place conduits and the box or use a poke thru unit. Also, do the floors need to be x-rayed or is the cement free of conduits, pipes etc. **Response:** A poke through device capable of accommodating all designated services is acceptable. The contractor is responsible for verifying existing in slab conditions in the field.

Sheet Number	Drawings
Architectural Drawings	
A143A	a. Enclosed Prep/Recovery Room 8 by adding a 3-panel ICU type aluminum and glass sliding door. b. Added wall mounted sink at south wall.
A144A	a. Upgraded wall between bay 7 and bay 8 to be a smoke rated wall. b. Upgraded wall above sliding glass door to be a smoke rated six-inch stud wall.

Sheet Number	Drawings
	c. Upgraded wall between Exam/Consult Room A402 and Reception A403 to a STC 50 rated wall.
A145A	a. Updated ceiling per floor plan changes b. Updated height of header from 8'-10" to 7'-6". Coordinate exact rough opening dimensions for width and height with door manufacturer.
A504A	a. Added details 8 and 9 for jamb and head conditions at aluminum and glass sliding door at Prep/Recover room 8. b. Deleted detail #8 for TS post at roll up grill as this detail is not used. See structural detail.
A601A	Added sliding door A443 to door schedule
A603A	Deleted general notes 'J' and 'K' as they reference Sheet A603B that is not part of the contract documents.
Mechanical Drawings	
	See attached mechanical addendum.
Electrical Drawings	
	See attached electrical addendum.

Specification Section	Project Manual
Architectural Sections	
08 42 00	Added spec section for Intensive Care Unit/Critical Care Unit (ICUCCU) Entrances

Attachments:

Architectural Drawings: A143A, A144A, A145A, A540A, A601A, and A603A
Specification Section: 08 42 00

SECTION 08 42 00 – INTENSIVE CARE UNIT/CRITICAL CARE UNIT (ICU/CCU) ENTRANCES

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes the following types of intensive care unit/critical care unit (ICU/CCU) entrance doors:

1. Manually operated, smoke rated telescopic sliding ICU/CCU entrances.

B. Related Sections:

1. Division 7 Sections for caulking to the extent not specified in this section.
2. Division 8 Section "Glazing" for materials and installation requirements of glazing for ICU/CCU entrance doors.

1.2 REFERENCES

A. References: Refer to the version year adopted by the Authority Having Jurisdiction.

1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
2. ICC/IBC - International Building Code.
3. NFPA 101 - Life Safety Code.
4. NFPA 105 - Installation of Smoke Door Assemblies.

B. American National Standards Institute (ANSI) / Builders Hardware Manufacturers Association (BHMA).

1. ANSI Z97.1 Standards for Safety Glazing Material Used in Buildings.

C. Underwriters Laboratories (UL).

1. UL 1784 – Air Leakage Test of Door Assemblies.

D. American Society for Testing and Materials (ASTM).

1. ASTM B221 Standard Specification for Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire, Profiles and Tubes.
2. ASTM B209 Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate.

E. American Architectural Manufacturers Association (AAMA).

1. AAMA 611 Voluntary Specification for Anodized Architectural Aluminum.

F. National Association of Architectural Metal Manufacturers (NAAMM).

1. Metal Finishes Manual for Architectural Metal Products.

G. International Code Council (ICC).

1. IBC: International Building Code Building Code.

1.3 PERFORMANCE REQUIREMENTS

A. Smoke rated ICU/CCU doors are to be certified by Underwriters Laboratories Inc. to UL 1784 – Air Leakage Test of Door Assemblies.

1.4 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, fabrication, operational descriptions and finishes.

B. Shop Drawings: Submit manufacturer's shop drawings, including elevations, sections and details, indicating dimensions, materials, and fabrication of doors, frames, sidelites, anchors, hardware, finish, options and accessories.

C. Samples: Submit manufacturer's samples of aluminum finish.

D. Informational Submittals: Manufacturer's product information and applicable sustainability program credits that are available to contribute towards a LEED rated project certification.

1. Credit MR 4.1 and 4.2: Manufacturer's or fabricator's certificate indicating percentage of post-consumer recycled content by weight and pre-consumer recycled content by weight for each Product specified under this Section.

E. Test Reports: Submit certified test reports from UL, indicating doors are certified to UL 1784 – Air Leakage Test of Door Assemblies.

F. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door opening installation in quantity as required in Division 01, Closeout Submittals. The manual to include the name, address, and contact information of the manufacturers providing the entrance and their nearest service representatives. The final copies delivered after completion of the installation test to include spare parts list.

G. Warranties and Maintenance: Special warranties and maintenance agreements specified in this Section.

1.5 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 10 years of documented experience in manufacturing of doors and equipment of similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Installer Qualifications: Installers, trained by the primary product manufacturers, with a minimum 5 years documented experience installing and maintenance of units similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

C. Source Limitations for ICU/CCU Entrances: Obtain each type of door, frame, operator and sensor components specified in this Section from a single source, same manufacturer unless otherwise indicated.

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of openings to receive ICU/CCU entrances by field measurements before fabrication and indicate on shop drawings.

1.7 COORDINATION

A. Coordinate sizes and locations of recesses in concrete floors for recessed tracks and thresholds if applicable. Concrete work is specified in Division 03.

1.8 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. ICU/CCU entrances shall be free of defects in material and workmanship for a period of one (1) year from the date of substantial completion.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Manufacturer: ASSA ABLOY Entrance Systems, 1900 Airport Road, Monroe, NC 28110. Toll Free (877) SPEC-123. Fax (704) 290- 5555 Website www.assaabloyentrance.us contact: specdesk.na.entrance@assaabloy.com

2.2 INTENSIVE CARE UNIT/CRITICAL CARE UNIT (ICU/CCU) ENTRANCES

A. ICU/CCU entrances including the following:

1. Sliding panels, sidelites and aluminum frame.
2. Entrance header, guide system and carrier assemblies.

B. Besam ASSA ABLOY VersaMax® 2.0 ICU/CCU Smoke Rated Telescopic Sliding Door Package (Basis of Design):

1. Telescopic single slide, full breakout, ICU/CCU door system.
   a. Operation: Manually operated.
   b. Smoke Rated: Certified to UL 1784.
   c. Configuration: Single slide, three equal panel unit with two operable leaves and one sidelite.
   d. Breakaway Capability: Sliding leaves and sidelite.
   e. Mounting: Overhead header installed between jambs.

2.3 ENTRANCE COMPONENTS

A. Stile and Rail Sliding Panels and Sidelites:

1. Material: Extruded Aluminum, Alloy 6063-T5 or 6063-T6.
2. Door panels shall have a minimum .125 inch (3.2 mm) structural wall thickness including adjoining perimeter frames where applicable.
   a. Aluminum extrusions shall allow for a factory installed, slide-in type gasket.
3. Door construction shall be by means of an integrated corner clip with 3/8 inch diameter all-thread through bolt from each stile.
   a. Face of door stiles shall be flush with adjacent rails and muntin.
4. Glass stops shall be .062 inch (15.8 mm) wall thickness and shall provide security function as a standard by means of a fixed non-removable exterior section with glazing to be performed from the interior only.
5. Vertical Stiles shall be narrow stile 2-1/8 inch (54 mm).
6. Bottom Rails shall be 4 inch (102 mm)
7. Smoke Gasketing: Slide-in type, replaceable, smoke type gasket that is capable of withstanding 400° F for a minimum of 30 minutes.

a. Bottom rails shall be provided with a concealed adjustable sweep gasket that is capable of withstanding exposure to 400° F for a minimum of 30 minutes.

8. Glass: Glazing shall comply with ANSI Z97.1, thickness as indicated.
   a. Glazing Sliding Panels and Sidelite Panels: 1/4" (6 mm) tempered glass, unless otherwise specified.
      1) Glazing Installation: Dry glazing; wet glazing not allowed.
         a) See Division 8 Section "Glazing" for requirements and the manufacturer instructions.

B. Door Carriers: Manufacturer's standard carrier assembly that allows vertical adjustment.

1. Sliding Panel Door Carriers:
   a. Roller Wheels: Two heavy duty Delrin roller wheels per wheel assembly, for a total of four (4) roller wheels, 1-7/16 inch (36.51 mm) diameter, per active door leaf for operation over a replaceable aluminum track. Single journal with sealed oil impregnated bearings.
   b. Two (2) heavy duty self-aligning anti-risers per leaf.

C. Timing Transmission: Manufacturer's standard assembly that provides for a smooth operation.

1. Timing transmission shall sequence the opening of the first and second leaves to provide a simultaneous opening of both leaves with a smooth operation; eliminating the "grabbing" that typically occurs with telescopic doors.

D. Framing Members: Provide ICU/CCU entrances as complete assemblies. Manufacturer's standard extruded aluminum framing reinforced as required to support loads.

1. Vertical Jambs: 1-3/4 inches (44.5 mm) by 6 inches (152.4 mm).

E. Header: Extruded aluminum header with a replaceable aluminum track, mounted between the jambs and extending full width of entrance. Header to conceal door operators, carrier assemblies, and roller track; complete with hinged access panel for service and adjustment.

1. Header Capacity: Capable of supporting active breakout leafs up to maximum of 220 lb (100 kg) per leaf.
2. Header Size: 6 inches (152.4 mm) wide by 4-1/2 inches (114.3 mm) high.
3. Smoke Gasketing: Slide-in type, replaceable, smoke type gasket that is capable of withstanding 400° F for a minimum of 30 minutes.
4. Header Access: Continuous hinge at top of header allows cover to swing and allow complete access to operator and internal electronic and mechanical assemblies.

F. Smoke rated ICU/CCU doors are to be certified to UL 1784 – Air Leakage Test of Door Assemblies.

2.4 HARDWARE

A. Provide manufacturer's standard hardware as required for operation indicated.

1. Breakaway arms and bottom pivot assembly shall allow panels to breakout to 90 degrees. Force to breakout sliding panel adjustable to maximum 50 lbf (222 N).
2. Nurse Assist magnetic catch(s) to retain breakout door and sidelite panels in the closed position.
3. Gas regulated damper to control movement of breakout panels.

4. Latching hardware shall be provided as indicated.
   a. Positive Latch: Mortise type self-latching hookbolt, BHMA A156.5, Grade 1, with lever handles on each side.
      1) Lever Style: End of lever to have a return towards door face.
   b. Automatic releasing/latching, concealed magnetic bolt shall allow breakout of sidelite panel(s) when sliding panel in full open position.
5. Guide Track/Threshold: Manufacturer's threshold as indicated.
   a. Full Breakout Trackless Design: Floor mounted guide track and threshold not allowed.
      1) Breakout from a full open position only.

2.5 ALUMINUM FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Anodized Finish:

1. AAMA 611, Clear, AA- M12C22A41, Class I, 0.018 mm.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, wall and floor construction, and other conditions affecting performance.

B. Proceed only after such discrepancies or conflicts have been resolved.

3.2 INSTALLATION

A. Do not install damaged components. Fit frame joints to produce hairline joints free of burrs and distortion. Rigidly secure non-movement joints.

B. Install intensive care unit/critical care unit (ICU/CCU) entrances plumb and true in alignment with established lines and grades without warp or rack of framing members and doors. Anchor securely in place.

1. Install surface mounted hardware using concealed fasteners to greatest extent possible.
2. Set headers, carrier assemblies, tracks, operating brackets and guides level and true to location with anchorage for permanent support.
3. Where aluminum will contact dissimilar metals, concrete, or masonry, protect against galvanic action and corrosion.
4. Where smoke rated intensive care unit/critical care unit (ICU/CCU) entrances are installed in smoke barriers or partitions, set framing members and header in a bed of sealant to comply with NFPA 105.

C. Sealants: Comply with requirements specified in division 7 Section "Joint Sealants" to provide a weather tight installation.

1. Set thresholds, bottom guide and track systems and framing members in full bed of sealant.
2. Seal perimeter of framing members with sealant.

3.3 ADJUSTING

A. Adjust alignment of entrances and hardware for smooth, safe operation with minimum air infiltration.

B. Verify installation and alignment of all entrance gasketing as required for minimum air infiltration and compliance with specified standards.

3.4 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door installation.

B. Clean glass and metal surfaces promptly after installation. Remove excess sealants, compounds, dirt and other substances. Repair damages to match original finish.

3.5 DEMONSTRATION

A. Engage a factory-authorized representative to train Owner's maintenance personnel to adjust, operate, and maintain safe operation of the door.

END OF SECTION

KEYED NOTES

01.08 SEE PACU BAY #4 FOR TYPICAL NOTES. CONTRACTOR TO MOCK UP ONE BAY ON SITE FOR REVIEW BEFORE MOVING FORWARD WITH ALL BAYS.

01.09 SEE PREP/REC. BAY #5 FOR TYPICAL NOTES. CONTRACTOR TO MOCK UP ONE BAY ON SITE FOR REVIEW BEFORE MOVING FORWARD WITH ALL BAYS.

01.10 SEE PREP/RECOVERY BAY #2 FOR TYPICAL NOTES.

01.11 SEE BID ALTERNATES ON SHEET G002 FOR THE MODULAR CEILING AND THE STAINLESS STEEL WALL PANEL SYSTEM. ALSO SEE M/E/P DRAWINGS. CONTRACTOR TO MOCK UP ONE 'OR' ON SITE BEFORE MOVING FORWARD WITH THE REST OF THE OR's

05.07 FORMED ALUMINUM SILL EXTENDER. SEE DETAIL 6/A506A.

05.08 4"X4"X1/4" TUBE STEEL POST. ANCHOR TO STRUCTURE ABOVE. SEE 8/A504A.

06.03 PLASTIC LAMINATE LOCKERS. 15"W X 18"D X 72"H (3-TIER). PROVIDE P-LAM CLOSER PANEL TO CEILING ABOVE AND 6" HIGH BASE. COORDINATE WITH OWNER FOR NUMBERING. 5% OF THE LOCKERS TO BE ADA ACCESSIBLE.

06.06 SOLID SURFACE COUNTER WITH FULL BULLNOSE EDGE AND INTEGRAL BACKSPLASH. SEE DETAIL 6/A505B. PROVIDE INTEGRAL SIDE SPLASH WHERE COUNTER ABUTS PERPENDICULAR WALL/CABINET.

06.07 STAINLESS STEEL SINK. SEE PLUMBING DRAWINGS.

06.08 SOLID SURFACE INTEGRAL SINK. BASIS OF DESIGN: SAMSUNG, STARON A318) SINK, COLOR 'BRIGHT WHITE' BW010. ALSO SEE PLUMBING DWGS.

06.11 42" W X 20" D SOLID HARDWOOD ADA BENCH WITH FULL BULLNOSE EDGE. TOP OF BENCH TO BE AT 18" AFF. PROVIDE IN-WALL BRACKETS TO SUPPORT BENCH. SEE DETAIL 5/A505C. STAIN WOOD TO MATCH P-LAM.

06.13 8" D WALL TO WALL SOLID SURFACE SHELF WITH FULL BULLNOSE EDGE - NO BACKSPLASH. PROVIDE TWO IN-WALL STEEL BRACKETS. SEE DETAIL 6/A505C.

06.14 18" D WALL TO WALL SOLID SURFACE SHELF WITH FULL BULLNOSE EDGE - NO BACKSPLASH. PROVIDE THREE IN-WALL STEEL BRACKETS. SEE DETAIL 6/A505C.

06.16 SOLID SURFACE TRANSACTION COUNTER WITH FULL BULLNOSE EDGE. SEE FINISH SCHEDULE. SEE DETAIL 7/A506A.

06.17 2'-0" WIDE X 6'-0" HIGH MIRROR WITH 1.5" WIDE X 1" THICK SOLID WOOD TRIM ALL AROUND, STAIN WOOD TO MATCH P-LAM.

08.01 NEW DOOR AND DOOR FRAME. SEE DOOR SCHEDULE.

08.03 ALUMINUM-FRAMED STOREFRONT SYSTEM. BASIS OF DESIGN: KAWNEER TRIFAB VERSA GLAZE 451. GLAZING TO BE 1/4" THICK, CLEAR TEMPERED, CENTER GLAZED, WITH 2" SIGHTLINES AND 4-1/2" FRAME DEPTH. FINISH: ARCHITECTURAL CLASS 1 - CLEAR ANODIZED.

08.07 OVERHEAD AUTOMATED ROLL DOWN SECURITY GRILL. BASIS OF DESIGN CORNELL ROLLING GRILLS, VISION AIRE, MODEL ESG10. SEE ELECTRICAL DRAWINGS FOR POWER REQUIREMENTS.

08.09 OVERHEAD CONCEALED FULL BREAKOUT TRACKLESS UL 1784 SMOKE RATED NARROW STILE TELESCOPIC EQUAL PANEL SLIDING DOOR SYSTEM. BASIS OF DESIGN : BESAM, ASSA ABLOY VERSAMAX ICU DOOR.

09.13 PARTIAL HEIGHT WALL WITH SOLID SURFACE TRANSACTION TOP. SEE WALL TYPES AND FINISH SCHEDULE.

09.15 PARTIAL HEIGHT WALL WITH GLAZING ABOVE. SEE DETAIL 14/A506A.

09.18 ADD PRIVACY/ SUN CONTROL FILM ON EXISTING GLAZING FROM ROOM SIDE. BASIS OF DESIGN 3M FASARA FILM. COLOR: SH2MAOW OPAQUE WHITE. TYPICAL AT ALL EXTERIOR WINDOWS WITH FURRING WALL IN FRONT.

10.01 GRAB BAR. PROVIDE GRAB BARS REQUIRED FOR WATER CLOSET, SHOWER, ETC., SEE RELEVANT DETAILS 1/G003 AND 1/G004 FOR MOUNTING HEIGHT, LOCATION, ETC. PROVIDE TYPE 2' BACKING PER DETAIL 5/A502A.

10.02 TOILET PAPER DISPENSER, OFCI. SEE SHEET G003 FOR MOUNTING HEIGHT.

10.03 PAPER TOWEL DISPENSER, OFCI. . SEE SHEET G003 FOR MOUNTING HEIGHT.

10.04 SOAP DISPENSER, OFCI. . SEE SHEET G003 FOR MOUNTING HEIGHT.

10.05 TOILET SEAT COVER DISPENSER. SEE SPECIFICATIONS. SEE SHEET G003 FOR MOUNTING HEIGHT.

10.06 SANITARY NAPKIN DISPOSAL. SEE SPECIFICATIONS.

10.08 FOLD DOWN SHOWER SEAT. SEE RELEVANT DETAILS 1/G003 AND 1/G004 FOR MOUNTING HEIGHT, LOCATION, ETC. ALSO SEE DETAIL 5/A506A .

10.09 SHOWER CURTAIN WITH CEILING MOUNTED TRACK. SEE DETAIL 13/A503A.

10.10 SHARPS DISPOSAL, OFCI. SEE SHEET G003 FOR MOUNTING HEIGHT.

10.11 GLOVES DISPENSER, OFCI. SEE SHEET G003 FOR MOUNTING HEIGHT.

10.12 COAT HOOK. BASIS OF DESIGN BOBRICK B-7672 DOUBLE ROBE HOOK.

10.17 METAL LOCKERS, 15"W X 18"D X 72"H (TWO TIER), PROVIDE SLOPED TOP AND 6 INCH HIGH BASE. 5% OF THE LOCKERS TO BE ADA ACCESSIBLE.

10.18 FULLY RECESSED FIRE EXTINGUISHER CABINET WITH EXTINGUISHER. SEE 9/A502A.

11.01 REFRIGERATOR, OFCI. SEE ELECTRICAL DRAWINGS.

11.02 MICROWAVE, OFCI. SEE ELECTRICAL DRAWINGS, FOR MICROWAVE IN WALL CABINET PROVIDE OUTLET IN THE CABINET ABOVE WITH A GROMMET OPENING AT THE BASE OF THIS CABINET.

11.05 ICE AND WATER DISPENSER. OWNER FURNISHED CONTRACTOR INSTALLED. SEE PLUMBING DRAWINGS, CAREFULLY CUT AROUND BACKSPLASH BEHIND TO ACCOMMODATE FOR WASHER BOX. BOTTOM OF WALL BOX TO BE ONE INCH ABOVE COUNTERTOP. ALSO SEE ELECTRICAL DRAWINGS FOR POWER.

11.07 COFFEE POT, OFCI. COFFEE POT TO BE PLUMBED. SEE PLUMBING DRAWINGS. ALSO SEE ELECTRICAL DRAWINGS.

11.10 PRINTER/COPIER. OFOI. SEE ELECTRICAL DRAWINGS FOR POWER AND DATA.

11.12 WALL MOUNTED MONITOR/TELEVISION OFCI. SEE ELECTRICAL DRAWINGS. PROVIDE 3'-0" W X 2'-0" H X 18 GA SHEET METAL BACKING. COORDINATE LOCATION OF OUTLETS WITH MONITOR MOUNTING BRACKET.

11.15 AUTOMATED MEDICATION DISPENSER/OMNICELL. OFCI. SEE ELECTRICAL DRAWINGS FOR POWER AND DATA. PROVIDE A CCTV CAMERA ABOVE OMNICELL. SEE CEILING PLAN AND ELECTRICAL DRAWINGS.

11.18 WASTE DISPOSAL. WALL MOUNTED. OFCI.

11.19 EXAM TABLE. OFOI. SEE ELECTRICAL DRAWINGS FOR POWER.

11.20 WALL MOUNTED DIAGNOSTIC BOARD . OFCI. COORDINATE WITH ELECTRICAL DRAWINGS FOR POWER REQUIREMENTS. PROVIDE TYPE -2' BACKING PER DETAIL 5/A502A.

11.21 PNEUMATIC TUBE STATION (PTS). PROVIDED AND INSTALLED BY GENERAL CONTRACTOR. CONTRACTOR TO USE SWISSLOG AS THE SUB-CONTRACTOR FOR PTS. (INTERMOUNTAIN HEALTHCARE STANDARD). CONTRACTOR TO FRAME AND FINISH AROUND PTS. ALSO SEE ELECTRICAL DRAWINGS FOR POWER AND DATA REQUIREMENTS. COORDINATE SIZE AND LOCATION OF REQUIRED CORE DRILLS WITH SWISSLOG AND DEPARTMENT/AREA BELOW.

11.22 HIGH DENSITY MOVABLE WIRE SHELVING. OFCI.

11.24 RAIL SYSTEM FOR DETERGENT STORAGE CONTAINERS. FURNISHED BY STERIS, INSTALLED BY CONTRACTOR. PROVIDE 'TYPE 1' BACKING PER DETAIL 5/A502A. COORDINATE EXACT LOCATION WITH STERIS.

11.25 AUTOMATED PASS THROUGH WINDOW. FURNISHED BY STERIS, INSTALLED BY CONTRACTOR. COORDINATE WITH STERIS ON ROUGH OPENING DIMENSIONS. ALSO SEE ELECTRICAL DRAWINGS.

11.26 HEIGHT ADJUSTABLE INSTRUMENT ASSEMBLY TABLES. FURNISHED BY STERIS, INSTALLED BY CONTRACTOR. SEE ELECTRICAL DRAWINGS.

11.27 THREE COMPARTMENT SINK. FURNISHED BY STERIS, INSTALLED BY CONTRACTOR. SEE PLUMBING DRAWINGS.

11.28 ULTRASONIC CLEANER. FURNISHED BY STERIS, INSTALLED BY CONTRACTOR. SEE PLUMBING DRAWINGS.

11.30 PASS THROUGH WASHER. FURNISHED BY STERIS, INSTALLED BY CONTRACTOR. SEE PLUMBING DRAWINGS. PROVIDE A 87" W X 94" H FINISHED OPENING. COORDINATE WITH STERIS.

11.31 SCRUB SINK. OFCI. SINK AND IN-WALL CARRIER PROVIDED BY OWNER, INSTALLED BY CONTRACTOR. ALSO SEE M/E/P DRAWINGS.

11.32 WALL MTD. PEG BOARD. OFCI. PROVIDE TYPE 2' BACKING PER 5/A502A.

11.33 NEPTUNE 2 DOCKING STATION. OFCI. PROVIDE TYPE 1' BACKING PER DETAIL 5/A502A. ALSO SEE M/E/P DRAWINGS.

11.34 NURSE CHARTING STATION. SEE DETAIL 13/A502A. ALSO SEE ELECTRICAL DRAWINGS FOR POWER AND DATA.

11.35 PHYSIOLOGICAL MONITOR. SEE DETAIL 13/A502A. ALSO SEE ELECTRICAL DRAWINGS FOR POWER AND DATA.

11.36 EMESIS BAG DISPENSER. OFCI.

11.37 WIPES DISPENSER. OFCI.

11.38 ANESTHESIA WORKSTATION. SEE DETAIL 13/A502A. ALSO SEE ELECTRICAL DRAWINGS FOR POWER AND DATA.

11.39 STRETCHER/BED. OFOI.

11.40 WALL MOUNTED THERMOMETER. OFCI.

11.41 EYEWEAR DISPENSER. OFCI.

11.42 CEILING MOUNTED TELEVISION AND BRACKET. OFCI. ANCHOR TO STRUCTURE/DECK ABOVE. ALSO SEE ELEC. DWGS. FOR POWER AND DATA.

11.52 AMSCO V-PRO MAX2 HYDROGEN PEROXIDE STERILIZER. FURNISHED BY STERIS, INSTALLED BY CONTRACTOR. SEE M/E/P DRAWINGS.

11.53 AMSCO400 SERIES STEAM STERILIZER. FURNISHED BY STERIS, INSTALLED BY CONTRACTOR. SEE M/E/P DRAWINGS.

11.54 AMSCO400 SERIES SMALL STEAM STERILIZER. FURNISHED BY STERIS, INSTALLED BY CONTRACTOR. SEE M/E/P DRAWINGS.

11.56 FULLY RECESSED DEFIBRILLATOR AND CABINET. OFCI.

12.01 FURNITURE, TO BE PROVIDED AND INSTALLED BY OWNERS VENDOR (MIDWEST - MWCI), COORDINATE WITH MIDWEST FOR LOCATION OF ELECTRICAL AND DATA OUTLETS SUCH THAT THEY ARE NOT BEHIND PEDESTALS.

12.03 CEILING MOUNTED PRIVACY CURTAIN AND TRACK. SEE FINISH SCHEDULE AND PROJECT MANUAL. SEE DETAIL 12/A503A.

12.04 HEIGHT ADJUSTABLE SIT/STAND DESK. PROVIDED AND INSTALLED BY OWNERS VENDOR MIDWEST COMMERCIAL INTERIORS (MWCI). SEE ELECTRICAL DRAWINGS FOR POWER.

22.01 FLOOR MOUNTED WATER CLOSET. SEE DETAILS 1/G003 AND 1/G004 FOR MOUNTING HEIGHT, LOCATION, ETC. SEE PLUMBING DRAWINGS.

22.02 WALL MOUNTED LAVATORY (SINK). SEE DETAILS 1/G003 AND 1/G004 FOR MOUNTING HEIGHT, LOCATION, ETC. SEE PLUMBING DRAWINGS.

22.03 FLOOR MOUNTED CLINICAL SINK. SEE PLUMBING DRAWINGS.

22.04 JANITOR'S FLOOR SINK. SEE PLUMBING DRAWINGS.

22.05 FLOOR SINK. SEE PLUMBING DRAWINGS. COORDINATE EXACT LOCATION WITH STERIS EQUIPMENT.

22.06 SHOWER HEAD. SEE RELEVANT DETAILS 1/G003 AND 1/G004 FOR MOUNTING HEIGHT, LOCATION, ETC. SEE PLUMBING DRAWINGS.

22.07 FLOOR DRAIN. SEE PLUMBING DRAWINGS. SLOPE FINISHED FLOOR TOWARDS DRAIN AT 1/8" PER FOOT.

22.09 WALL MOUNTED EMERGENCY EYE WASH. SEE PLUMBING DRAWINGS.

22.12 FULLY RECESSED MEDICAL GAS ISOLATION VALVE. SEE PLUMBING DWGS.

22.13 WALL MOUNTED MED GASES. SEE PLUMBING DRAWINGS.

23.02 LOW AIR RETURN. SEE MECHANICAL DRAWINGS.

23.10 RECESSED MED GAS ALARM PANEL. SEE M/E/P DRAWINGS.

26.06 PUSH PAD/WAVE SENSOR FOR AUTO DOOR ACTIVATION. SEE ELEC. DWGS.

26.16 CARD ACCESS. SEE ELECTRICAL DRAWINGS.

26.17 FULLY RECESSED ELECTRICAL ISOLATION PANELS. SEE ELECTRICAL DWGS.

1 Floor Plan - Level 4
SCALE: 1/4" = 1'-0"

HDR

NJRA ARCHITECTS

NJRA Architects, Inc.
5272 S. College Drive, Suite104
Murray, Utah 84123
801.364.9259
www.njraarchitects.com

INTERMOUNTAIN HEALTHCARE CAMPUS RECONFIGURATION - ASC

1350N 500 E
Logan, UT 84341

Intermountain Healthcare

Project Manager	TERRI SUDBROOK
Project Designer	ERIC MEUB
Project Architect	FRANK PENROSE
Landscape Architect	ARCSITIO
Civil Engineer	GREAT BASIN
Structural Engineer	REAVELEY
Mechanical Engineer	VAN BOERUM & FRANK
Electrical Engineer	SPECTRUM
Plumbing Engineer	VAN BOERUM & FRANK
Interior Designer	RUBY THORP
Equipment Planner	ROBERT GRIESCHE
Wayfinding	
Sheet Reviewer	Author

MARK	DATE	DESCRIPTION
1	11/13/20	Addendum # 01
2	11/24/20	Addendum #02

Project Number	10173823
Original Issue	11/6/20

R. Selvam
STATE OF UTAH
SELVAM RAJAVELU
267857-0301
LICENSED ARCHITECT

Sheet Name
Floor Plan Level 4

Sheet Number
A143A

Project Status
100% Construction Documents

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KEYED NOTES

09.19 PROVIDE 6", 18 GA STUD FRAMING AT 16" O.C. WITH 5/8" THICK GYPSUM BOARD AND R-19 BATT INSULATION UNDER SLAB FOR SOUND MITIGATION AT STERILE PROCESSING AND DECONTAMINATION ROOM.

GENERAL NOTES

1. UNLESS NOTED OTHERWISE ALL WALL TYPES TO BE TYPE "H3"

2. THE CONTRACTOR SHALL VERIFY DIMENSIONS OF AS-BUILT CONDITIONS, AND NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES. ALL INFORMATION SHOWN ON THE CONSTRUCTION DOCUMENTS IS BASED ON FIELD OBSERVATIONS AND/OR THE ORIGINAL CONSTRUCTION DOCUMENTS OF THE FACILITY. ALL DIMENSION IN THIS FLOOR PLAN ARE FROM FINISHED SURFACES UNLESS NOTED OTHERWISE.

1 Dimension Plan - Level 4
SCALE: 1/4" = 1'-0"

HDR

NJRA ARCHITECTS

NJRA Architects, Inc.
5272 S. College Drive, Suite104
Murray, Utah 84123
801.364.9259
www.njraarchitects.com

INTERMOUNTAIN HEALTHCARE CAMPUS RECONFIGURATION - ASC

1350N 500 E
Logan, UT 84341

Intermountain Healthcare

Project Manager	TERRI SUDBROOK
Project Designer	ERIC MEUB
Project Architect	FRANK PENROSE
Landscape Architect	ARCSITIO
Civil Engineer	GREAT BASIN
Structural Engineer	REAVELEY
Mechanical Engineer	VAN BOERUM & FRANK
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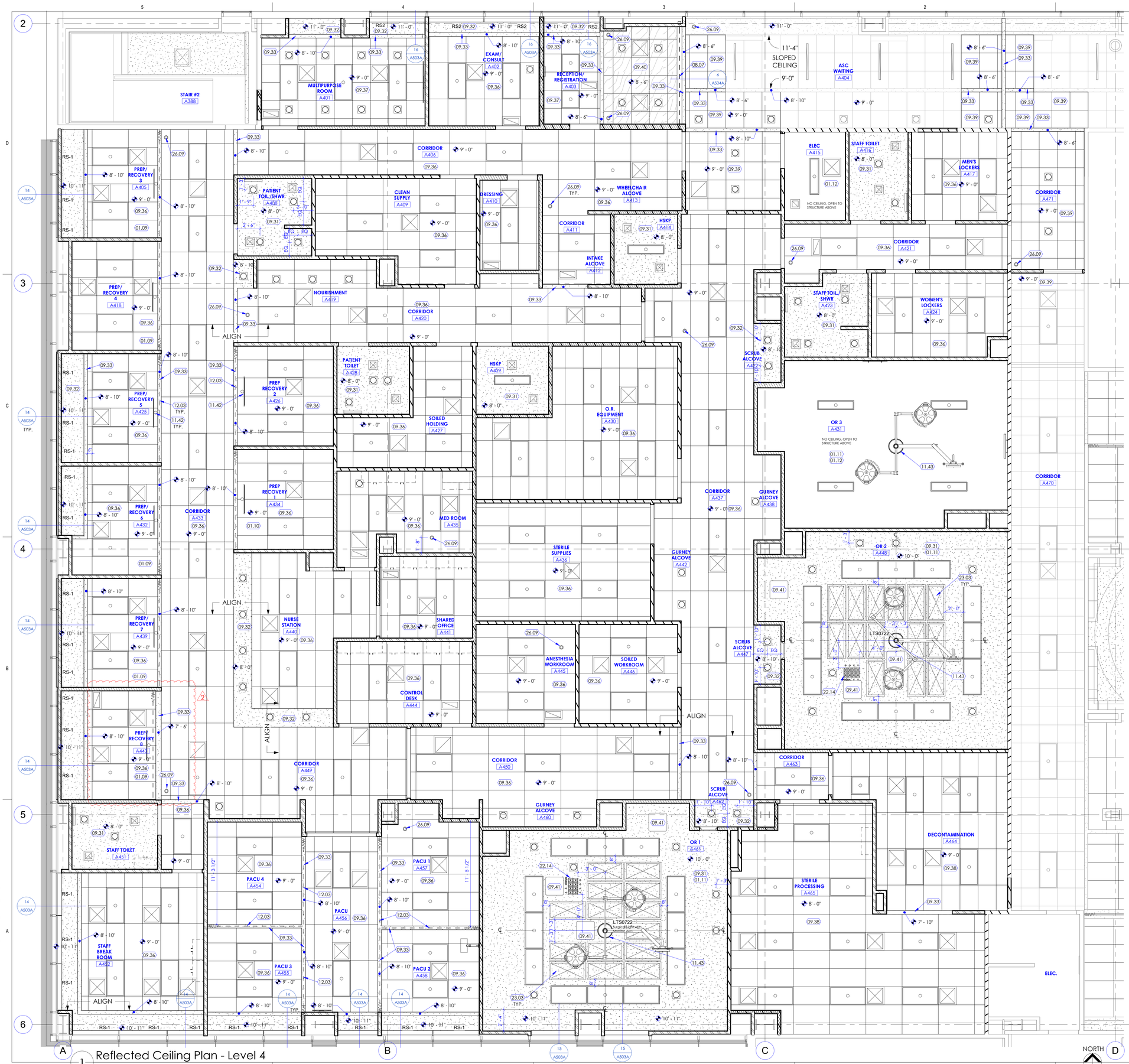

1 Reflected Ceiling Plan - Level 4
SCALE: 1/4" = 1'-0"

KEYED NOTES

01.09 SEE PREP/REC. BAY #5 FOR TYPICAL NOTES. CONTRACTOR TO MOCK UP ONE BAY ON SITE FOR REVIEW BEFORE MOVING FORWARD WITH ALL BAYS.
01.10 SEE PREP/RECOVERY BAY #2 FOR TYPICAL NOTES.
01.11 SEE BID ALTERNATES ON SHEET G002 FOR THE MODULAR CEILING AND THE STAINLESS STEEL WALL PANEL SYSTEM. ALSO SEE M/E/P DRAWINGS. CONTRACTOR TO MOCK UP ONE 'OR' ON SITE BEFORE MOVING FORWARD WITH THE REST OF THE OR'S.
01.12 SEE M/E/P DRAWINGS FOR LIGHTS AND DIFFUSERS IN THIS AREA.
08.07 OVERHEAD AUTOMATED ROLL DOWN SECURITY GRILL. BASIS OF DESIGN CORNELL ROLLING GRILLS, VISION AIRE, MODEL ESG10. SEE ELECTRICAL DRAWINGS FOR POWER REQUIREMENTS.
09.31 GYPSUM BOARD CEILING. SEE DETAIL 5/A503A. SEE M/E/P DRAWINGS FOR LIGHTS AND DIFFUSERS.
09.32 GYPSUM BOARD SOFFIT. SEE DETAIL 9/A503A. SEE M/E/P DRAWINGS FOR LIGHTS AND DIFFUSERS.
09.33 GYPSUM BOARD HEADER. SEE DETAIL 6/A503A.
09.36 ACOUSTIC CEILING TILES AND GRIDS. CEILING TILES TO BE ARMSTRONG ULTIMA HEALTH ZONE (ITEM # 1938) 24" X 48" X 3/4" EDGE DETAIL: SQUARE LAY-IN. GRIDS SHALL BE 15/16" PRELUDE XL EXPOSED TEE HEAVY DUTY. ANGLE MOLDING SHALL BE 7/8" WITH BERC 2 CLIPS. SEE CEILING DETAILS ON SHEET A503A. SEE M/E/P DRAWINGS FOR LIGHTS AND DIFFUSERS.
09.37 ACOUSTIC CEILING TILES AND GRIDS. CEILING TILES TO BE ARMSTRONG ULTIMA HEALTH ZONE (ITEM # 1935) 24" X 24" X 3/4" EDGE DETAIL: SQUARE LAY-IN. GRIDS SHALL BE 15/16" PRELUDE XL EXPOSED TEE HEAVY DUTY. ANGLE MOLDING SHALL BE 7/8" WITH BERC 2 CLIPS. SEE CEILING DETAILS ON SHEET A503A. SEE M/E/P DRAWINGS FOR LIGHTS AND DIFFUSERS.
09.38 ACOUSTIC CEILING TILES AND GRIDS. CEILING TILES TO BE ARMSTRONG CLEAN ROOM VL UNPERFORATED (ITEM # 870) 24" X 48" X 5/8" EDGE DETAIL: SQUARE LAY-IN. GRIDS SHALL BE 15/16" ALUMINUM, GASKETED. BASIS OF DESIGN HEAVY DUTY CLEAN ROOM CEILING GRID SYSTEM BY GORDAN. ANGLE MOLDING SHALL BE 7/8" WITH BERC 2 CLIPS. SEE CEILING DETAILS ON SHEET A503A. SEE M/E/P DRAWINGS FOR LIGHTS AND DIFFUSERS.
09.39 NEW 2X2 CEILING TILES AND GRIDS TO MATCH ADJACENT EXISTING.SEE M/E/P DRAWINGS FOR LIGHTS AND DIFFUSERS.
09.40 WOOD PANEL CEILING. BASIS OF DESIGN: ARMSTRONG WOODWORKS TEGULAR. 24" X 24" X 3/4" PANELS. (ITEM #5406W5 - PERFORATED). GRIDS SHALL BE 9/16" PRELUDE XL EXPOSED TEE HEAVY DUTY. COLOR - TECH BLACK. ANGLE MOLDING SHALL BE 7/8" WITH BERC 2 CLIPS. SEE CEILING DETAILS ON SHEET A503A.
09.41 24" X 24" GASKETED GFRG ACCESS PANELS. BASIS OF DESIGN: BAUCO PLUS II ARCHITECTURAL ACCESS PANEL WITH CONCEALED HARDWARE AND GYPSUM BOARD INLAY. MODEL NUMBER 20-58-2424. COORDINATE LOCATION OF ACCESS PANELS WITH STERIS AND M/E/P.
11.42 CEILING MOUNTED TELEVISION AND BRACKET, OFCI. ANCHOR TO STRUCTURE/DECK ABOVE. ALSO SEE ELEC. DWGS. FOR POWER AND DATA.
11.43 CEILING MOUNTED LIGHT AND MONITOR BOOM BY STERIS. SEE VENDOR DRAWINGS. ROUGH OPENING TO BE PER STERIS. SEE STRUCTURAL DRAWINGS FOR ABOVE CEILING STRUCTURAL SUPPORT SYSTEM. ALSO SEE ELECTRICAL DRAWINGS.
12.03 CEILING MOUNTED PRIVACY CURTAIN AND TRACK. SEE FINISH SCHEDULE AND PROJECT MANUAL. SEE DETAIL 12/A503A.
22.14 CEILING MOUNTED MED GASES. SEE PLUMBING DRAWINGS.
23.03 LAMINAR AIR DIFFUSER. SEE MECHANICAL DRAWINGS.
26.09 CEILING MOUNTED SECURITY CAMERA. SEE ELECTRICAL DRAWINGS.

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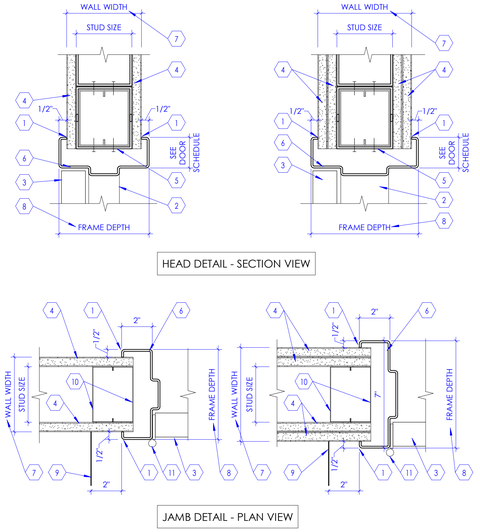
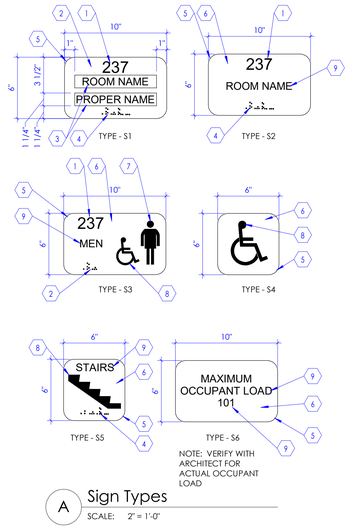


KEYED NOTES

1. CONTINUOUS SEALANT ON ALL SIDES INCLUDING TOP OF DOOR FRAME.
2. DOOR FRAME SEEN BEYOND.
3. DOOR. SEE DOOR SCHEDULE FOR DOOR TYPE.
4. GYPSUM BOARD, 5/8" THICK, TYPE 'X'. ATTACH TO METAL STUD FRAMING, SEE WALL TYPES.
5. STEEL RUNNER (18 GAUGE) FASTENED WITH SCREWS TO STRUT STUDS AT EACH END. SEE DETAIL **6 / A502A**
6. HOLLOW METAL DOOR FRAME. FRAME THICKNESS VARIES WITH WALL THICKNESS. SEE FLOOR PLAN AND WALL SECTIONS. PAINT FRAME.
7. SEE WALL TYPES FOR WALL WIDTH AND STUD SIZE.
8. FRAME DEPTH SHALL BE WALL WIDTH PLUS 1".
9. LINE OF WALL, AS OCCURS.
10. PROVIDE DOUBLE METAL STUDS AT FRAME JAMBS, WALL ENDS, ETC. PROVIDE STEEL STRAPS (6" HIGH 16 GAUGE STRAPS AT 2'-0" O.C.) SEE DETAIL **7 / A502A**
11. DOOR HINGE AS OCCURS. SEE DOOR AND HARDWARE SCHEDULE. SEE FLOOR PLAN FOR DOOR SWING.

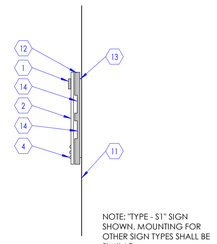
1 Door Frame in Stud Wall

SCALE: 3" = 1'-0"



A Sign Types

SCALE: 2" = 1'-0"



NOTE: "TYPE - S1" SIGN SHOWN. MOUNTING FOR OTHER SIGN TYPES SHALL BE SIMILAR.

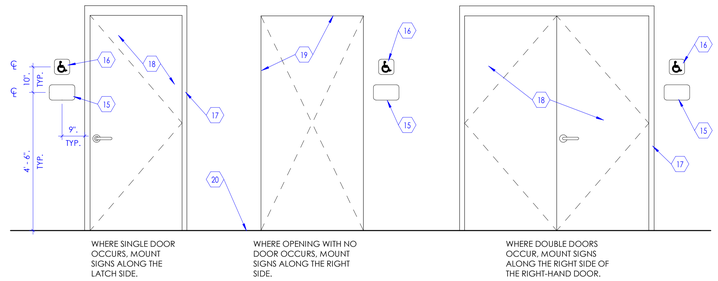
B Sign Mounting

SCALE: 3" = 1'-0"

KEYED NOTES

1. ROOM NUMBER (1/32" RAISED TEXT CHARACTERS, HELVETICA FONT, MATTE FINISHED OPAQUE ACRYLIC SHEET) ATTACHED TO FRONT PANEL.
2. MATTE FINISHED OPAQUE ACRYLIC FRONT PANEL (WITH TRANSPARENT WINDOW) ATTACHED TO BASE PANEL.
3. TRANSPARENT WINDOW FOR TEXT INSERT (HELVETICA FONT). TEXT INSERT SHALL BE FURNISHED AND INSTALLED BY SIGN CONTRACTOR.
4. BRAILLE CHARACTERS AS PER ADA (AMERICANS WITH DISABILITIES ACT) REQUIREMENTS DENOTING ROOM NUMBER AND NAME.
5. RADIUS CORNER, 1" TYPICAL.
6. MATTE FINISHED OPAQUE ACRYLIC FRONT PANEL ATTACHED TO BASE PANEL.
7. PROVIDE APPROPRIATE SYMBOL FOR MEN, WOMEN, UNISEX, BOYS AND GIRLS TOILET ROOM AS OCCURS.
8. PROVIDE APPROPRIATE SYMBOL FOR STAIR, DISABLED SIGN, ETC. AS INDICATED.
9. ROOM NAME (1/32" RAISED TEXT CHARACTERS, HELVETICA FONT, MATTE FINISHED OPAQUE ACRYLIC SHEET) ATTACHED TO FRONT PANEL.
10. PROVIDE DISABLED SYMBOL AS INDICATED IN THE SIGN FOR ALL ROOMS THAT ARE WHEEL CHAIR ACCESSIBLE.
11. LINE OF WALL.
12. MATTE FINISHED, OPAQUE ACRYLIC SHEET BASE PANEL ATTACHED TO SHIM PLATE.
13. SHIM PLATE, ALUMINUM, 1/4" THICK, CONCEALED, WITH PRE-DRILLED HOLES FOR COUNTERSUNK FASTENERS. USE APPROPRIATE FASTENERS DEPENDING ON THE SUBSTRATE.
14. RECESS 1/16" FOR TEXT INSERT, FOR SIGN "TYPE - S1" ONLY.
15. SIGNAGE, O.F.O.I.
16. SIGN AT ALL ACCESSIBLE LOCATION, O.F.O.I.
17. DOOR FRAME. SEE DOOR SCHEDULE.
18. DOOR. SEE DOOR SCHEDULE.
19. OPENING IN WALL.
20. LINE OF FLOOR.

NOTE:
A. PROVIDE ROOM SIGN AT EACH DOORWAY OR A WALL OPENING LEADING TO A ROOM.
B. SIGNAGE TO BE OWNER FURNISHED AND INSTALLED BY OWNERS VENDOR.

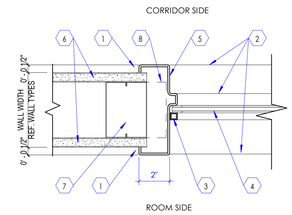


C Sign Mounting Elevations

SCALE: 1/2" = 1'-0"

2 Room Signage Detail

SCALE: 2" = 1'-0"

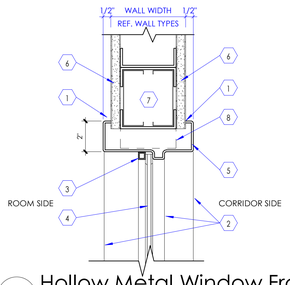


KEYED NOTES

1. CONTINUOUS SEALANT ON BOTH SIDES OF THE FRAME.
2. WINDOW FRAME SEEN BELOW.
3. WINDOW GLAZING STOP. STOPS SHALL BE LOCATED ON THE MORE SECURE ROOM SIDE (AS OPPOSED TO THE LESS SECURE, CORRIDOR SIDE). COORDINATE WITH ARCHITECT FOR LESS AND MORE SECURE AREAS THAT ARE NOT APPARENT IN FLOOR PLAN.
4. 1/4" THICK, TEMPERED GLAZING, SEE WINDOW SCHEDULE.
5. HOLLOW METAL WINDOW FRAME. FRAME THICKNESS VARIES WITH WALL THICKNESS. SEE FLOOR PLAN AND WALL SECTIONS FOR WALL THICKNESS. PAINT FRAME.
6. GYPSUM BOARD, 5/8" THICK, TYPE 'X' TYPICAL. ATTACH TO METAL STUDS. SEE WALL TYPES.
7. WINDOW JAMB FRAMING, SEE DETAIL 11/A502A
8. STEEL ANCHORS. ATTACH TO METAL STUDS WITH #8 PAN HEAD S.M.S., TYP. WELD TO FRAME.

3 Hollow Metal Window Frame - Jamb Detail

SCALE: 3" = 1'-0"

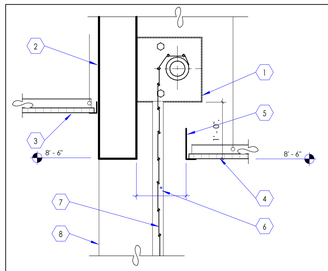


KEYED NOTES

1. CONTINUOUS SEALANT ON BOTH SIDES OF THE FRAME.
2. WINDOW FRAME SEEN BEYOND.
3. WINDOW GLAZING STOP. STOPS SHALL BE LOCATED ON THE MORE SECURE ROOM SIDE (AS OPPOSED TO THE LESS SECURE, CORRIDOR SIDE). COORDINATE WITH ARCHITECT FOR LESS AND MORE SECURE AREAS THAT ARE NOT APPARENT IN FLOOR PLAN.
4. TEMPERED GLAZING, SEE WINDOW SCHEDULE.
5. HOLLOW METAL DOOR FRAME. FRAME THICKNESS VARIES WITH WALL THICKNESS. SEE FLOOR PLAN AND WALL SECTIONS FOR WALL THICKNESS. PAINT FRAME.
6. GYPSUM BOARD, 5/8" THICK, TYPE 'X', TYPICAL, ATTACH TO METAL STUDS. SEE WALL TYPES.
7. WINDOW HEAD FRAMING, SEE DETAIL 11/A502A
8. STEEL ANCHORS. ATTACH TO METAL STUDS WITH #8 PAN HEAD S.M.S., TYP. WELD TO FRAME.

4 Hollow Metal Window Frame - Head Detail

SCALE: 3" = 1'-0"



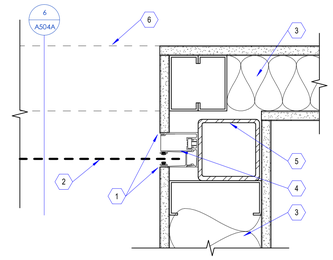
KEYED NOTES

1. ELECTRICALLY OPERATED ROLL-UP DOOR / GRILLE HOOD
2. GYPSUM BOARD HEADER. SEE CEILING PLAN.
3. SCHEDULED SLOPED CEILING. SEE CEILING PLAN.
4. WOOD PANEL CEILING AS SCHEDULED. SEE CEILING PLAN.
5. 4" HIGH AXIOM TRIM. BASIS OF DESIGN ARMSTRONG.
6. SLOT FOR ROLL-UP DOOR IN CEILING, PER MANUFACTRER.
7. DOOR / GRILLE & TRACK, PER MANUFACTRER.
8. FACE OF WALL BEYOND.

NOTE:
COILING DOOR / ROLLING GRILLE MFR. TO PROVIDE TUBE STEEL COLUMNS AND BEAMS FOR HOOD AND JAMB ATTACHMENTS. CONTRACTOR TO COORDINATE W/ DOOR MFR. FOR BEAM / HOOD ELEVATION. NOTIFY ARCHITECT IF CONFLICTS ARISE.

6 Coiling Grille Head Detail

SCALE: 1 1/2" = 1'-0"



KEYED NOTES

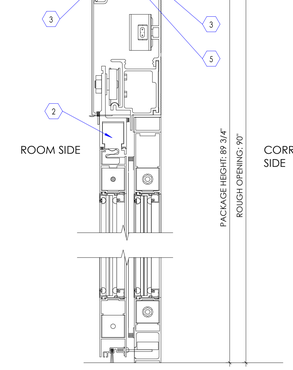
1. L-BEAD AND SEALANT, TYPICAL.
2. AUTOMATED COILING ROLL UP GRILLE. SEE FLOOR PLAN FOR DETAILS.
3. WALL AS SCHEDULED. SEE DIMENSION PLAN FOR WALL TYPE.
4. ALUMINUM GUIDES FOR ROLL UP GRILLE PER MANUFACTURER.
5. TUBE STEEL POST, 4" X 4" X X1/4" TUBE STEEL POST. ATTACH TO STRUCTURE ABOVE. SEE DETAIL 8/A504A
6. GYPSUM BOARD HEADER ABOVE. SEE CEILING PLAN.

7 Detail at Guide

SCALE: 3" = 1'-0"

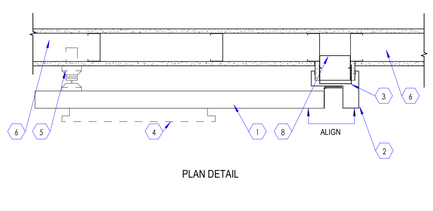
KEYED NOTES

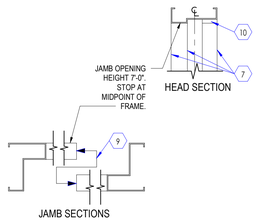
1. SEE DETAIL 7/A502A FOR FRAMING AT DOOR HEADER.
2. MANUAL SLIDING DOOR ALUMINUM AND GLASS DOOR AS SCHEDULED. GLAZING TO BE 1/4" CLEAR, TEMPERED.
3. PROVIDE CLEAR SILICON CAULKING ALL AROUND DOOR - BOTH SIDES.
4. GYP. BD. SOFFIT AS SCHEDULED.
5. SHIM AS REQUIRED.



9 Sliding Door - Head Detail

SCALE: 3" = 1'-0"



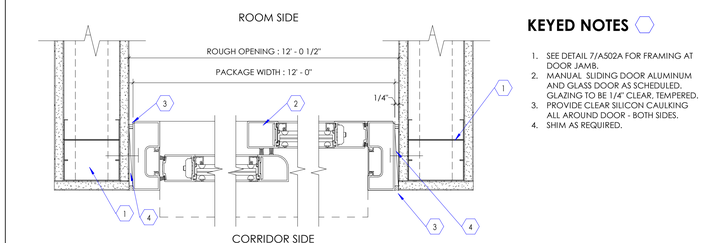


KEYED NOTES

1. DOOR AS SCHEDULED (IN OPEN POSITION). SEE SHEET A1601.
2. DOOR FRAME. SEE DOOR HEAD AND JAMB DETAILS BELOW.
3. DOOR FRAME ANCHOR.
4. PANIC DEVICE HARDWARE.
5. ELECTROMAGNETIC HOLD OPEN. WHERE OCCURS.
6. METAL STUD WALL WITH GYPSUM BOARD. SEE FLOOR PLAN FOR PARTITION TYPES.
7. DOOR JAMB BEYOND.
8. JAMB STUDS. SEE DETAIL 11/A502A FOR CONDITION AT JAMB AND HEAD.
9. ALIGN AT MIDPOINT OF FRAME.
10. DOOR STOP BEYOND.

5 Double Egress Door Detail

SCALE: 1 1/2" = 1'-0"



KEYED NOTES

1. SEE DETAIL 7/A502A FOR FRAMING AT DOOR JAMB.
2. MANUAL SLIDING DOOR ALUMINUM AND GLASS DOOR AS SCHEDULED. GLAZING TO BE 1/4" CLEAR, TEMPERED.
3. PROVIDE CLEAR SILICON CAULKING ALL AROUND DOOR - BOTH SIDES.
4. SHIM AS REQUIRED.

8 Sliding Door- Jamb Detail

SCALE: 3" = 1'-0"

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Door & Window Details

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A504A

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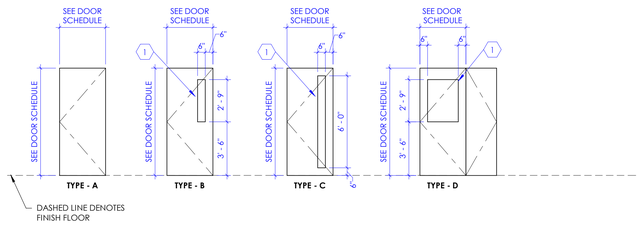
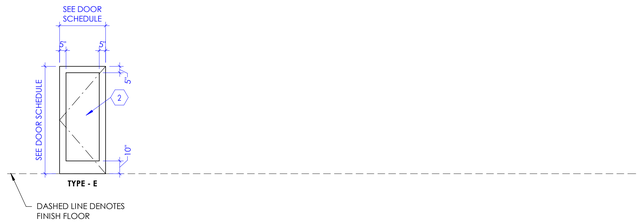
2





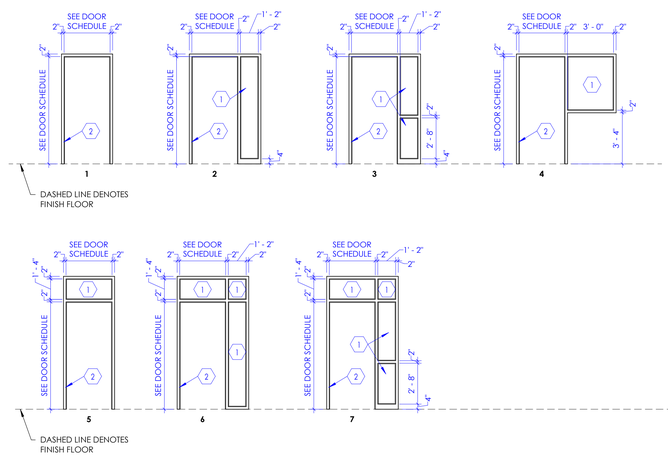
1 Door Types

SCALE: 1/4" = 1'-0"

NOTE: REFER TO "DOOR SCHEDULE" TABLE FOR DOOR TYPES REQUIRED FOR THIS PROJECT. SOME DOOR TYPE ELEVATIONS INDICATED ABOVE, MAY NOT BE APPLICABLE TO THIS PROJECT.

KEYED NOTES

1. VISION PANEL. GLAZING IN VISION PANEL SHALL BE 1/4" THICK, CLEAR, TEMPERED, GLAZING. FOR WOOD DOOR, PROVIDE WOOD TRIM FRAME FLUSH WITH THE FACE OF THE DOOR, AROUND THE VISION PANEL OPENING. STAIN AND SPECIES OF WOOD TRIM SHALL MATCH WOOD DOOR. FOR HOLLOW METAL DOOR, PROVIDE METAL TRIM AROUND VISION PANEL. GLAZING SHALL BE FIRE RATED IF DOORS ARE REQUIRED TO BE FIRE RATED.
2. FOR EXTERIOR DOORS OF THIS TYPE, GLAZING SHALL BE TINTED, INSULATED, TEMPERED, LOW E, AND 1" THICK. FOR INTERIOR DOORS OF THIS TYPE, GLAZING SHALL BE CLEAR, TEMPERED AND 1/4" THICK.



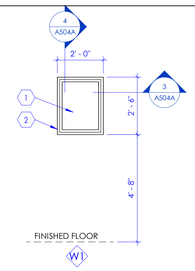
2 Frame Types

SCALE: 1/4" = 1'-0"

NOTE: REFER TO "DOOR SCHEDULE" FOR FRAME TYPES REQUIRED FOR THIS PROJECT. SOME FRAME TYPE ELEVATIONS INDICATED ABOVE MAY NOT BE APPLICABLE TO THIS PROJECT.

KEYED NOTES

1. GLAZING SHALL BE CLEAR, TEMPERED, AND 1/4" THICK.
2. DOOR FRAME. SEE DOOR SCHEDULE.



3 Window Types

SCALE: 3/8" = 1'-0"

KEYED NOTES

1. GLAZING SHALL BE CLEAR, TEMPERED, AND 1/4" THICK.
2. HOLLOW METAL WINDOW FRAME. SEE DETAILS ON SHEET A504A

DOOR SCHEDULE

DOOR #	DOOR							FRAME			DETAILS			FIRE RATING (MINUTES)	HARDWARE GROUP	COMMENTS
	# OF PANELS	WIDTH		SIZE				TYPE (2/A601A)	DEPTH	MATERIAL	JAMB	HEAD	THRESHOLD			
		W1	W2	HEIGHT	THICKNESS	MATERIAL	TYPE (1/A601A)									
A401	1	3' - 6"		7' - 0"	1 3/4"	WD	B	1	5 7/8"	HM	1/A504A	1/A504A	2/A603A	A401	18.0	
A402	1	3' - 0"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A		A402	17.0	
A403A	1	3' - 0"		7' - 0"	1 3/4"	WD	B	1	8 1/4"	HM	1/A504A	1/A504A	2/A603A	A403A	15.0	
A403B	PER MFR	10' - 8 3/4"		10' - 6"	PER MFR	PER MFR	PER MFR	PER MFR	PERMFR	PER MFR	7/A504A	6/A504A		A403B	22.0	AUTO. DISTANCE BETWEEN GUIDES = 10' - 8 3/4". OPENING HEIGHT = 8'-6"
A404	1	4' - 0"		7' - 0"	PER MFR	AL	E	PER MFR	PER MFR	AL	PER MFR	PER MFR		A404	3.0	
A406	1	4' - 0"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A	2/A603A	A406	4.0	CR, AUTO. PROVIDE DOOR SWITCH AT EACH REGISTRATION BAY
A408	1	3' - 0"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A	1/A506A	A408	16.0	
A409A	1	3' - 6"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A		A409A	5.0	CR, AUTO
A409B	1	3' - 0"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A		A409B	8.0	CR
A410	1	3' - 0"		7' - 0"	1 3/4"	WD	A	1	8 1/4"	HM	1/A504A	1/A504A		A410	16.0	
A414	1	3' - 6"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A		A414	13.0	
A415	1	3' - 6"		7' - 0"	1 3/4"	WD	A	1	6 1/2"	HM	1/A504A	1/A504A	1/A603A	A415	6.0	CR
A416	1	3' - 0"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A	1/A506A	A416	16.0	
A417	1	3' - 0"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A		A417	19.0	
A420	1	4' - 0"		7' - 0"	1 3/4"	WD	B	1	5 7/8"	HM	1/A504A	1/A504A		A420	4.0	CR, AUTO
A421A	1	3' - 0"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A		A421A	18.0	
A421B	1	3' - 0"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A	2/A603A	A421B	7.0	CR
A423	1	3' - 0"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A	1/A506A	A423	16.0	
A424	1	3' - 0"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A		A424	19.0	
A427	1	3' - 6"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A		A427	9.0	CR, SAFE ZONE CLOSER
A428	1	3' - 0"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A	1/A506A	A428	16.0	
A429	1	3' - 6"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A		A429	13.0	
A430	1	4' - 0"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A		A430	11.0	AUTO
A431	2	2' - 0"	4' - 0"	7' - 0"	1 3/4"	WD	D	1	5 7/8"	HM	1/A504A	1/A504A		A431	20.0	
A433	1	3' - 0"		7' - 0"	1 3/4"	WD	A	1	7 1/8"	HM	1/A504A	1/A504A	1/A603A	A433	2.0	CR
A435	1	3' - 0"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A		A435	7.0	CR
A436	1	4' - 0"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A		A436	11.0	AUTO
A437	1	4' - 0"		7' - 0"	1 3/4"	WD	A	1	6 1/2"	HM	1/A504A	1/A504A	2/A603A	A437	6.0	CR
A441	1	3' - 0"		7' - 0"	1 3/4"	WD	B	1	5 7/8"	HM	1/A504A	1/A504A		A441	14.0	
A443		12' - 0"		7' - 5 3/4"	PER MFR	ALUM	PER MFR	PER MFR	PER MFR	ALUM	8/A504A	9/A504A		A443	PER MFR	
A444A	1	3' - 0"		7' - 0"	1 3/4"	WD	B	1	5 7/8"	HM	1/A504A	1/A504A		A444A	14.0	
A444B	1	3' - 0"		7' - 0"	1 3/4"	WD	B	1	5 7/8"	HM	1/A504A	1/A504A		A444B	14.0	
A445	1	3' - 0"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A		A445	7.0	CR
A446	1	3' - 6"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A		A446	10.0	CR, SAFE ZONE CLOSER
A448	2	2' - 0"	4' - 0"	7' - 0"	1 3/4"	WD	D	1	5 7/8"	HM	1/A504A	1/A504A		A448	20.0	
A450	2	3' - 8"	3' - 8"	7' - 0"	1 3/4"	WD	B	1	5 7/8"	HM	5/A504A	5/A504A		A450	1.0	CR, AUTO
A451	1	3' - 0"		7' - 0"	1 3/4"	WD	A	1	5 7/8"	HM	1/A504A	1/A504A	1/A506A	A451	16.0	
A452	1	3' - 0"		7' - 0"	1 3/4"	WD	B	1	5 7/8"	HM	1/A504A	1/A504A		A452	18.0	
A456	2	3' - 8"	3' - 8"	7' - 0"	1 3/4"	WD	B	1	5 7/8"	HM	1/A504A	1/A504A		A456	12.0	AUTO
A461	2	2' - 0"	4' - 0"	7' - 0"	1 3/4"	WD	D	1	5 7/8"	HM	1/A504A	1/A504A		A461	20.0	
A464	1	4' - 0"		7' - 0"	1 3/4"	WD	B	1	5 7/8"	HM	1/A504A	1/A504A		A464	11.1	AUTO
A465	1	4' - 0"		7' - 0"	1 3/4"	WD	B	1	5 7/8"	HM	1/A504A	1/A504A		A465	11.1	AUTO
A470	1	4' - 0"		7' - 0"	EXIST.	EXIST.	EXIST.	1	5 7/8"	HM	1/A504A	1/A504A	2/A603A	A470	EXIST.	CR

COMMENTS

1. INFORMATION FOR THE FIRST COMMENT
2. INFORMATION FOR THE SECOND COMMENT
3. INFORMATION FOR THE THIRD COMMENT
4. INFORMATION FOR THE FORTH COMMENT

NJRA Architects, Inc.
5272 S. College Drive, Suite104
Murray, Utah 84123
801.364.9259
www.njraarchitects.com

INTERMOUNTAIN HEALTHCARE CAMPUS RECONFIGURATION - ASC

1350N 500 E
Logan, UT 84341

Intermountain Healthcare

Project Manager	TERRI SUDBROOK
Project Designer	ERIC MEUB
Project Architect	FRANK PENROSE
Landscape Architect	ARCSITIO
Civil Engineer	GREAT BASIN
Structural Engineer	REAVELEY
Mechanical Engineer	VAN BOERUM & FRANK
Electrical Engineer	SPECTRUM
Plumbing Engineer	VAN BOERUM & FRANK
Interior Designer	RUBY THORP
Equipment Planner	ROBERT GRIESCHE
Wayfinding	
Sheet Reviewer	Author

MARK	DATE	DESCRIPTION
2	11/24/20	Addendum #02

Project Number	10173823
Original Issue	11/6/20

STATE OF UTAH
SELVAM RAJAVELU
267857-0301
LICENSED ARCHITECT

Sheet Name

Door & Window Schedule

Sheet Number

A601A

Project Status

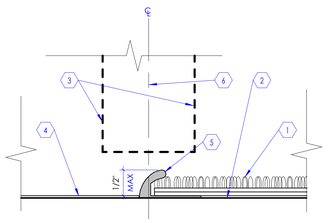
100% Construction Documents

FINISH SCHEDULE

TAG	FINISH TYPE	FINISH TYPE	SIZE	MATERIAL DESCRIPTION	MANUFACTURER	STYLE	MODEL #	COLOR	COMMENTS
F1	F1 - FLOOR FINISH	FLOOR FINISH		HOMOGENEOUS SHEET VINYL	MANNINGTON COMMERCIAL	BIOSPEC MD	15203	SANDRIFT	-
F2	F2 - FLOOR FINISH	FLOOR FINISH		HOMOGENEOUS SHEET VINYL	MANNINGTON COMMERCIAL	BIOSPEC MD	15361	FLAX	-
F3	F3 - FLOOR FINISH	FLOOR FINISH		HOMOGENEOUS SHEET VINYL	MANNINGTON COMMERCIAL	BIOSPEC MD	15369	BEDROCK	-
F4	F4 - FLOOR FINISH	FLOOR FINISH	24" X 24"	CARPET TILE	SHAW CONTRACT GROUP	NOBLE MATERIALS/ FORM TILE	5T136	CORNERSTONE COPPER 33555	1
F5	F5 - FLOOR FINISH	FLOOR FINISH	18" X 36"	CARPET TILE	SHAW CONTRACT GROUP	HAND DRAWN/ STIPPLE TILE	5T116	SLATE 13585	1
F6	F6 - FLOOR FINISH	FLOOR FINISH	12" X 24"	PORCELAIN TILE	CROSSVILLE	NOTORIOUS	NTR05.11224 UPS	LEADING MAN	4
F7	F7 - FLOOR FINISH	FLOOR FINISH		ARMORSEAL TREAD-PLEX, WATER BASED ACRYLIC FLOOR COATING	SHERWIN WILLIAMS	6401-72656	B90A00101-20	HAZE GRAY	-
F8	F8 - FLOOR FINISH	FLOOR FINISH		HOMOGENEOUS SHEET VINYL	MANNINGTON COMMERCIAL	BIOSPEC MD	15392	HOT SAUCE	17
B1	B1 - WALL BASE	WALL BASE	4" HIGH	COVED BASE	MANNINGTON COMMERCIAL	BIOSPEC MD	-	MATCH FLOORING	3
B2	B2 - WALL BASE	WALL BASE	6" HIGH	COVED BASE	MANNINGTON COMMERCIAL	BIOSPEC MD	-	MATCH FLOORING	3
B3	B3 - WALL BASE	WALL BASE	4" HIGH	RUBBER BASE	ROPPE	STANDARD TOE	700 SERIES	CHARCOAL 123	-
B4	B4 - WALL BASE	WALL BASE	4" HIGH	CARPET BASE	SHAW CONTRACT GROUP	GRADIENT	5A153	ELEMENT 34583	2
B5	B5 - WALL BASE	WALL BASE	4" HIGH	CARPET BASE	SHAW CONTRACT GROUP	GRADIENT	5A153	ADRIFT 34512	2
B6	B6 - WALL BASE	WALL BASE	6" X 12"	COVED BASE PORCELAIN TILE	CROSSVILLE	NOTORIOUS	NTR05.10612CBS	LEADING MAN	-
W1	W1 - WALL FINISH	WALL FINISH		PAINT	SHERWIN WILLIAMS	EGGSHELL FINISH	SW7005	PURE WHITE	-
W2	W2 - WALL FINISH	WALL FINISH		EPOXY PAINT	SHERWIN WILLIAMS	EPOXY PAINT - EGGSHELL FINISH	SW7005	PURE WHITE	-
W3	W3 - WALL FINISH	WALL FINISH		PAINT	SHERWIN WILLIAMS	EGGSHELL FINISH	SW 7043	WORLDLY GRAY	15
W4	W4 - WALL FINISH	WALL FINISH		PAINT	SHERWIN WILLIAMS	EGGSHELL FINISH	SW 0023	PEWTER TANKARD	15
W5	W5 - WALL FINISH	WALL FINISH		PAINT	SHERWIN WILLIAMS	EGGSHELL FINISH	SW 6201	THUNDEROUS	15
W6	W6 - WALL FINISH	WALL FINISH	12" X 24"	PORCELAIN WALL TILE	CROSSVILLE	NOTORIOUS	NTR01.10315 UPS	FEMME FATALE	5
W7	W7 - WALL FINISH	WALL FINISH		PAINT	SHERWIN WILLIAMS	EGGSHELL FINISH	SW 7132	WATER SQUIRT	15
W8	W8 - WALL FINISH	WALL FINISH		PAINT - MATCH EXISTING	SHERWIN WILLIAMS	EGGSHELL FINISH	-	MATCH ADJACENT EXISTING	-
C1	C1 - CEILING	CEILING FINISH		PAINTED GYPSUM BOARD CEILING, HEADER, AND SOFFIT, TYPICAL.	SHERWIN WILLIAMS	FLAT FINISH	SW7005	PURE WHITE	9
MS1	MS1 - MISC. SURFACE FINISH	MISC. SURFACE FINISH		DOOR FRAME PAINT	SHERWIN WILLIAMS	SEMI GLOSS	MATCH ADJACENT EXISTING	MATCH ADJACENT EXISTING	10
PL1	PL1 - PLASTIC LAMINATE	PLASTIC LAMINATE FINISH		PLASTIC LAMINATE - CABINETS	LAMIN-ART	VELLUM FINISH	3056-VT	MYSTIC WOOD, VELA - TEX	-
SS1	SS1 - SOLID SURFACE	SOLID SURFACE		SOLID SURFACE - COUNTERTOPS/SILLS	CORIAN SOLID SURFACE	-	-	WHITE JASMINE	11
SS2	SS2 - SOLID SURFACE	SOLID SURFACE		SOLID SURFACE INTEGRAL SINK	STARON SOLID SURFACE	-	A3181	BRIGHT WHITE BW010	12
CG1	CG1 - CORNER GUARD	CORNER GUARD	2" X 2" X 4' - 0"	CORNER GUARD	CONSTRUCTION SPECIALTIES	ACROVYN CORNER GUARDS	SSM-20AN	WHITE 949	6
CG2	CG2 - STAINLESS STEEL CORNER GUARD	STAINLESS STEEL CORNER GUARD	3.5" X 3.5" X 8' - 0"	16 GA, TYPE 304, # 4 SATIN FINISH	INPRO ARCHITECTURAL PRODUCTS	STN. STL. CORNER GUARDS - CO SERIES	CO-8	STAINLESS STEEL	-
CR1	CR1 - CRASH RAIL	CRASH RAIL	8 INCHES TALL	SURFACE MOUNTED CRASH RAIL WITH ALUMINUM RETAINER	CONSTRUCTION SPECIALTIES	ACROVYN	SCR-64MN	WHITE 949	14
WP1	WP1 - WALL PROTECTION	WALL PROTECTION		WAINSCOT PANEL 0.06" THICK RIGID VINYL	CONSTRUCTION SPECIALTIES	ACROVYN	-	WHITE 949	7
WP2	WP2 - WALL PROTECTION 2	WALL PROTECTION		18 GA, TYPE 304, STAINLESS STEEL WALL PANELS	INPRO ARCHITECTURAL PRODUCTS	STAINELESS STEEL WALL PANELS	-	STAINLESS STEEL	7, 13
WP3	WP3 - END WALL PROTECTION	END WALL PROTECTION		TWO CORNER GUARDS WITH ALUMINUM RETAINERS AND 0.04" THICK ACROVYN 4000 SHEET AS SPACER	CONSTRUCTION SPECIALTIES	ACROVYN	SSM-25AN	WHITE 949	6, 7
CC1	CC1 - PRIVACY CURTAIN	CUBICLE CURTAIN		PRIVACY CURTAIN	SOURCE ONE	PARKSIDE	CPS-03	WATER LILY	16
CC2	CC2 - SHOWER CURTAIN	CUBICLE CURTAIN		SHOWER CURTAIN	INPRO ARCHITECTURAL PRODUCTS	CLICKEZE STYLE 2	SHEILD FABRIC BY PANAZ	ABLOOM: EUCALYPTUS	-

COMMENTS

1. CARPET TILES SHALL BE INSTALLED IN A MONOLITHIC PATTERN FOR FLOOR FINISH 'F4' AND ASHLAR PATTERN FOR 'F5'.
2. TOP EDGE OF CARPET BASE SHALL BE BOUND WITH A COORDINATING COLOR OF FABRIC BINDING STRIP.
3. TOP EDGE OF COVED BASE SHALL BE INSTALLED WITH AN ALUMINUM TRIM/CAP. BASE TO BE FULLY GLUED TO WALL. PLEASE DO NOT USE DOUBLE STICK TAPE TO ADHERE BASE TO WALL. THIS WILL NOT BE ACCEPTABLE.
4. FLOOR TILE SHALL BE INSTALLED IN A GRID PATTERN. GROUT COLOR TO BE CUSTOM BUILDING PRODUCTS, #09 NATURAL GRAY. PROVIDE 12" X 12" MOSAIC FLOOR TILE (NTR05.11212MOS) IN SHOWER AREAS.
5. WALL TILE SHALL BE INSTALLED IN A BRICK PATTERN. GROUT COLOR TO BE CUSTOM BUILDING PRODUCTS, #545 BLEACHED WOOD.
6. CORNER GUARDS TO SPAN FROM TOP OF BASE TO 4' - 0" ABOVE BASE. TOP OF CORNER GARDS TO ALIGN WITH TOP OF ADJACENT WALL PROTECTION. SEE DETAIL 12/A506A
7. WALL PROTECTION WAINSCOT TO SPAN FROM TOP OF BASE TO 4' - 0" ABOVE BASE. U.N.O.
8. MATCH EXISTING FINISH AND COLOR.
9. PROVIDE EPOXY PAINT WHERE WALLS IN THE ROOM ARE CALLED OUT TO BE EPOXY PAINTED.
10. DOOR FRAME PAINT COLOR TO MATCH ADJACENT EXISTING DOOR FRAMES IN THE BUDGE CLINIC.
11. ALL COUNTERTOPS AND TRANSACTION TOPS TO BE SOLID SURFACE UNLESS OTHERWISE NOTED.
12. TYPICAL ALL COUNTER MOUNTED SINKS UNLESS NOTED OTHERWISE.
13. PROVIDE 2" X 2" X HEIGHT OF WALL PROTECTION, 16 GA. TYPE 304 CORNER GUARDS AT ALL INSIDE CORNERS.
14. PROVIDE CRASH RAIL AT ALL 6 FEET AND 8 FEET WIDE CORRIDORS - BOTH WALLS. SEE DETAIL 13/A506A.
15. PROVIDE EPOXY PAINT IF ADJACENT WALLS ARE CALLED OUT TO BE EPOXY PAINTED.
16. PRIVACY CURTAIN TRACK SYSTEM TO BE " ON THE RIGHT TRACK"
17. SHEET VINYL FLOORING FOR RED LINE, TYPICAL.



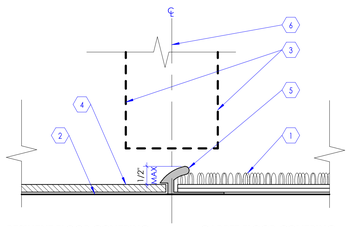
KEYED NOTES

1. CARPET FLOOR COVERING AS OCCURS. SEE FINISH SCHEDULE.
2. LINE OF FLOOR.
3. DOOR AS OCCURS.
4. LIQUID APPLIED FINISH (OPAQUE SEALER, CLEAR SEALER, ETC.). SEE FINISH SCHEDULE.
5. METAL TRANSITION STRIP. MODEL NUMBER LVT 160 IN ETCHED ALUMINUM BY FUTURA OR EQUIVALENT. ATTACH TRANSITION STRIP TO SUBSTRATE PER MANUFACTURERS RECOMMENDATIONS.
6. CENTERLINE OF DOOR AND TRANSITION STRIP SHALL ALIGN.

FINISH SUBSTRATE (CONCRETE, GYPCRETE, WOOD) TO **CARPET FLOOR COVERING (CARPET TILE, BROADLOOM, WALK OFF MAT)**

1 Floor Covering Transition Detail

SCALE: 1'2" = 1'-0"



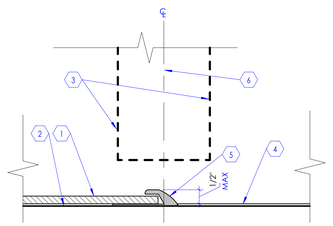
KEYED NOTES

1. CARPET FLOOR COVERING AS OCCURS. SEE FINISH SCHEDULE.
2. LINE OF FLOOR.
3. DOOR AS OCCURS.
4. FLOOR COVERING (VINYL COMPOSITION TILE, LUXURY VINYL TILE, ETC. AS OCCURS). SEE FINISH SCHEDULE.
5. METAL TRANSITION STRIP. MODEL NUMBER LVT 130 IN ETCHED ALUMINUM BY FUTURA OR EQUIVALENT. ATTACH TRANSITION STRIP TO SUBSTRATE PER MANUFACTURERS RECOMMENDATIONS.
6. CENTERLINE OF DOOR AND TRANSITION STRIP SHALL ALIGN.

RESILIENT FLOOR COVERING (SV, VCT, LVT) TO **CARPET FLOOR COVERING (CARPET TILE, BROADLOOM, WALK OFF MAT)**

2 Floor Covering Transition Detail

SCALE: 1'2" = 1'-0"



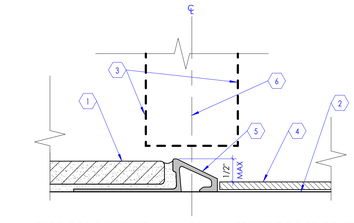
KEYED NOTES

1. FLOOR COVERING (VINYL COMPOSITION TILE, LUXURY VINYL TILE, ETC. AS OCCURS). SEE FINISH SCHEDULE.
2. LINE OF FLOOR.
3. DOOR AS OCCURS.
4. LIQUID APPLIED FINISH (OPAQUE SEALER, CLEAR SEALER, ETC.). SEE FINISH SCHEDULE.
5. METAL TRANSITION STRIP. MODEL NUMBER LVT 405 IN ETCHED ALUMINUM BY FUTURA OR EQUIVALENT. ATTACH TRANSITION STRIP TO SUBSTRATE PER MANUFACTURERS RECOMMENDATIONS.
6. CENTERLINE OF DOOR AND TRANSITION STRIP SHALL ALIGN.

RESILIENT FLOOR COVERING (SV, VCT, LVT) TO **FINISH SUBSTRATE (CONCRETE, GYPCRETE, WOOD)**

3 Floor Covering Transition Detail

SCALE: 1'2" = 1'-0"



KEYED NOTES

1. CERAMIC, PORCELAIN TILE, ETC. ON THINSET MORTAR BED. SEE FINISH SCHEDULE.
2. LINE OF FLOOR.
3. DOOR AS OCCURS.
4. RESILIENT FLOORING (VINYL COMPOSITION TILE, LUXURY VINYL TILE, AS OCCURS). SEE FINISH SCHEDULE.
5. METAL TRANSITION STRIP. EDGETEK SERIES IN ALUMINUM BY FUTURA OR EQUIVALENT. ATTACH TRANSITION STRIP TO SUBSTRATE PER MANUFACTURERS RECOMMENDATIONS.
6. CENTERLINE OF DOOR AND TRANSITION STRIP SHALL ALIGN.

TILE FLOOR COVERING (CERAMIC, PORCELAIN) TO **RESILIENT FLOOR COVERING (VCT, LVT)**

4 Floor Covering Transition Detail- Non Recessed Slab

SCALE: 1'2" = 1'-0"

GENERAL NOTES

A. BASIS-OF-DESIGN FOR FINISHES: FINISHES INDICATED ON THE FINISH SCHEDULE ARE BASED ON THE NAMED MANUFACTURER AND THEIR PRODUCTS, SUBJECT TO COMPLIANCE WITH REQUIREMENTS. PROVIDE THE NAMED PRODUCT OR A COMPARABLE PRODUCT BY ONE OF THE APPROVED MANUFACTURERS LISTED IN THE PROJECT MANUAL. SEE RELEVANT SPECIFICATION SECTION.

B. SEE "SAMPLE LAYOUTS" INDICATED ON FINISH PLANS FOR CLARIFICATION ON HOW DIFFERENT TYPES OF REQUIRED FINISHES ARE INDICATED WITH FINISH TAGS FOR FLOORS, WALLS, MISCELLANEOUS SURFACE, ETC. SEE FINISH FLOOR PLANS FOR REQUIRED FINISHES (INDICATED WITH FINISH TAGS SUCH AS F1, B1, W1, ETC.).

C. LINE OF TRANSITION BETWEEN DIFFERENT TYPES OF FLOOR COVERING IS INDICATED ON THE FINISH FLOOR PLANS. IN PLACES WHERE TWO DIFFERENT FLOOR COVERING ABUTS EACH OTHER, CONTRACTOR SHALL FOLLOW THE RELEVANT APPLICABLE "FLOOR COVERING TRANSITION DETAILS" INDICATED IN THIS CONSTRUCTION DOCUMENTS. WHERE TWO ROOMS ARE REQUIRED TO HAVE DIFFERENT FLOOR COVERINGS, LINE OF TRANSITION SHALL TYPICALLY OCCUR BELOW THE CENTER OF THE DOOR (LOCATED BETWEEN THE TWO ROOMS). AS THESE TRANSITION LINES ARE NOT INDICATED BELOW THE DOOR ON THE FINISH FLOOR PLANS, CONTRACTOR SHALL PROVIDE METAL TRANSITION STRIP (MANUFACTURED BY SCHLUTER OR EQUIVALENT) AS REQUIRED, AT EXTERIOR DOORS. PROVIDE ALUMINUM THRESHOLD MATCHING THE DOORWAY. FOR REMODEL PROJECTS, COORDINATE WITH DEMOLITION FLOOR PLAN AND NEW FLOOR PLAN TO DETERMINE WHERE NEW ABUTS EXISTING FLOOR COVERING THAT IS SCHEDULED TO REMAIN.

D. LINE OF TRANSITION BETWEEN DIFFERENT TYPES OF WALL FINISH IS INDICATED ON THE INTERIOR ELEVATIONS AND FINISH FLOOR PLANS. FOR REQUIRED WALL PROTECTION TYPE (INDICATED WITH TAG WP1, WP2, ETC.), ON WALLS. COORDINATE WITH FINISH FLOOR PLANS AND INTERIOR ELEVATIONS.

E. THERE ARE MISCELLANEOUS SURFACES THAT ARE EXPOSED AND WILL REQUIRE A FINISH. SUCH MISCELLANEOUS SURFACES ARE INDICATED IN THE DRAWINGS WITH FINISH TAGS SUCH AS MS1, MS2, ETC.

F. PAINT ALL EXPOSED VISIBLE ITEMS SUCH AS METAL DECK, STEEL ANGLES, STEEL BEAMS, STEEL TRUSSES, MISC. STEEL ITEMS, PIPES, CONDUITS, ETC. UNLESS SPECIFICALLY NOTED AS A SURFACE NOT TO BE PAINTED, OR IF NATURAL FINISH IS REQUIRED. PAINT SURFACES USING FIELD COLORS AND ACCENT COLORS SPECIFIED BY THE ARCHITECT. DO NOT PAINT CONCEALED SURFACES, FINISHED METAL SURFACES, OPERATING PARTS, AND PRE-FINISHED ITEMS. VERIFY PAINTING SURFACE (SUCH AS STEEL, CONCRETE, MASONRY, GYPSUM BOARD, WOOD, ETC.) AND USE THE APPROPRIATE PAINT AND METHOD INDICATED IN THE PROJECT MANUAL UNDER RELEVANT SPECIFICATION SECTION. ALL HOLLOW METAL DOOR AND WINDOW FRAMES SHALL BE PAINTED. USE SEMI-GLOSS FINISH ON DOOR FRAMES.

G. IN ROOMS AND AREAS WHERE GYPSUM BOARD CEILING IS INDICATED, PAINT CEILING WITH THE SAME COLOR AND TYPE AS ADJACENT WALLS. IN WET ROOMS (LIKE RESTROOM, KITCHEN, ETC.) WHERE EPOXY PAINT IS INDICATED AS A REQUIREMENT ON WALLS, PAINT CEILINGS AND SOFFITS WITH EPOXY TYPE PAINT. ALL GYPSUM BOARD SOFFITS SHALL BE PAINTED. COORDINATE ACCENT COLOR LOCATIONS WITH ARCHITECT WHEREVER INDICATED.

H. SEE INTERIOR ELEVATIONS FOR PLASTIC LAMINATE FINISHES OVER CABINETS, COUNTERTOPS, WALLS, ETC. PLASTIC LAMINATE FINISHES ARE INDICATED AS PL1, PL2, ETC. COUNTERTOPS THAT ARE MONOLITHIC MATERIAL (SUCH AS SOLID SURFACE, QUARTZ, ETC. AND NOT PLASTIC LAMINATE WRAPPED), ARE INDICATED AS MM1, MM2, ETC.

I. WHERE PORCELAIN AND/OR CERAMIC TILE FINISHES ARE INDICATED, PROVIDE METAL EDGE STRIPS (MANUFACTURED BY SCHLUTER OR EQUIVALENT) AT ALL OUTSIDE VERTICAL CORNERS AND TOP OF WAINSCOT.

2

NJRA Architects, Inc.
5272 S. College Drive, Suite104
Murray, Utah 84123
801.364.9259
www.njraarchitects.com

INTERMOUNTAIN HEALTHCARE CAMPUS RECONFIGURATION - ASC

1350N 500 E
Logan, UT 84341

Intermountain Healthcare

Project Manager	TERRI SUDBROOK
Project Designer	ERIC MEUB
Project Architect	FRANK PENROSE
Landscape Architect	ARCSITIO
Civil Engineer	GREAT BASIN
Structural Engineer	REAVELEY
Mechanical Engineer	VAN BOERUM & FRANK
Electrical Engineer	SPECTRUM
Plumbing Engineer	VAN BOERUM & FRANK
Interior Designer	RUBY THORP
Equipment Planner	ROBERT GRIESCHE
Wayfinding	

Sheet Reviewer	Author

MARK	DATE	DESCRIPTION
2	11/24/20	Addendum #02

Project Number	10173823
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STATE OF UTAH
SELVAM RAJAVELU
267857-0301
LICENSED ARCHITECT

Sheet Name

Finish Schedule & Details

Sheet Number

A603A

Project Status

100% Construction Documents

VBFA

ADDENDUM #2

DATE: November 24, 2020

PROJECT NO: 19296

PROJECT: Logan Regional Hospital - ASC

The following revision, additions, deletions, and/or items of clarification shall hereby be included as an integral part of the Contract Documents for the above-listed project and shall be fully binding. All other requirements of the original plans and specification shall remain in effect in their respective order.

DIVISION – 21, 22, 23

GENERAL

1.

DRAWINGS

SHEET - M001 – MECHANICAL SYMBOLS, ABBREVIATIONS, & GENERAL NOTES

1. The bid alternate notes on this sheet have been updated to call for all openings between the pre-fabricated modular ceiling systems and the operating room ceiling to be sealed air-tight.

SHEET - M143A-2 BID ALTERNATE #1 MECHANICAL PLANS

1. Keyed note #2 has been updated to call for all openings between the pre-fabricated modular ceiling systems and the operating room ceiling to be sealed air-tight.

SHEET - M143A-3 BID ALTERNATE #2 MECHANICAL PLANS

1. Keyed note #2 has been updated to call for all openings between the pre-fabricated modular ceiling systems and the operating room ceiling to be sealed air-tight.

SHEET - M143A – MECHANICAL NEW PLAN – LEVEL 4

1. Prep/Recovery 8 A443
   - A. A new RG-1 return air grille has been added to this room. An associated 14x10 return air duct has been added from this new return air grille to connect into the 30x18 return air main.
2. Corridor A433/Nurse Station A440
   - A. The return airflow from each of the four RG-1 return air grilles in this corridor has been reduced to 815 CFM.
3. Med Room A435
   - A. The return air airflow rom this room has been reduced to 320 CFM.
   - B. The branch return air ductwork for this room has been reduced from 14x10 to 12x10.

SHEET - M601 – MECHANICAL SCHEDULES

1. Air Handler Schedule
   - A. Note 3 has been modified to clarify VFD requirements shall comply with Division 26 specifications.
2. Air Handler Return/Relief Air Fan Schedule
   - A. The fan type has been changed to a plenum fan for each of these fans.
3. Air Handler Supply Air Fan Schedule
   - A. The fan type has been changed to a plenum fan for each of these fans.

SHEET - M602 – MECHANICAL SCHEDULES

1. Exhaust Air Fan Schedule
   A. Exhaust fan EF-3 has been modified to be powered by a 208-volt, 1-phase, 60-hz source.

SHEET - P143A – PLUMBING NEW PLAN – LEVEL 4

1. Prep/Recovery 8 A443
   A. A new L-1 wall hung lavatory has been added to this room.
   B. New domestic cold water, domestic hot water, sanitary waste, and vent piping have been added in this area to connect to the new lavatory.
2. Patient Toil/Shwr A408
   A. A new BPW-1 bed pan washer has been added to this room.
3. Patient Toilet A428
   A. A new BPW-1 bed pan washer has been added to this room.

SHEET - P601 – PLUMBING SCHEDULES

1. Plumbing Fixture Schedule
   A. A BPW-1 bed pan washer has been added to this added to this schedule.

SPECIFICATIONS

SECTION - 211000 – WATER BASED FIRE SUPPRESSION SYSTEMS

1. Modify Summary Table in section 1.2-D and sections 3.11-A-2, 3.11-B-3, 3.12-F to clarify sprinkler head finish type is Flat Plate Concealed, except uprights and storage.
2. Revise design flow data in section 1.5-D.
3. Delete sections 2.3 and 2.4.

SECTION - 226314 – MEDICAL GAS PIPING

1. Paragraph 1.5.C has been modified in this specification section.
2. Paragraph 3.11.D has been modified in this specification section.

SECTION - 226700 – DEIONIZED PURE WATER SYSTEM

1. Change the storage tank volume from 500 gallons to 200 gallons in paragraph 2.3.
2. Change the pump horse power from 10 HP to 2 HP in paragraph 2.5.
3. Paragraph 2.6 has been modified in this specification section.

SHEET - 237600 – HOSPITAL OPERATING ROOM MODULAR DIFFUSER SYSTEM

1. Add specification section. Section is related to bid alternates #1 and #2.

PRIOR APPROVALS

The following manufacturers, trade names and products are allowed to bid on a name brand only basis with the provision that they completely satisfy all and every requirement of the drawings, specifications and all addenda shall conform to the design, quality and standards specified, established and required for the complete and satisfactory installation and performance of the building and all its respective parts.

Item	**Manufacturer**	**Comments**
DI-1 Pure Water System	Water Specialties	Approved
Custom Hospital Air Handling Units	Energy Labs	Approved
Fan Array Assemblies	Energy Labs	Not Approved
Control Dampers	Energy Labs	Not Approved
Pre-fab Modular Ceilings for O.R.	Precision Air Monoflex	Approved
Supply diffusers for O.R.	AJ Manufacturing	Not Approved
Custom Air Handling Units	Unitech	Not Approved
Unit Heater	Rittling Zehnder	Not Approved
Y-Strainers	Titan Flow Control Inc.	Not Approved
Check Valves	Titan Flow Control Inc.	Not Approved

Expansion Loops	Twin City Hose	Approved
Domestic Expansion Tanks	Taco Comfort Solutions	Approved
Domestic Pumps	Taco Comfort Solutions	Approved
Energy Recovery Unit	LG	Not Approved
Energy Recovery Unit	Valent	Not Approved
Energy Recovery Unit	Renewaire	Approved
Variable Refrigerant Flow System	LG	Approved
VAV Boxes	Price	Approved
Exhaust Fans	Twin City Fan	Not Approved
Humidifiers	DriSteem	Approved
Test and Balancing Contractor	Mechanical Testing Corporation	Not Approved
Lavatory	American Standard	Not Approved
Flush Valves	American Standard	Not Approved
Faucets	American Standard	Not Approved
Toilet Seats	American Standard	Approved

LEGEND OF MECHANICAL SYMBOLS AND ABBREVIATIONS

DUCTWORK/GRILLES

- POSITIVE PRESSURE DUCT - RISE
- POSITIVE PRESSURE DUCT - DROP
- NEGATIVE PRESSURE DUCT - RISE
- NEGATIVE PRESSURE DUCT - DROP
- ROUND DUCT - RISE
- ROUND DUCT - DROP
- UNDER FLOOR DUCT
- TURNING VANES
- FRESH AIR LOUVER
- RELIEF AIR OR EXHAUST AIR LOUVER
- 12X12 / 200 — CEILING SUPPLY DIFFUSER
- 22X22 / 200 — CEILING RETURN REGISTER
- 12X12 / 200 — CEILING EXHAUST REGISTER, (BALANCE TO MATCH SUPPLY IF RETURN CFM IS NOT SHOWN)
- 24X10 / 200 — SIDEWALL SUPPLY REGISTER
- 24X10 / 200 — SIDEWALL EXHAUST OR RETURN REGISTER
- 12X12 / 200 — CEILING SUPPLY DIFFUSER WITH FLEXIBLE DUCT
- 12X12 / 200 — CEILING AIR GRILLE WITH FLEXIBLE DUCT

TOP FIGURES INDICATE NECK SIZE. BOTTOM FIGURE INDICATES CFM.

- CEILING RETURN AIR GRILE W/ SOUND BOOT
- 3-1" SLOTS @ 48" 400 — LINEAR DIFFUSER WITH PLENUM AND FLEXIBLE DUCT CONNECTION. NO. OF SLOTS & SIZE OF SLOT ON TOP, ACTIVE LENGTH AND CFM ON BOTTOM
- FLEXIBLE DUCT CONNECTION
- FLEXIBLE DUCT
- 12/8 FO — FLAT OVAL DUCT WITH FREE AREA DIMENSIONS SHOWN IN INCHES.
- 12/8 — RECTANGULAR DUCT WITH FREE AREA DIMENSIONS SHOWN IN INCHES.
- 12ø — ROUND DUCT WITH FREE AREA DIMENSIONS SHOWN IN INCHES.
- UP — INCLINED RISE
- DN — INCLINED DROP

WITH RESPECT TO AIR FLOW 15° NOMINAL INCLINE WITH RADIUS TURNS=DEPTH OF DUCT.

- W R — R/W=1. ROUND DUCT SIMILAR TO RECTANGULAR
- 12/12 8/8 — RECTANGULAR TO RECTANGULAR OR ROUND TO ROUND DUCT TRANSFORMATION MAXIMUM 15° INCLUDED ANGLE EXCEPT WHERE SHOWN OTHERWISE.
- 12/12 12ø — RECTANGULAR TO ROUND DUCT TRANSFORMATION
- R 6 — BRANCH DUCT SPLIT WITH 6" WIDTH AND MIN. R=WIDTH OF BRANCH DUCT DOWNSTREAM. ELBOW TURNING VANE OPTIONAL.
- 1.5D 2.5D 45° 2.5D D D — TAP ENTRY AREA EQUALS 150% OF BRANCH AREA
- 12 12/12 — HIGH EFFICIENCY FITTING
- MANUAL VOLUME DAMPER
- FD — FIRE DAMPER IN DUCT, W/ ACCESS PANEL REQD.
- FSD — COMBINATION FIRE/SMOKE DAMPER W/ ACCESS PANEL
- SD — SMOKE DAMPER W/ ACCESS PANEL
- BDD — BACK DRAFT DAMPER
- ATC OR — ATC DAMPER
- AD — ACCESS PANEL IN DUCT OR PLENUM
- HEATING OR COOLING COIL IN DUCT
- SINGLE DUCT AIR TERMINAL BOX VARIABLE OR CONSTANT VOLUME. MIN. 1-1/2 TERMINAL INLET SIZE STRAIGHT DUCT AT TERMINAL INLET.
- 4-WAY BLOW PATTERN
- 3-WAY BLOW PATTERN
- 2-WAY BLOW PATTERN
- 2-WAY BLOW PATTERN
- 1-WAY BLOW PATTERN
- SD — DUCT SMOKE DETECTOR

PIPING

- SHUT OFF VALVE
- BALL VALVE
- BUTTERFLY VALVE
- MOTOR OPERATED BUTTERFLY VALVE
- GATE VALVE
- GATE VALVE - NON RISING STEM
- ANGLE VALVE
- GLOBE VALVE
- PLUG VALVE
- SHUT OFF PLUG VALVE FOR FOR USE WITH PRESSURE GAUGE
- CHECK VALVE
- LATERAL STRAINER WITH BLOW-OFF VALVE, PROVIDE HOSE END WITH CAP WHERE DISCHARGE IS NOT PIPED TO DRAIN
- F&T — F&T=FLOAT & THERMOSTATIC
- RPBP — REDUCED PRESSURE BACKFLOW PREVENTOR W/ DRAIN PAN
- PRESSURE REDUCING VALVE EXTERNAL PRESSURE
- PRESSURE REDUCING VALVE SELF CONTAINED
- ATC - 2 WAY VALVE
- ATC - 3 WAY VALVE
- SOLENOID VALVE
- 0.0 GPM — CALIBRATED BALANCING VALVE WITH GPM INDICATED
- VENTURI FLOW METER
- GPM, LB/HR. — FLOW METER ORIFICE
- RELIEF VALVE
- AIR VENT-MANUAL
- AV — AIR VENT-AUTO
- FLOW SWITCH
- PS — PRESSURE SWITCH
- TEMPERATURE AND PRESSURE TEST PORT
- THERMOMETER WELL
- THERMOMETER - TEMP RANGE AS INDICATED
- PRESSURE GAUGE WITH SHUT OFF PLUG VALVE
- PRESSURE GAUGE WITH PIGTAIL
- UNION
- FLANGE
- FLEXIBLE EXPANSION JOINT
- REDUCER
- ECCENTRIC REDUCER
- BRANCH - BOTTOM CONNECTION
- BRANCH - TOP CONNECTION
- BRANCH - SIDE CONNECTION
- RISE OR DROP
- RISER - DOWN (ELBOW)
- RISER - UP (ELBOW)
- PIPE CAP
- ARROW INDICATES DIRECTION OF FLOW IN PIPE
- DN — LEADER INDICATES DOWNWORD SLOPE
- VALVE IN RISE
- 90° ELBOW
- 45° ELBOW
- ALIGNMENT GUIDE
- ANCHOR

PLUMBING

- THERMOSTATIC MIXING VALVE
- HOSE BIBB
- FLOOR SINK
- FLOOR DRAIN
- FCO / COTG — FLOOR CLEAN-OUT OR CLEAN-OUT TO GRADE
- ROOF DRAIN
- VTR — VENT THRU ROOF
- WATER HAMMER ARRESTOR
- CLEAN-OUT
- FILL PORT
- DRAIN PAN AND P-TRAP
- (NAME) — FIXTURE FROM LEVEL ABOVE
- DEMOLITION

EQUIPMENT

- UNIT HEATER
- INLINE PUMP
- INLINE PUMP
- FAN

FIRE

- HOSE VALVE
- NRS GATE VALVE WITH SUPERVISION
- FLOW SWITCH
- FIRE RISER
- SPRINKLER HEAD
- F — FIRE SPRINKLER WATER

ANNOTATIONS

- P-1 — PLUMBING FIXTURES
- POINT OF CONNECTION
- A / M-101 — SECTION TAG - TOP FIGURE IS SECTION NO. BOTTOM FIGURE IS SHEET NO.
- A / M101 — DETAIL TAG - TOP FIGURE IS DETAIL NO. BOTTOM FIGURE IS SHEET NO.
- EF 1 — EQUIPMENT IDENTIFICATION
- 1 — KEYED NOTE IDENTIFICATION
- S — SWITCH
- S — SENSOR
- T — THERMOSTAT
- TN — NIGHT THERMOSTAT

LINETYPES

- CF — CHEMICAL FEED
- CHWS — CHILLED WATER SUPPLY
- CHWR — CHILLED WATER RETURN
- DOMESTIC COLD WATER (DCW)
- DOMESTIC HOT WATER (DHW)
- DOMESTIC HOT WATER RETURN (DHWR)
- DI — DEIONIZED WATER SUPPLY
- DIR — DEIONIZED WATER RETURN
- E(NAME) — EXISTING PIPING
- (NAME) — EXISTING PIPING TO BE REMOVED
- GHR — GLYCOL HEAT RECOVERY PIPING
- G(NAME) — GLYCOL PIPING SOLUTION
- G — NATURAL GAS
- HPC — HIGH PRESSURE CONDENSATE
- HPS — HIGH PRESSURE STEAM
- HWR — HEATING HOT WATER RETURN
- HWS — HEATING HOT WATER SUPPLY
- IA — INSTRUMENT AIR
- ICW — INDUSTRIAL COLD WATER
- IHW — INDUSTRIAL HOT WATER
- IHWR — INDUSTRIAL HOT WATER RETURN
- LPC — LOW PRESSURE CONDENSATE
- LPS — LOW PRESSURE STEAM
- MA — MEDICAL AIR

LINETYPES CONT.

- MUW — MAKE UP WATER
- MV — MEDICAL VACUUM
- N — NITROGEN
- N20 — NITROUS OXIDE
- OX — MEDICAL OXYGEN
- PC — PUMPED CONDENSATE
- RO — REVERSE OSMOSIS WATER SUPPLY
- ROR — REVERSE OSMOSIS WATER RETURN
- RD — ROOF DRAIN
- RDO — ROOF DRAIN OVERFLOW
- RL — REFRIGERANT LIQUID
- RS — REFRIGERANT SUCTION
- SEWER (BELOW GRADE)
- SEWER (ABOVE GRADE)
- SW — SOFT DOMESTIC WATER
- VENT (SEWER)

BID ALTERNATE NOTES:

BID ALTERNATE #1: PROVIDE PRE-FABRICATED MODULAR CEILING SYSTEMS FOR OPERATING ROOMS 1 & 2. CEILING COMPONENTS TO INCLUDE SUPPLY DIFFUSERS, LIGHTING, CEILING STRUCTURE SUPPORTS, AND RELATED DESIGN SERVICES. BASIS OF DESIGN IS SLD TECHNOLOGY. ENSURE THE PRE-FABRICATED MODULAR CEILINGS ARE TIGHTLY SEALED WITH NO OPENINGS INTO THE INTERSTITIAL SPACE.

BID ALTERNATE #2: PROVIDE PRE-FABRICATED MODULAR CEILING SYSTEMS FOR OPERATING ROOMS 1, 2, & 3. CEILING COMPONENTS TO INCLUDE SUPPLY DIFFUSERS, LIGHTING, CEILING STRUCTURE SUPPORTS, AND RELATED DESIGN SERVICES. BASIS OF DESIGN IS SLD TECHNOLOGY. ENSURE THE PRE-FABRICATED MODULAR CEILINGS ARE TIGHTLY SEALED WITH NO OPENINGS INTO THE INTERSTITIAL SPACE.

ROOM PRESSURE TESTING NOTES:

CONTRACTOR SHALL PERFORM BLOWER DOOR PRESSURE TESTING IN THE FOLLOWING ROOMS

- **O.R. 3 A431**
- **O.R. 2 A448**
- **DECONTAMINATION A464**
- **STERILE PROCESSING A465**
- **O.R. 1 A461**

THE ROOMS MUST MAINTAIN A 0.03" WC PRESSURE DIFFERENTIAL WITH A MAXIMUM LEAKAGE RATE OF THE OFFSET SHOWN ON THE DRAWINGS. SEE SHEET M701 AND SECTION 230593-1.2 FOR MORE INFORMATION.

MECHANICAL GENERAL NOTES

1. PROVIDE CD-1 TYPE DIFFUSER, AS SCHEDULED, FOR ALL CEILING SUPPLY DIFFUSERS UNLESS NOTED OTHERWISE. SEE DETAIL 10/M501.
2. PROVIDE RG-1 TYPE GRILLE, AS SCHEDULED, FOR ALL CEILING RETURN GRILLES SHOWN AS SUCH. PROVIDE SIZE 22x22, OR 22x10 WITH SOUND BOOT FOR UNDUCTED GRILLES. SEE DETAIL 5/M504.
3. PROVIDE EG-1 TYPE GRILLE, AS SCHEDULED, FOR ALL CEILING EXHAUST GRILLES, SHOWN AS SUCH.
4. PROVIDE BALANCING DAMPERS AT EACH BRANCH TAKE OFF TO SERVE DIFFUSER OR GRILLE AS WELL AS WHERE INDICATED.
5. COORDINATE EXACT LOCATION OF DUCTS WITH STRUCTURAL MEMBERS, LIGHTS, REFLECTED CEILING, CABLE TRAY, PLUMBING, MECHANICAL PIPING, ETC.
6. BRANCH DUCTWORK SHALL BE SIZED TO MATCH THE NECK SIZE OF THE DIFFUSER, REGISTER OR GRILLE IT SERVES UNLESS NOTED OTHERWISE.
7. INSTALL HARD ELBOWS AS SHOWN. HARD ELBOWS ARE REQUIRED FOR SOUND ATTENUATION.
8. INSTALL EQUIPMENT WITH CLEARANCE PER MANUFACTURER'S RECOMMENDATIONS. MAINTAIN PROPER SPACE FOR COIL PULL, CONTROLS, AND MAINTENANCE ACCESS.
9. INSTALL TURNING VANES IN ALL SQUARE AND RECTANGULAR LOW PRESSURE DUCTWORK.
10. DETAILS REFERENCE ALL SHEETS.
11. ALL FIRE DAMPERS ARE 1-1/2 HR RATED, UNLESS NOTED OTHERWISE.
12. DO NOT ROUTE DUCTS OR PIPES ABOVE ELECTRICAL PANELS. DO NOT ROUTE DUCTS OR PIPES IN ELECTRICAL ROOMS, EXCEPT DUCTS AND PIPES SERVING THE ROOM.
13. IF CONTRACTOR ENCOUNTERS MATERIAL WHICH MAY CONTAIN ASBESTOS, IMMEDIATELY STOP WORK IN THIS AREA AND NOTIFY THE OWNER.
14. PROVIDE CEILING ACCESS PANELS AS REQUIRED WHERE MECHANICAL EQUIPMENT, VALVES, VAV BOXES, FIRE DAMPERS, ETC, ARE LOCATED ABOVE INACCESSIBLE CEILINGS.
15. ALL DUCT DIMENSIONS ARE INSIDE FREE AREA DIMENSIONS. ADJUST SHEET METAL DIMENSION FOR LINED DUCT.

MECHANICAL PIPING GENERAL NOTES

1. PIPING DRAWINGS ARE SCHEMATIC IN NATURE. FIELD VERIFY ALL ROUTING AND COORDINATE WITH ALL OTHER TRADES.
2. NO PIPING TO RUN DIRECTLY OVER ELECTRICAL PANELS, MCC'S, VFD'S. ROUTE AROUND AS REQUIRED.
3. INSTALL MANUAL AIR VENTS AT ALL HYDRONIC SYSTEM HIGH POINTS.
4. INSTALL ALL EQUIPMENT WITH SUFFICIENT CLEARANCE FOR MAINTENANCE PER MANUFACTURER'S RECOMMENDATION. PROVIDE A 24"X24" ACCESS DOOR BELOW EQUIPMENT BOX AND CONTROL VALVES WHERE INSTALL OVER HARD CEILING AREAS.
5. COORDINATE EXACT LOCATION OF T-STATS WITH ARCHITECTURAL FURNISHINGS.
6. INSTALL A 24"x24" ACCESS PANEL BELOW ALL VALVES, CIRCUIT SETTERS, AND CONTROL VALVES OVER HARD CEILINGS.
7. MECHANICAL PIPING TO BE INSTALLED ABOVE DUCTWORK AND EQUIPMENT EXCEPT WHERE SHOWN.
8. FIELD VERIFY ALL EQUIPMENT LOCATIONS.
9. DETAILS REFERENCE ALL SHEETS.

PLUMBING GENERAL NOTES

1. SLOPE PIPING AS FOLLOWS, UNLESS OTHERWISE NOTED. WASTE: BRANCHES 1/4" PER FOOT. WASTE MAINS: 1/8" PER FOOT.
2. SLEEVE PIPING THRU WALLS/FOUNDATIONS WHERE REQUIRED.
3. PLUMBING DRAWINGS ARE SCHEMATIC IN NATURE. FIELD VERIFY EXACT ROUTING AND COORDINATE WITH ALL OTHER TRADES.
4. ALL PIPING IN PLUMBING CHASES TO BE ARRANGED TO ALLOW MAINTENANCE ACCESS.
5. NO PIPING TO RUN OVER ELECTRICAL PANELS, VFD'S, OR MCC'S.
6. COORDINATE FAN ROOM FLOOR DRAIN LOCATIONS AND COOLING COILS.
7. NO FIRE PROTECTION LINE IS TO BE DESIGNED OR INSTALLED PRIOR TO CLOSE COORDINATION WITH ALL OTHER DISCIPLINES. DUCTWORK, MECHANICAL PIPING, AND PLUMBING TAKE PRECEDENCE OVER FIRE PROTECTION PIPING. FAILURE TO COMPLY WILL RESULT IN FIRE PROTECTION REMOVAL AND REINSTALLATION AT THE CONTRACTOR'S EXPENSE.
8. SLEEVE/CONFIGURE CMU WALLS FOR EMBEDDED PIPING AND PIPE PENETRATIONS AS REQUIRED.
9. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE MOUNTING HEIGHTS, DIMENSIONS, AND OTHER REQUIREMENTS.
10. CONTRACTOR TO VERIFY CONNECTION SIDE OF ADA FIXTURES AND ADJUST ACCORDINGLY.
11. LOCATE ALL VENTS MINIMUM 25 FT AWAY FROM AIR INTAKES.
12. INSTALL DOMESTIC WATER LINES BELOW DUCTWORK.
13. INSTALL A 24"x24" ACCESS DOOR BELOW ALL ISOLATION VALVES AND CIRCUIT SETTERS WHERE MOUNTED ABOVE HARD CEILINGS.
14. MOUNT ALL CEILING TYPE ISOLATION VALVES, CONTROL VALVES, CIRCUIT SETTERS, ETC. NEAR CEILING FOR ACCESSIBILITY.
15. DETAILS REFERENCE ALL SHEETS.
16. EXISTING PIPING SHOWN HAS BEEN TAKEN FROM INFORMATION PROVIDED BY OTHERS. FIELD VERIFY ALL SYSTEMS, SIZES, LOCATIONS, AND ELEVATIONS PRIOR TO STARTING ANY NEW WORK.

HDR

NJRA ARCHITECTS

NJRA Architects, Inc.
5272 S. College Drive, Suite104
Murray, Utah 84123
801.364.9259
www.njraarchitects.com

INTERMOUNTAIN HEALTHCARE CAMPUS RECONFIGURATION - ASC

1350N 500 E
Logan, UT 84341

Intermountain Healthcare

Project Manager	TERRI SUDBROOK
Project Designer	ERIC MEUB
Project Architect	FRANK PENROSE
Landscape Architect	ARCSITIO
Civil Engineer	GREAT BASIN
Structural Engineer	REAVELEY
Mechanical Engineer	VAN BOERUM & FRANK
Electrical Engineer	SPECTRUM
Plumbing Engineer	VAN BOERUM & FRANK
Interior Designer	RUBY THORP
Equipment Planner	ROBERT GRIESCHE
Wayfinding	
Sheet Reviewer	KJM

MARK	DATE	DESCRIPTION
2	11/24/20	DoH Review
3	11/24/20	Addendum #2

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PROFESSIONAL ENGINEER — SCOTT E. MUIR — 8055925-2202 — STATE OF UTAH

Sheet Name

MECHANICAL SYMBOLS, ABBREVIATIONS, & GENERAL NOTES

Sheet Number

M001

Project Status

100% Construction Documents- Permit Set

SHEET KEYNOTES

1. INSTALL THIS SIDE WALL RETURN GRILLE SO THE BOTTOM OF THE GRILLE IS 6" ABOVE THE FINISHED FLOOR. PROVIDE ELECTRONIC TYPE REMOTE DAMPER OPERATORS FOR THE HIGH EFFICIENCY TAKE-OFF DAMPER ASSOCIATED WITH THIS GRILLE THAT ARE TERMINATED NEAR A CEILING ACCESS DOOR IN THIS ROOM. CLEARLY LABEL EACH REMOTE DAMPER OPERATOR SO IT CAN EASILY BE KNOWN WHICH OPERATOR CONTROLS WHICH GRILLE.
2. THIS IS A COOLING-ONLY VAV BOX. NO REHEAT COIL OR HEATING HOT WATER CONNECTIONS ARE REQUIRED.
3. CAREFULLY COORDINATE THIS DUCTWORK PENETRATION UP THROUGH THE ROOF AND CONNECT TO THE NEW AIR HANDLER ABOVE. PROVIDE A COMBINATION FIRE & SMOKE DAMPER IN THE DUCTWORK WHERE IT PENETRATES THE ROOF.
4. REUSE AS MUCH OF THE SALVAGED RETURN AIR DUCTWORK AS POSSIBLE WHEN INSTALLING THIS DUCTWORK. FIELD VERIFY THE EXTENT OF WORK.
5. INSTALL A NEW TRANSFER AIR DUCT IN THE WALL ABOVE THE CEILING IN THIS LOCATION.
6. INTERCONNECT THIS VAV BOX WITH EXHAUST FAN EF-6 TO MAINTAIN THE POSITIVE PRESSURE OFFSET AIRFLOW AS DESCRIBED ON SHEET M701. AS THE AIRFLOW THROUGH THE VAV BOX CHANGES, THE AIRFLOW THROUGH EXHAUST FAN EF-6 IS TO ALSO CHANGE ACCORDINGLY.
7. STUB THIS SUPPLY DUCTWORK THROUGH THE WALL AND LEAVE OPEN TO PROVIDE SUPPLY AIRFLOW TO THE SHELLED O.R. SPACE.
8. REINSTALL THE FOUR SALVAGED LINEAR RETURN AIR GRILLES IN THE CEILING BETWEEN THE REMAINING TWO SETS OF LINEAR SUPPLY DIFFUSERS IN THE HALLWAY. PROVIDE EQUAL SPACING BETWEEN THE SUPPLY DIFFUSERS AND THE REINSTALLED RETURN GRILLES. PATCH AND REPAIR THE CEILING AS REQUIRED TO MATCH THE EXISTING CONDITIONS. FIELD VERIFY THE EXTENT OF WORK.
9. THESE TWO SUPPLY DIFFUSERS AND THE COVERS ON THE CONCEALED FIRE SPRINKLERS IN THIS AREA ARE TO BE PAINTED TO MATCH THE WOOD CEILING.
10. THE CONTRACTOR IS TO SEAL ALL OPENINGS IN AND ABOVE THE CEILING OF THIS ROOM AIR TIGHT. THE CEILING TILES IN THIS ROOM ARE TO HAVE GASKETS ON THEM TO HELP PROVIDE AN AIR-TIGHT CEILING. THE CONTRACTOR IS TO PERFORM A BLOWER DOOR TEST IN ACCORDANCE WITH THE REQUIREMENTS NOTED ON SHEET M701 TO PROVE THE ROOM HAS BEEN PROPERLY SEALED. THE CONTRACTOR IS TO PROVIDE A WRITTEN REPORT OF THE BLOWER DOOR TEST OUTCOME TO THE OWNER, ARCHITECT, & ENGINEER.
11. THE BALANCING DAMPERS ON THE HIGH EFFICIENCY TAKE-OFFS IN THE OPERATING ROOMS ARE TO INCLUDE ELECTRONIC TYPE REMOTE DAMPER OPERATORS THAT ARE TERMINATED NEAR A CEILING ACCESS DOOR IN THAT ROOM. CLEARLY LABEL EACH REMOTE DAMPER OPERATOR SO IT CAN EASILY BE KNOWN WHICH OPERATOR CONTROLS WHICH DIFFUSER. TYPICAL FOR ALL HIGH EFFICIENCY TAKE-OFFS ABOVE OPERATING ROOM CEILINGS.
12. INSTALL DIFFERENTIAL PRESSURE SENSOR TO CONTROL MOTORIZED ATC DAMPER IN RETURN DUCT. SEE SECTION 230993-4 FOR RETURN DUCT CONTROL DAMPER SEQUENCE.
13. DUCT STATIC PRESSURE SENSOR FOR AHU CONTROL.
14. AIRFLOWMEASURING STATION TO MONITOR AND CONTROL EXHAUST FAN. PROVIDE EBTRON GTX116-P+ AND PROVIDE 2 DUCT DIAMETERS UPSTREAM/DOWNSTREAM (MINIMUM) OF STRAIGHT DUCT. SEE SEQUENCE OF OPERATIONS 230993-7 FOR MORE INFORMATION.
15. RELOCATED VAV BOX. EXISTING BOX IS COOLING ONLY. BALANCE TO AIRFLOW NOTED.

GENERAL NOTES

1. DUCT LINER RESTRICTIONS: (REFER TO 233113-3.10-G) DUCT LINER EXPOSED TO AIR MOVEMENT SHALL NOT BE USED IN SUPPLY DUCTS SERVING THE FOLLOWING AREAS:
   A. OR1 A461
   B. OR 2 A448
   C. OR 3 A431
   D. STERILE PROCESSING A465

LEVEL 4 MECHANICAL PLAN - AREA B

SCALE: 1/4" = 1'-0"

HDR

NJRA ARCHITECTS

NJRA Architects, Inc.
5272 S. College Drive, Suite104
Murray, Utah 84123
801.364.9259
www.njraarchitects.com

INTERMOUNTAIN HEALTHCARE CAMPUS RECONFIGURATION - ASC

1350N 500 E
Logan, UT 84341

Intermountain Healthcare

Project Manager	TERRI SUDBROOK
Project Designer	ERIC MEUB
Project Architect	FRANK PENROSE
Landscape Architect	ARCSITIO
Civil Engineer	GREAT BASIN
Structural Engineer	REAVELEY
Mechanical Engineer	VAN BOERUM & FRANK
Electrical Engineer	SPECTRUM
Plumbing Engineer	VAN BOERUM & FRANK
Interior Designer	RUBY THORP
Equipment Planner	ROBERT GRIESCHE
Wayfinding	
Sheet Reviewer	KJM

MARK	DATE	DESCRIPTION
1	11/13/20	Addendum #1
2	11/24/20	DoH Review
3	11/24/20	Addendum #2

Project Number	10173823
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PROFESSIONAL ENGINEER
SCOT E. MUIR
8055925-2202
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Sheet Name

MECHANICAL NEW PLAN - LEVEL 4

Sheet Number

M143A

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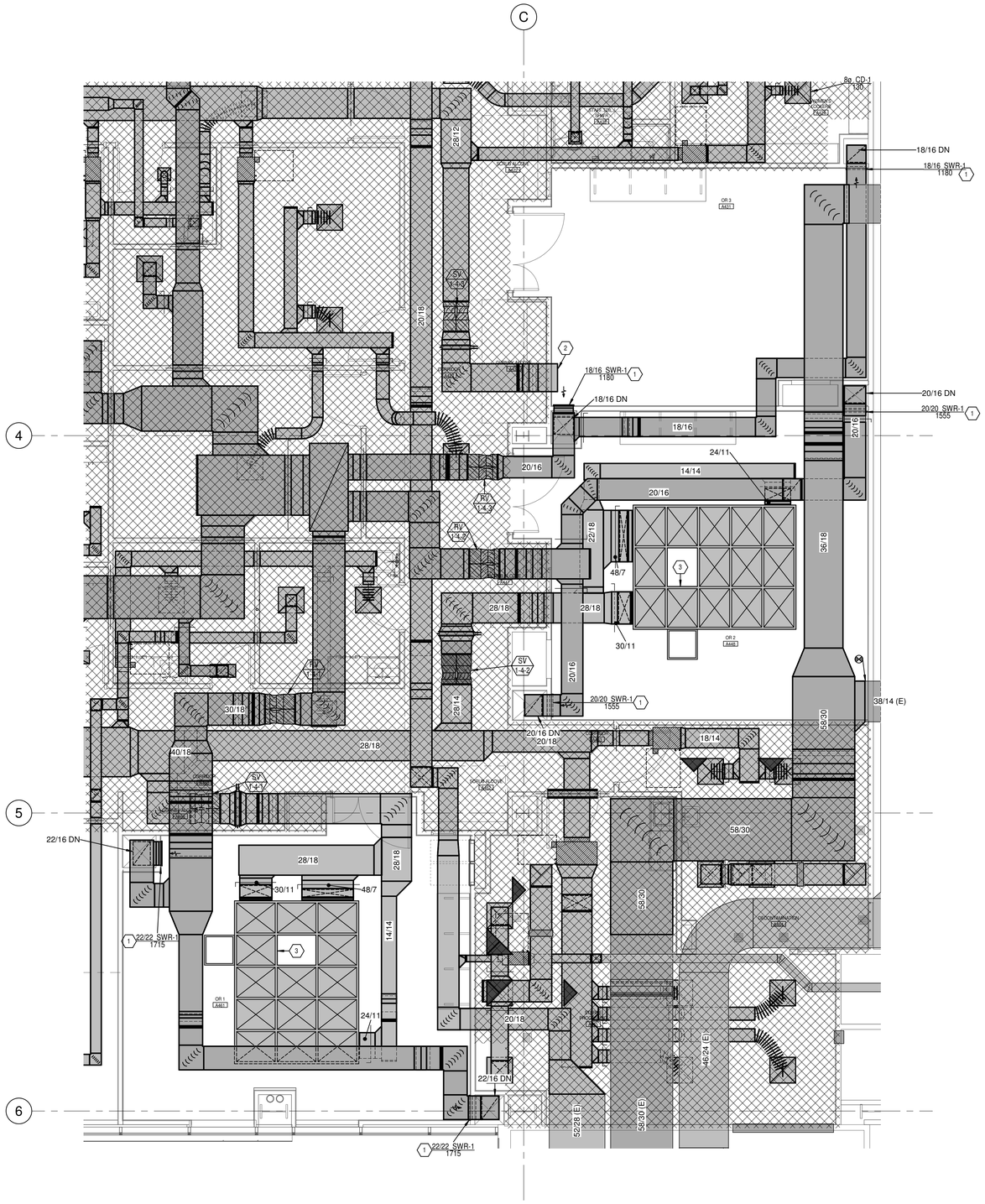
TRUE NORTH



1 BID ALTERNATE #1 - OR MECHANICAL PLAN

SCALE: 1/4" = 1'-0"

SHEET KEYNOTES

1. INSTALL THIS SIDE WALL RETURN GRILLE SO THE BOTTOM OF THE GRILLE IS 8" ABOVE THE FINISHED FLOOR. PROVIDE ELECTRONIC TYPE REMOTE DAMPER OPERATORS FOR THE HIGH EFFICIENCY TAKE-OFF DAMPER ASSOCIATED WITH THIS GRILLE THAT ARE TERMINATED NEAR A CEILING ACCESS DOOR IN THIS ROOM. CLEARLY LABEL EACH REMOTE DAMPER OPERATOR SO IT CAN EASILY BE KNOWN WHICH OPERATOR CONTROLS WHICH GRILLE.
2. STUB THIS SUPPLY DUCTWORK THROUGH THE WALL AND LEAVE OPEN TO PROVIDE SUPPLY AIRFLOW TO THE SHELLED O.R. SPACE.
3. PROVIDE A PRE-FABRICATED MODULAR OPERATING ROOM CEILING IN THIS LOCATION. THE MODULAR CEILING IS TO INCORPORATE ALL REQUIRED SUPPLY AIR DIFFUSERS, LIGHTING, MEDICAL GAS OUTLETS, SURGICAL BOOMS, STRUCTURE, AND SEISMIC RESTRAINTS. THE BALANCING DAMPERS ON THE HIGH EFFICIENCY TAKE-OFFS IN THE OPERATING ROOMS ARE TO INCLUDE ELECTRONIC TYPE REMOTE DAMPER OPERATORS THAT ARE TERMINATED NEAR A CEILING ACCESS DOOR IN THAT ROOM. CLEARLY LABEL EACH REMOTE DAMPER OPERATOR SO IT CAN EASILY BE KNOWN WHICH OPERATOR CONTROLS WHICH DIFFUSER. TYPICAL FOR ALL HIGH EFFICIENCY TAKE-OFFS ABOVE OPERATING ROOM CEILINGS. ENSURE THE PRE-FABRICATED MODULAR CEILINGS ARE TIGHTLY SEALED WITH NO OPENINGS INTO THE INTERSTITIAL SPACE.

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Wayfinding	
Sheet Reviewer	Author

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3	11/24/20	Addendum #2

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SCOT E. MUIR
8055925-2202
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Sheet Name

BID ALTERNATE #1 MECHANICAL PLANS

Sheet Number

M143A-2

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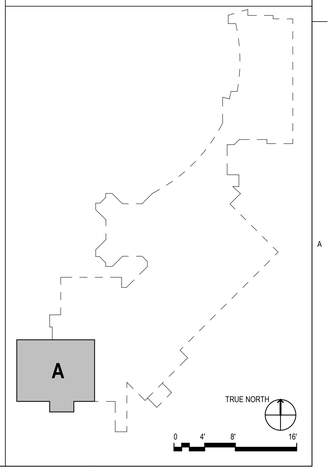

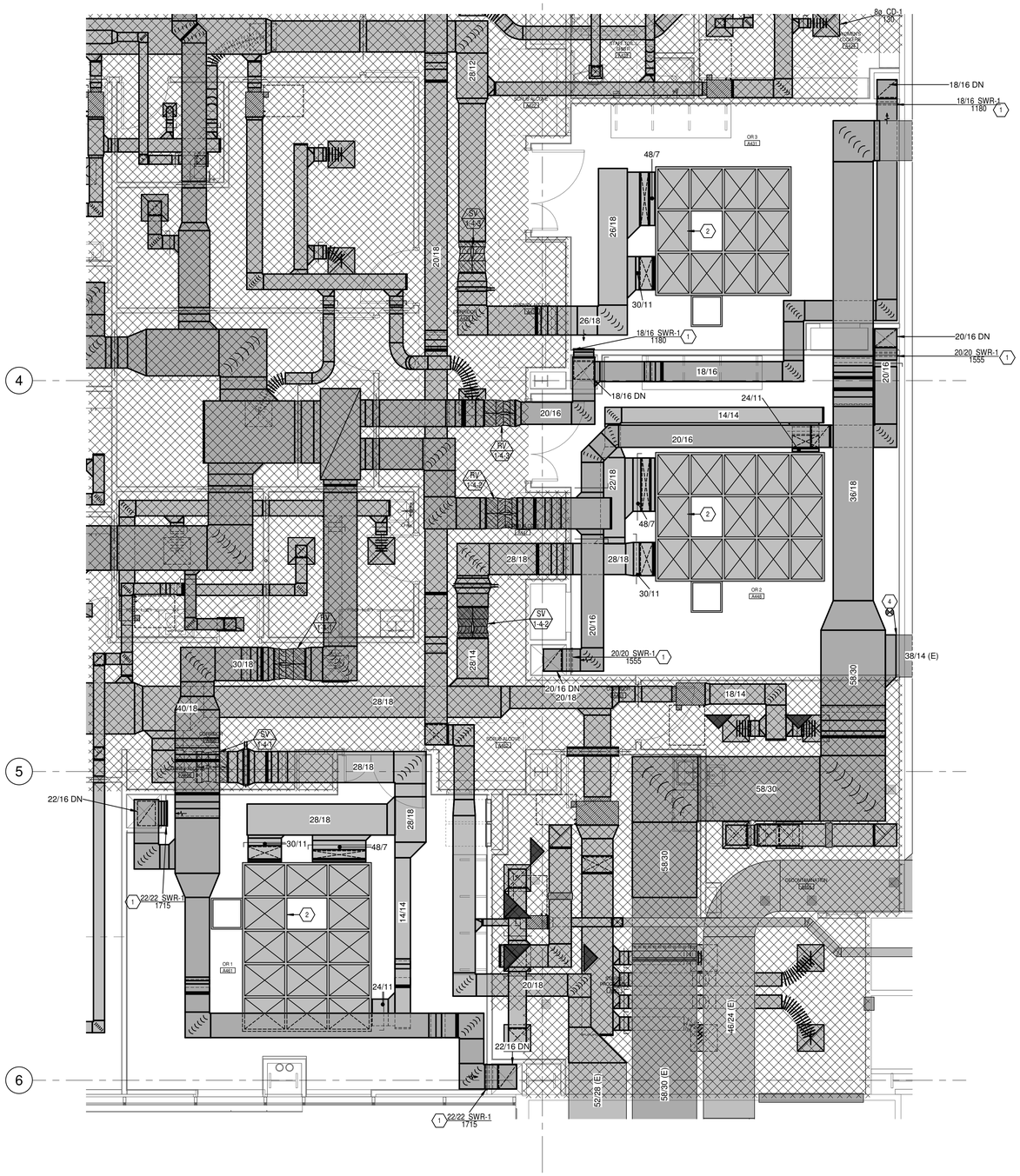

1 BID ALTERNATE #2 - OR MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

SHEET KEYNOTES

1. INSTALL THIS SIDE WALL RETURN GRILLE SO THE BOTTOM OF THE GRILLE IS 8" ABOVE THE FINISHED FLOOR. PROVIDE ELECTRONIC TYPE REMOTE DAMPER OPERATORS FOR THE HIGH EFFICIENCY TAKE-OFF DAMPER ASSOCIATED WITH THIS GRILLE THAT ARE TERMINATED NEAR A CEILING ACCESS DOOR IN THIS ROOM. CLEARLY LABEL EACH REMOTE DAMPER OPERATOR SO IT CAN EASILY BE KNOWN WHICH OPERATOR CONTROLS WHICH GRILLE.
2. PROVIDE A PRE-FABRICATED MODULAR OPERATING ROOM CEILING IN THIS LOCATION. THE MODULAR CEILING IS TO INCORPORATE ALL REQUIRED SUPPLY AIR DIFFUSERS, LIGHTING, MEDICAL GAS OUTLETS, SURGICAL BOOMS, STRUCTURE, AND SEISMIC RESTRAINTS. THE BALANCING DAMPERS ON THE HIGH EFFICIENCY TAKE-OFFS IN THE OPERATING ROOMS ARE TO INCLUDE ELECTRONIC TYPE REMOTE DAMPER OPERATORS THAT ARE TERMINATED NEAR A CEILING ACCESS DOOR IN THAT ROOM. CLEARLY LABEL EACH REMOTE DAMPER OPERATOR SO IT CAN EASILY BE KNOWN WHICH OPERATOR CONTROLS WHICH DIFFUSER. TYPICAL FOR ALL HIGH EFFICIENCY TAKE-OFFS ABOVE OPERATING ROOM CEILINGS. ENSURE THE PRE-FABRICATED MODULAR CEILINGS ARE TIGHTLY SEALED WITH NO OPENINGS INTO THE INTERSTITIAL SPACE.

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Wayfinding	

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PROFESSIONAL ENGINEER
SCOT E. MUIR
8055925-2202
STATE OF UTAH

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BID ALTERNATE #2
MECHANICAL PLANS

Sheet Number

M143A-3

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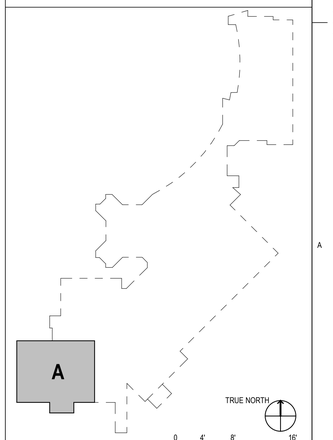

AIR HANDLER SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION/ AREA SERVED	AIR: MAXIMUM SUPPLY AIRFLOW (CFM)	AIR: MINIMUM OUTSIDE AIRFLOW (CFM)	AIR: SUPPLY EXTERNAL STATIC (IN H2O)	AIR: RETURN EXTERNAL STATIC (IN H2O)	COMPONENTS: FANS	COMPONENTS: COILS	COMPONENTS: FILTERS	ELECTRICAL: SINGLE POINT VOLT/PH/HZ	PHYSICAL: CABINET LENGTH/ WIDTH/HEIGHT (IN)	PHYSICAL: WEIGHT (LB)	NOTES
AHU-3	NORTEK CUSTOM	BUDGE CLINIC ASC ROOF	29,500	8,850	3.0	1.5	RRLF-AHU-3.1, RRLF-AHU-3.2, RRLF-AHU-3.3, RRLF-AHU-3.4, RRLF-AHU-3.5, RRLF-AHU-3.6, SF-AHU-3.1, SF-AHU-3.2, SF-AHU-3.3, SF-AHU-3.4, SF-AHU-3.5, SF-AHU-3.6	CC-AHU-3, HC-AHU-3, HU-AHU-3	F-AHU-3.1, F-AHU-3.2	480/3/60 & 120/1/60 SEE NOTE 4	564/218/121.14	64,040	1 - 6

1. CURB TO BE HIGH ENOUGH FOR THE BOTTOM OF THE OUTSIDE AIR INTAKE TO BE 3'-0" ABOVE THE FINISHED ROOF.
2. UNIT TO BE PROVIDED WITH FLAT 6" THICK CONCRETE PAD ON WHICH TO BE MOUNTED. THE AIR HANDLING UNIT SHALL HAVE NO SLOPE WHEN OPERATIONAL.
3. PROVIDE A VFD FOR EACH SUPPLY AND RETURN FAN. VFDS SHALL BE MOUNTED IN A COMMON CABINET WITH DISCONNECT AND OVERLOAD PROTECTION. COMPLY WITH DIVISION 26 VFD SPECIFICATION. (1)
4. PROVIDE 3 POINTS OF CONNECTION FOR ELECTRICAL WITH FACTORY INSTALLED DISCONNECTS. ONE 480V CONNECTION FOR THE SUPPLY FANS, ONE 480V CONNECTION FOR THE RETURN FANS, AND ONE 120V CONNECTION FOR THE LIGHTS AND OUTLETS.
5. AIR HANDLER TO BE ORDERED WITH A 9' WIDE SERVICE CORRIDOR. AIR HANDLER MANUFACTURER TO PROVIDE AN ACCESS STAIRCASE FROM THE FINISHED ROOF UP TO THE SERVICE CORRIDOR ENTRANCE.
6. THIS AIR HANDLER AND ALL OF ITS ASSOCIATED EQUIPMENT ARE TO BE ON EMERGENCY POWER.

AIR HANDLER RETURN/RELIEF AIR FAN SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	QUAN.	TYPE (1)	AIR: MAXIMUM AIRFLOW RATE (CFM)	AIR: TOTAL STATIC PRESSURE (IN. H2O)	AIR: MAX AIR TEMP. (°F)	FAN: FAN SPEED (RPM)	FAN: FAN WHEEL DIA. (IN)	FAN: STATIC EFFICIENCY (%)	ELECTRICAL: MOTOR SIZE (HP)	ELECTRICAL: MOTOR BHP (HP)	ELECTRICAL: MOTOR SPEED (RPM)	ELECTRICAL: VOLT/PH/HZ	PHYSICAL: LENGTH/ WIDTH/ HEIGHT (IN)	NOTES
RRLF-AHU-3.1	BALDOR 06K265W356G1	AHU-3	1	PLENUM FAN	4916	2.17	72	3930	16	89.5	3	2.69	1760	460/3/60	30/26/30	
RRLF-AHU-3.2	BALDOR 06K265W356G1	AHU-3	1	PLENUM FAN	4916	2.17	72	3930	16	89.5	3	2.69	1760	460/3/60	30/26/30	
RRLF-AHU-3.3	BALDOR 06K265W356G1	AHU-3	1	PLENUM FAN	4916	2.17	72	3930	16	89.5	3	2.69	1760	460/3/60	30/26/30	
RRLF-AHU-3.4	BALDOR 06K265W356G1	AHU-3	1	PLENUM FAN	4916	2.17	72	3930	16	89.5	3	2.69	1760	460/3/60	30/26/30	
RRLF-AHU-3.5	BALDOR 06K265W356G1	AHU-3	1	PLENUM FAN	4916	2.17	72	3930	16	89.5	3	2.69	1760	460/3/60	30/26/30	
RRLF-AHU-3.6	BALDOR 06K265W356G1	AHU-3	1	PLENUM FAN	4916	2.17	72	3930	16	89.5	3	2.69	1760	460/3/60	30/26/30	

AIR HANDLER SUPPLY AIR FAN SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	QUAN.	TYPE (1)	AIR: MAXIMUM AIRFLOW RATE (CFM)	AIR: TOTAL STATIC PRESSURE (IN. H2O)	AIR: MAX AIR TEMP. (°F)	FAN: FAN SPEED (RPM)	FAN: FAN WHEEL DIA. (IN)	FAN: STATIC EFFICIENCY (%)	ELECTRICAL: MOTOR SIZE (HP)	ELECTRICAL: MOTOR BHP (HP)	ELECTRICAL: MOTOR SPEED (RPM)	ELECTRICAL: VOLT/PH/HZ	PHYSICAL: LENGTH/ WIDTH/ HEIGHT (IN)	NOTES
SF-AHU-3.1	BALDOR 07M826W280G1	AHU-3	1	PLENUM FAN	4916	7	79.2	3930	16	90	8	7.48	3930	460/3/60	38/28.5/34	
SF-AHU-3.2	BALDOR 07M826W280G1	AHU-3	1	PLENUM FAN	4916	7	79.2	3930	16	90	8	7.48	3930	460/3/60	38/28.5/34	
SF-AHU-3.3	BALDOR 07M826W280G1	AHU-3	1	PLENUM FAN	4916	7	79.2	3930	16	90	8	7.48	3930	460/3/60	38/28.5/34	
SF-AHU-3.4	BALDOR 07M826W280G1	AHU-3	1	PLENUM FAN	4916	7	79.2	3930	16	90	8	7.48	3930	460/3/60	38/28.5/34	
SF-AHU-3.5	BALDOR 07M826W280G1	AHU-3	1	PLENUM FAN	4916	7	79.2	3930	16	90	8	7.48	3930	460/3/60	38/28.5/34	
SF-AHU-3.6	BALDOR 07M826W280G1	AHU-3	1	PLENUM FAN	4916	7	79.2	3930	16	90	8	7.48	3930	460/3/60	38/28.5/34	

AIR HANDLER FILTER SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	FILTRATION	TYPE	ARRANG.	AIR: CLEAN STATIC PRESSURE (IN. H2O)	AIR: DIRTY STATIC PRESSURE (IN. H2O)	PHYSICAL: NUMBER 24"X24" MODULES	NOTES
F-AHU-3.1	CAMFILL	AHU-3	MERV 8	CARTRIDGE	FLAT	0.5	0.8	16	1
F-AHU-3.2	CAMFILL	AHU-3	MERV 14	BOX	FLAT	0.7	1.3	16	1

1. AIR TUNNEL SHALL BE SIZED TO USE STANDARD 24"X24" FILTER MODULES. NO OTHER FILTER SIZES WILL BE ACCEPTED.

AIR HANDLER HYDRONIC COIL SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	USAGE	AIR: AIRFLOW RATE (CFM)	AIR: LOAD (BTU/H)	AIR: SENSIBLE LOAD (BTU/H)	AIR: ENTERING TEMP. DB/WB (°F)	AIR: LEAVING TEMP. DB/WB (°F)	AIR: STATIC PRESSURE (IN. H2O)	HYDRONIC: FLOW RATE (GPM)	HYDRONIC: ENTERING/ LEAVING TEMP. (°F)	HYDRONIC: WORKING FLUID	HYDRONIC: HEAD LOSS (FT)	PHYSICAL: NO. COILS	PHYSICAL: EACH COIL FIN WIDTH/ HEIGHT (IN)	PHYSICAL: MINIMUM FACE AREA (FT²)	PHYSICAL: MINIMUM NO. ROWS/ FINS PER INCH	NOTES
CC-AHU-3	NORTEK CUSTOM	AHU-3	COOLING	29500	1054300	904300	87/61.9	52/47.3	0.5	175.3	44/56	WATER	7.2	2	48/94	62.67	8/6	
HC-AHU-3	NORTEK CUSTOM	AHU-3	HEATING	29500	488300	488300	35/34.6	52/43	0.5	25.7	180/140	35% P GLY	4.89	2	48/94	62.67	1/6	

AIR SEPARATOR SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	FLUID: FLOW RATE (GPM)	FLUID: WORKING FLUID	FLUID: HEAD LOSS (FT)	FLUID: SYSTEM PRESSURE (PSIG)	PHYSICAL: DIA./ HEIGHT (IN)	NOTES
AS-3-1	TACO AC2F	AHU-3	TANK	25.5	35% P GLY	3	30	8.6/18	1

1. ASME CERTIFIED

EXPANSION TANK SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	FLUID: WORKING FLUID	FLUID: MIN. TANK/ ACCEPTANCE VOLUME (GAL)	FLUID: MINIMUM FILL PRESSURE (PSIG)	FLUID: MAXIMUM WORKING PRESSURE (PSIG)	FLUID: RELIEF VALVE PRESSURE (PSIG)	PHYSICAL: TANK SIZE (GAL)	PHYSICAL: DIA./ HEIGHT (IN)	PHYSICAL: NPT FITTING (IN)	NOTES
ET-3-1	TACO CA-90	AHU-3	VERT BLADDER FULL	35% P GLY	9.3/3.4	12.7	27	30	23	20/29.1	0.5	1

1. ASME CERTIFIED

GLYCOL FEED SYSTEM SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	FLUID: WORKING FLUID	COLD: TOTAL VOLUME (GAL)	COLD: STATIC FILL PRESSURE (PSIG)	COLD: PRESSURE RATING (PSIG)	ELECTRICAL: VOLT/PH/HZ	ELECTRICAL: ALARM PANEL	PHYSICAL: LENGTH/ WIDTH/ HEIGHT (IN)	PHYSICAL: NPT FITTING (IN)	PHYSICAL: TANK SIZE (GAL)	NOTES
GFS-3	AXIOM MF300	AHU-3	STANDARD	35% P GLY	78.9	12.7	60	120/1/60	-----	11.8/11.8/36	0.5	17	1

1. THIS EQUIPMENT IS TO BE ON EMERGENCY POWER.

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PROFESSIONAL ENGINEER
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8055925-2202
STATE OF UTAH

Sheet Name

MECHANICAL SCHEDULES

Sheet Number

M601

Project Status

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EXHAUST AIR FAN SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	QUAN.	TYPE	AIR			FAN		ELECTRICAL				PHYSICAL		NOTES
					MAXIMUM AIRFLOW RATE (CFM)	STATIC PRESSURE (IN. H2O)	MAX AIR TEMP. (°F)	FAN SPEED (RPM)	FAN WHEEL DIA. (IN)	MOTOR SIZE (HP)	MOTOR BHP (HP)	MOTOR SPEED (RPM)	VOLT/PH/HZ	LENGTH/ WIDTH/ HEIGHT (IN)	WEIGHT (LBS)	
EF-1	COOK ACRUD-180R17D (VF)	BUDGE CLINIC ASC ROOF	1	UPBLAST CENTRIFUGAL	2160	0.5	72	966	18	0.5	0.325	1725	115/1/60 △1	40/40/36	65	1, 2, 3, 4, 5, 6, 7
EF-2	COOK ACED-120C17D (VF)	BUDGE CLINIC ASC ROOF	1	DOWNBLAST CENTRIFUGAL	1355	0.5	72	1604	12	0.334	0.229	1725	115/1/60	29/29/27	32	1, 2, 3, 4, 5, 6, 7
EF-3	COOK ACRUD-165R17D (VF)	BUDGE CLINIC ASC ROOF	1	UPBLAST CENTRIFUGAL	2140	0.75	72	1330	16.5	0.75	0.493	1725	208/1/60	35/35/31	55	1, 2, 3, 4, 5, 6, 7
EF-4	COOK ACED-120C17D (VF)	BUDGE CLINIC ASC ROOF	1	DOWNBLAST CENTRIFUGAL	805	0.5	72	1340	12	0.334	0.105	1725	115/1/60	29/29/27	32	1, 2, 3, 4, 5, 6, 7
EF-5	COOK ACRUD-180R17D (VF)	BUDGE CLINIC ASC ROOF	1	UPBLAST CENTRIFUGAL	2300	0.5	72	966	18	0.5	0.328	1725	115/1/60	40/40/36	65	1, 2, 3, 4, 5, 6, 7

1. PROVIDE PRE-FAB CURB, BIRD SCREEN, THERMAL OVERLOAD PROTECTION, AND MOTORIZED BACKDRAFT DAMPER.
2. PROVIDE FACTORY DISCONNECT. FAN TO BE ON EMERGENCY POWER.
3. CAPACITIES ARE AT PROJECT ALTITUDE.
4. WITH AN EC MOTOR & INTEGRAL WIRE HARNESS FOR 0 - 10 V SPEED CONTROL THAT CAN BE CONNECTED TO THE BUILDING AUTOMATION SYSTEM.
5. EXHAUST FAN TO RUN CONTINUOUSLY.
6. EXHAUST FAN TO CONNECT TO THE EXISTING BUILDING AUTOMATION SYSTEM FOR SPEED CONTROL.
7. EXHAUST FAN TO BE MOUNTED ON A 14" HIGH VIBRATION ISOLATION ROOF CURB.

STEAM-TO-HYDRONIC HEAT EXCHANGER SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	USAGE	LOAD (BTU/H)	SOURCE MEDIUM (STEAM)		TRANSFER MEDIUM (HYDRONIC)				PHYSICAL		NOTES
						FLOW RATE (LB/H)	ENTERING PRESSURE (PSIG)	FLOW RATE (GPM)	ENTERING/ LEAVING TEMP. (°F)	WORKING FLUID	HEAD LOSS (FT)	DIA./ LENGTH/ NO. PLATES (IN/IN)	SURFACE AREA (FT²)	
HX-3-1	TACO G04208-S	AHU-3	SHELL & TUBE	HEATING	488300	546.6	7.4	25.7	140/180	35% P GLY	15	4.5/48.5/	9.3	1
HX-3-2	TACO G04208-S	AHU-3	SHELL & TUBE	HEATING	488300	546.6	7.4	25.7	140/180	35% P GLY	15	4.5/48.5/	9.3	1

1. ASME CERTIFIED

PUMP SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	FLUID		PUMP		ELECTRICAL				NOTES
				FLOW RATE (GPM)	WORKING FLUID	HEAD LOSS (FT)	EFFICIENCY (%)	CONSTRUCTION	MOTOR SIZE (HP)	MOTOR BHP (HP)	MOTOR SPEED (RPM)	VOLT/PH/HZ	
P-3-1	TACO VR30@0FT	AHU-3	VERTICAL INLINE	25.7	35% P GLY	42.5	N/A	IRON	2.175	N/A	3450	460/3/60	1, 2
P-3-2	TACO VR30@0FT	AHU-3	VERTICAL INLINE	25.7	35% P GLY	42.5	N/A	IRON	2.175	N/A	3450	460/3/60	1, 2

1. PUMP ON VFD.
2. THIS PUMP IS ON EMERGENCY POWER.

GRILLES, REGISTERS AND DIFFUSERS

ID	MANUFACTURER	MODEL	SIZE	MAX CFM	MAX NC	DESCRIPTION
CD-1	EH PRICE	SPD	6" DIA 8" DIA 10" DIA 12" DIA 14" DIA	100 175 300 550 800	30	SQUARE PLAQUE CEILING DIFFUSERS. REMOVABLE FACE & CORE FRAME SHALL BE FOR SURFACE OR LAY-IN MOUNTING AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24" x 24", 24" x 12" OR 12" x 12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE. PROVIDE ROUND NECK ADAPTER. COLOR SHALL BE WHITE.
CD-2	EH PRICE	LFD	24 x 24 24 x 48	140 280	25	STAINLESS STEEL LAMINAR FLOW DIFFUSER FOR OPERATING ROOM APPLICATION. THE PERFORATED FACE PLATE, DAMPER DEFLECTOR, INTERIOR BAFFLES, AND DIFFUSER BACK PAN PLENUM SHALL BE STAINLESS STEEL WITH CONTINUOUSLY WELDED JOINTS. DIFFUSER FACE TO BE EQUIPPED WITH QUICK RELEASE FASTENERS FOR EASY REMOVAL OF FACE FOR CLEANING.
RG-1 / EG-1	EH PRICE	PDDR	6" DIA 8" DIA 10" DIA 12" DIA 14" DIA 15"x15"	100 210 380 600 750 1200	30	PERFORATED FACE RETURN AIR GRILLE, REMOVABLE FACE & CORE. FRAME SHALL BE FOR SURFACE OR LAY-IN MOUNTING AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24" x 24", 24" x 12" OR 12" x 12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE. AIR QUANTITY SHALL MATCH ROOM SUPPLY OR EXHAUST AIR QUANTITY. PROVIDE ROUND NECK ADAPTER. COLOR SHALL BE WHITE.
SWS-1	EH PRICE	520L	SEE PLANS	SEE PLANS	30	STEEL SIDE WALL SUPPLY REGISTER. DOUBLE DEFLECTION ADJUSTABLE BLADES BLADES SPACED AT 3/4" O.C AND PARALLEL TO THE LONG & SHORT DIMENSION COMPLETE WITH O.B.D. ADJUSTABLE THROUGH FACE. COMPLETE WITH QUICK RELEASE FASTENERS FOR EASY REMOVAL AND CLEANING.
SWR-1	EH PRICE	730L	SEE PLANS	SEE PLANS	30	STAINLESS STEEL SIDE WALL RETURN REGISTER. HORIZONTAL DEFLECTION FIXED BLADES MOUNTED AT 45 DEGREE ANGLE AND SPACED AT 3/4" O.C. COMPLETE WITH O.B.D. ADJUSTABLE THROUGH FACE. COMPLETE WITH QUICK RELEASE FASTENERS FOR EASY REMOVAL AND CLEANING.
SWR-2	EH PRICE	510L	SEE PLANS	SEE PLANS	30	STEEL SIDE WALL RETURN REGISTER. HORIZONTAL DEFLECTION BLADES FIXED BLADES MOUNTED AT 45 DEGREE ANGLE AND SPACED AT 3/4" O.C. COMPLETE WITH O.B.D. ADJUSTABLE THROUGH FACE. COMPLETE WITH QUICK RELEASE FASTENERS FOR EASY REMOVAL AND CLEANING.

HUMIDIFIER SCHEDULE

SYMBOL	MANUFACTURER AND MODEL NO.	SERVICE	AIRFLOW RATE (CFM)	ENTERING AIR TEMP (F DB)	ENTERING AIR HUMIDITY (RH)	LEAVING AIR TEMP (F DB)	LEAVING AIR HUMIDITY (RH)	LOAD (LB/HR)	STEAM PRESS (PSI)	MAX. ABSRB DIST (IN)	HUMID. SIZE (H/W/D) (IN)	QTY COLUMN/ROW	TUBE SPACING (IN)	REMARKS
HU-AHU-3	NORTEK CUSTOM	AHU-3	29500	55.0	0.0%	55.0	60.0%	855.3	15	17.3	83.5/94/9.5	1/1	4.45	1, 2

1. SEE AIR HANDLER CABINET FOR EXACT SIZE
2. STEAM PRESSURE ON INLET OF CONTROL VALVE = 15 PSI

HDR

NJRA ARCHITECTS

NJRA Architects, Inc.
5272 S. College Drive, Suite104
Murray, Utah 84123
801.364.9259
www.njraarchitects.com

INTERMOUNTAIN HEALTHCARE CAMPUS RECONFIGURATION - ASC

1350N 500 E
Logan, UT 84341

Intermountain Healthcare

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Project Designer	ERIC MEUB
Project Architect	FRANK PENROSE
Landscape Architect	ARCSITIO
Civil Engineer	GREAT BASIN
Structural Engineer	REAVELEY
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Electrical Engineer	SPECTRUM
Plumbing Engineer	VAN BOERUM & FRANK
Interior Designer	RUBY THORP
Equipment Planner	ROBERT GRIESCHE
Wayfinding	

Sheet Reviewer	KJM

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PROFESSIONAL ENGINEER
SCOT E. MUIR
8055925-2202
STATE OF UTAH

Sheet Name
MECHANICAL SCHEDULES

Sheet Number
M602

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SHEET KEYNOTES

1. PROVIDE SHUTOFF VALVE, PIPE PLUGGED TEE, UNION BETWEEN STUB OUT AND EQUIPMENT. PIPE 1-1/2" WASTE OUTLET TO FLOOR SINK.
2. STACK DHW AND DCW RPBP'S ON WALL.
3. 1-1/2" DRAIN WITH P-TRAP AT EACH BASIN, INCLUDED WITH SINK, CONNECT TO 2" WASTE TO FLOOR SINK. CONNECT TO 1/2" CW, 1/2" HW, 1/2" CA TO WATER GUN. 1/2" HW, 1/2" CW, 1/2" PURE WATER PER THE MANUFACTURER'S REQUIREMENTS. PROVIDE AND INSTALL PRESSURE REGULATOR FOR WATER GUN. SET PRESSURE TO 40 PSI. PROVIDE AND INSTALL A PRESSURE REGULATOR FOR COMPRESSED AIR CONNECTION AND SET TO 30 PSI MAX.
4. CONNECT COFFEE MAKER TO THE WALL OUTLET.
5. FOR WATER CONNECTION TO NEPTUNE 2 WASTE MANAGEMENT SYSTEM PROVIDE: SYMMONS 7-102A THERMOSTATIC MIXING VALVE WITH THERMOMETER AND PRESSURE GUAGE. PROVIDE ISLOATION VALVE AND SWING CHECK VALVES UPSTREAM OF THE MIXING VALVE ON BOTH HOT AND COLD WATER LINES. SURFACE MOUNT MIXING VALVE AND RELATED PIPING IN ACCESSIBLE LOCATION ON THE WALL ABOVE THE NEPTUNE 2 EQUIPMENT.
6. DISCHARGE WASTE PIPE INTO WALL BOX. WALL BOX SHALL BE INSTALLED AT 36" ABOVE FINISHED FLOOR.
7. CONNECT TO ULTRASONIC CLEANER PER MANUFACTURER'S REQUIREMENTS. PROVIDE SHUT OFF VALVES. CONNECT TO 3/4" HW, 3/4" CW. PIPE 3/4" WASTE TO FLOOR SINK.
8. CONNECT TO PASS THROUGH STEAM WASHER PER MANUFACTURER'S REQUIREMENTS. PROVIDE AND INSTALL ISOLCATION VALVES AT EACH CONNECTION.
9. 1-1/4" DRAINS TO AIR HANDLER ABOVE. SLOPE 2% BACK TO SERVICE SINK. DROP IN WALL AND STUB OUT 6" ABOVE RIM OF SERVICE SINK AND ANGLE DOWN INTO SINK.
10. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS. LABEL AS NON POTABLE WATER.
11. OFFSET VTR IN CEILING SPACE TO MAINTAIN 25 FEET OF CLEARANCE SURROUNDING AHU-3 AIR INTAKE. PATCH AND REPAIR ROOF PENETRATION TO MATCH ARCHITECTURAL.

HDR

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PROFESSIONAL ENGINEER
SCOTT E. MUIR
8055925-2202
STATE OF UTAH

Sheet Name

PLUMBING NEW PLAN - LEVEL 4

Sheet Number

P143A

Project Status

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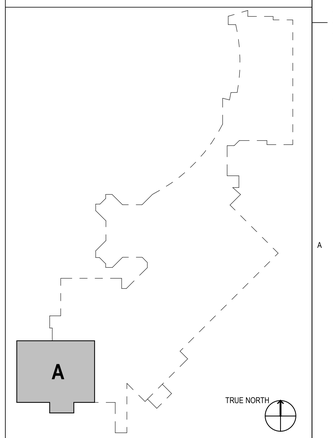

1 LEVEL 4 PLUMBING PLAN - AREA A
SCALE: 1/4" = 1'-0"

PLUMBING FIXTURE SCHEDULE

ID	FIXTURE	DCW (IN)	DHW (IN)	W (IN)	V (IN)	DESCRIPTION	NOTES
EW-1	EMERGENCY EYE WASH	1	1	-.-	-.-	TEPID WATER	EMERGENCY EYE WASH STATION: GUARDIAN MODEL G5046BP WALL MOUNTED UNIT COMPLETE WITH DRENCH HOSE STYLE EYE/FACE WASH STATION WITH VACUUM BREAKER AND GUARDIAN G3600LF THERMOSTATIC MIXING VALVE INSTALLED ABOVE CEILING DIRECTLY OVER FIXTURE. SET THE OUTLET TEMPERATURE TO 85-90 F. PROVIDE WATTS LF7 DUAL CHECK VALVES ON HOT AND COLD LINES.
FD-1	FLOOR DRAIN	-.-	-.-	2	2	GENERAL USE FLOOR DRAIN	FLOOR DRAIN (RESTROOM): SMITH FIGURE 2005Y FLOOR DRAIN WITH CAST IRON BODY AND FLASHING COLLAR WITH 6" ROUND NICKEL BRONZE ADJUSTABLE STRAINER HEAD WITH SECURED GRATE. PROVIDE AND INSTALL TRAP GUARD TRAP SEAL.
FS-1	FLOOR SINK	-.-	-.-	3	2	CENTRAL STERILE	FLOOR SINK: SMITH FIGURE 3100Y CAST IRON FLANGED RECEPTOR WITH ACID RESISTANT INTERIOR COATING, NICKEL BRONZE RIM AND SECURED 1/2 GRATE AND ALUMINUM DOME BOTTOM STRAINER. PROVIDE AND INSTALL TRAP GUARD TRAP SEAL.
HB-1	HOSE BIBB	1/2	-.-	-.-	-.-	HOSE BIBB	HOSE BIBB: CHICAGO 897-RCF FAUCET WITH VACUUM BREAKER, PROVIDE WATTS NO. 7 DUAL CHECKS IN HOT AND COLD SUPPLIES, SCREWDRIVER STOPS IN SHANKS.
HY-1	HAMMER ARRESTOR	-.-	-.-	-.-	-.-	HAMMER ARRESTOR	HAMMER ARRESTER: JR SMITH FIGURE 5005 FIXTURE RATING 1-11, FIGURE 5010 FIXTURE RATING OF 12-32, FIGURE 5020 FIXTURE RATING 33-60 & FIGURE 5030 FIXTURE RATING 61-113.
L-1	LAVATORY	1/2	1/2	2	2	WALL HUNG, GOOSENECK FAUCET WITH MANUAL WRISTBLADES	LAVATORY: KOHLER K-2030, GREENWICH, 20" X 18", VITREOUS CHINA, WITH FRONT OVERFLOW. CHICAGO 786-E72-245ABCP FAUCET WITH 4" WRIST BLADE HANDLES, GN2BJKABCP RIGID/SWING GOOSENECK SPOUT WITH 0.5 GPM LAMINAR FLOW CONTROL IN SPOUT. POWERS LF6480 THERMOSTATIC MIXING VALVE WITH WATTS LF7 DUAL CHECK VALVES ON HOT AND COLD LINES. FLEXIBLE STAINLESS STEEL SUPPLIES WITH WITH LOOSE KEY ANGLE STOPS. CHICAGO 327-XCP OPEN-GRID STRAINER AND CAST BRASS P-TRAP WITH CLEAN OUT PLUG. SMITH 0700-Z CONCEALED ARM CHAIR CARRIER WITH FOOT SUPPORT. PROVIDE ADA COMPLIANT UNDER COUNTER PIPING WRAP BY TRUE-BRO, COLOR TO BE WHITE.
S-1	SINK (INTEGRAL TO COUNTER)	1/2	1/2	2	2	SINK (INTEGRAL TO COUNTER)	SINK (BASIN INTEGRAL TO COUNTERTOP) CHICAGO 786-GN8FCXKABCP FAUCET WITH WRIST BLADE HANDLES, GN8FC RIGID/SWING GOOSENECK SPOUT WITH 1.5 GPM LAMINAR FLOW CONTROL IN SPOUT. WATTS LFUSG-B-M2 THERMOSTATIC MIXING VALVE WITH WATTS #7 DUAL CHECK VALVES ON HOT AND COLD LINES INSTALLED IN CEILING. FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE STOPS; CHICAGO 327-XCP OPEN GRID STRAINER AND CAST BRASS P-TRAP WITH CLEAN OUT PLUG. PROVIDE ADA COMPLIANT UNDER COUNTER PIPING WRAP BY TRU-BRO, COLOR TO BE WHITE.
S-2	BREAK ROOM SINK	1/2	1/2	2	2	COUNTER MOUNTED SINGLE COMPARTMENT, STAINLESS STEEL, SINGLE HANDLE	SINK: ELKAY LR-2219 18 GA. TYPE 302 STAINLESS STEEL SINK; 22" X 19" X 7½" DEEP; SELF RIMMING; (1) FAUCET HOLE; LK-35 DUO STRAINER; CHICAGO 430-ABCP SINGLE LEVER FAUCET 9-1/2" INTEGRAL SWING SPOUT; FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE STOPS; CAST BRASS P-TRAP WITH CLEAN-OUT PLUG.
S-3	SURGEON SCRUB SINK	1/2	1/2	2	2	SURGEON SCRUB SINK	FIXTURE FURNISHED BY OTHERS. PROVIDE FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE STOPS AND CAST BRASS P-TRAP WITH CLEAN OUT PLUG.
S-4	SINK	1/2	1/2	2	2	COUNTER MOUNTED SINGLE COMPARTMENT, STAINLESS STEEL, WRIST BLADE HANDLES	SINK: ELKAY LR-2219 18 GA. TYPE 302 STAINLESS STEEL SINK; 22" X 19" X 7½" DEEP; SELF RIMMING; (2) FAUCET HOLES ON 8" CENTER; CHICAGO 786-GN2FCXKABCP FAUCET WITH 4" WRIST BLADE HANDLES, RIGID/SWING GOOSENECK SPOUT WITH 1.5 GPM LAMINAR FLOW CONTROL IN SPOUT. WATTS LFUSG-B-M2 THERMOSTATIC MIXING VALVE WITH WATTS #7 DUAL CHECK VALVES ON HOT AND COLD LINES INSTALLED IN CEILING. FLEXIBLE STAINLESS STEEL SUPPLIES WITH LOOSE KEY ANGLE STOPS; CHICAGO 327-XCP OPEN GRID STRAINER AND CAST BRASS P-TRAP WITH CLEAN OUT PLUG. PROVIDE ADA COMPLIANT UNDER COUNTER PIPING WRAP BY TRU-BRO, COLOR TO BE WHITE.
SS-1	SERVICE SINK	3/4	3/4	3	2	CORNER FLOOR MOUNT, JANITOR'S CLOSET	JANITOR SINK (FLOOR MOUNTED, CORNER): KOHLER K6710, WHITBY, 28 X 28-INCH, ENAMELED CAST IRON FLOOR-MOUNTED CORNER MODEL, K9146-3" DRAIN WITH STRAINER, NO. K8940 REMOVABLE VINYL-COATED RIM GUARD; CHICAGO 897-RCF FAUCET WITH VACUUM BREAKER, PROVIDE WATTS NO. 7 DUAL CHECKS IN HOT AND COLD SUPPLIES, SCREWDRIVER STOPS IN SHANKS, 5 FOOT RUBBER HOSE AND WALL HOOK, 853.
CSS-1	CLINICAL SERVICE SINK	1	1/2	4	2	FLOOR MOUNT, FLUSH VALVE, BED PAN WASHER	KOHLER K-6676 TYRRELL FLOOR MOUNTED CLINIC SINK; CHICAGO 814-VBCP FAUCET; SLOAN REGAL 117 XL FLUSH VALVE; CHICAGO 910-GSL0777-19KCP WALL MOUNTED BEDPAN WASHER WITH FOOT PEDALS VACUUM BREAKER AND HAND HELD SPRAY HOSE. PROVIDE 10" HIGH CONCRETE BASE FOR FLOOR SINK. INSTALLED IN CEILING WITH ACCESS DOOR IF HARD CEILING, PROVIDE WATTS LFMMV THERMOSTATIC MIXING VALVE WITH WATTS #7 DUAL CHECK VALVES ON HOT AND COLD LINES.
BPW-1	BED PAN WASHER	1/2	1/2	-.-	-.-	BED PAN WASHER	BED PAN WASHER: CHICAGO 910-GSL0777-19KCP WALL MOUNTED BEDPAN WASHER WITH FOOT PEDALS VACUUM BREAKER AND HAND HELD SPRAY HOSE. INSTALLED IN CEILING WITH ACCESS DOOR IF HARD CEILING, PROVIDE WATTS LFMMV THERMOSTATIC MIXING VALVE WITH WATTS #7 DUAL CHECK VALVES ON HOT AND COLD LINES.
SH-1	SHOWER	1/2	1/2			ADA, FIXED AND HAND HELD SHOWER HEADS	SHOWER (ADA COMPLIANT): SYMMONS 1-1170VT-T600B-36-V-X-1.5 VISU-TEMP EXTRA HEAVY DUTY SHOWER SYSTEM WITH PRESSURE BALANCING MIXING VALVE, CLEAR-VUE THERMOMETER, LEVER HANDLE, ADJUSTBABLE STOP SCREW, INTEGRAL SERVICE STOPS, 1.5 GPM SHOWER HEAD WITH ARM AND FLANGE. LEVER DIVERTER WITH INTEGRAL VOLUME CONTROL, 1.5 GPM WALL/HAND SHOWER WITH 6' FLEXIBLE METAL HOSE, INLINE BREAKER, WALL CONNECTION AND FLANGE AND SYMMONS 36" T600B ADA GRAB AND SLIDE BAR FOR HAND SHOWER MOUNTING.
WC-1	ADA WATER CLOSET	1	-.-	4	2	FLOOR MOUNTED, MANUAL DUAL FLUSH VALVE, ADA	WATER CLOSET: KOHLER K-4368 HIGHCLIFF VITREOUS CHINA, FLOOR MOUNTED, ELONGATED BOWL, 1-1/2" TOP SPUD, ADA TOILET WITH K-4670-C LUSTRA OPEN-FRONT SEAT. SLOAN WES-111 MANUAL DUAL FLUSH, 1.6 GPF FLUSH VALVE; PROVIDE "DIRT GRABBER" FLUSH VALVE FILTER, COORDINATE SIZE WITH FLUSH VALVE; INSTALL ACTUATOR ON WIDE SIDE OF FIXTURE. COORDINATE MOUNTING HIEGHT WITH ARCHITECTURAL DAWINGS.
WO-1	WATER OUTLET BOX	1/2	-.-	-.-	-.-	WATER OUTLET BOX	WATER OUTLET BOX: WATER-TITE 87978 ICE MAKER OUTLET BOX WITH HAMMER ARRESTER AND QUARTER TURN BALL VALVE FOR USE WITH COFFEE MACHINE. INSTALL ONLY COLD WATER BALL VALVE. NOTCH COUNTERTOP BACK-SPLASH. PROVIDE AND INSTALL AN ASSE 1022 BACKFLOW PREVENTOR IN THE CEILING ABOVE AND PIPE DISCHARGE TO THE P-TRAP OF THE ADJACENT SINK.
WO-2	WATER OUTLET BOX	1/2	-.-	2	2	WATER OUTLET BOX	WATER OUTLET BOX: WATER-TITE 82112 WASHING MACHINE OUTLET BOX WITH DRAIN, WATER HAMMER ARRESTER, AND COLD WATER QUARTER TURN BALL VALVE FOR USE WITH COUNTERTOP ICE MACHINE. NOTCH COUNTERTOP BACK-SPLASH AND INSTALL OUTLET BOX DRAIN FLUSH WITH COUNTERTOP. PROVIDE WITH PVC TRAP.

1. ALL UNDER GROUND WASTE AND VENT SHALL BE 2" OR GREATER.

DI WATER PUMP SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	FLUID			PUMP	ELECTRICAL			NOTES
				FLOW RATE (GPM)	WORKING FLUID	HEAD LOSS (FT)	CONSTRUCTION	MOTOR SIZE (HP)	RPM	VOLT/PH/HZ	
P-1	G&L GOULDS 10SV	MECH 001	IN-LINE	20	DI WATER	150	STAINLESS STEEL	2	1750	480/3/60	1,2
P-2	G&L GOULDS 10SV	MECH 001	IN-LINE	20	DI WATER	150	STAINLESS STEEL	2	1750	480/3/60	1,2

1. CONTROLS: DI SYSTEM
2. SET SYSTEM PRESSURE TO MAINTAIN 30 PSI IN DECONTAMINATION A464.

PURE WATER SYSTEM SCHEDULE

ID	MANUFACTURER	STORAGE T-1			DEIONIZERS (2)				ULTRA VIOLET STERILIZERS				NOTES
		MANUFACTURER	TOTAL FLUID CAPACITY (GAL)	DIA./ HEIGHT (IN)	SYMBOL	CAPACITY (FT^3)	FLOW RATE/ PRESS DROP (GPM/PSI)	SIZE (IN)	SYMBOL	FLOW (GPM)	WATTS	VOLT/PH	
DI-1	WATER SPECIALTIES	NORWESCO	200	30/72	DI-1 THRU 4	9 @ 3.6	20/23	14	UV-1	30	140	120/1	1,2,3,4

1. (QTY 2) 2-BED DI SYSTEMS PIPED IN PARALLEL.
2. SEE DOMESTIC PUMP SCHEDULE FOR REPRESSURE PUMPS.
3. FLOW RATE IS FOR EACH 2-BED TANK ARRANGEMENT.
4. UV STERILIZER SHALL BE SANITRON S2400C.

HDR

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PROFESSIONAL ENGINEER
SCOTT E. MUIR
8055925-2202
STATE OF UTAH

Sheet Name

PLUMBING SCHEDULES

Sheet Number

P601

Project Status

100% Construction Documents- Permit Set

SECTION 21 10 00 - WATER-BASED FIRE-SUPPRESSION SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following fire-suppression piping inside the building:

1. Semiautomatic wet-type, Class I standpipe systems.
2. Wet-pipe sprinkler systems.
3. Description: Renovation of an area on the 4th floor, area to be supplied by existing wet system.

B. Related Sections include the following:

1. Division 10 Section "Fire Extinguisher Cabinets" and "Fire Extinguishers" for cabinets and fire extinguishers.
2. Division 22 Section "Facility Water Distribution Piping" for piping outside the building.
3. Division 28 Section "Fire Detection and Alarm" for alarm devices not specified in this Section.

C. All black steel sprinkler pipe shall have a wall thickness less than or equal to schedule 40 and greater than schedule 10.

1. Exception: Pipe with a nominal pipe size of 6 inches and greater may be schedule 10.

D. Summary Table:

Item	Summary
Underground service entrance piping	Existing to Remain
Interior pipe type	Mains: Schedule 40 Branchlines: Threadable thinwall or schedule 40
Sprinkler Finish	**Flat Plate Concealed, except uprights and storage**
Extended Coverage	Not Allowed
Center of Tile	Required, Center thirds are acceptable for rectangular tiles
Flexible Sprinkler Drops	Designers preference
FM Global	No

Calculations	Required if Basis of Design is changed i.e. flexible sprinkler drops used.
Alarm Device	Horn/Strobe
FDC	Existing to Remain
Special Items	
Seismic	

1.3 DEFINITIONS

A. CPVC: Chlorinated polyvinyl chloride plastic.

B. CR: Chlorosulfonated polyethylene synthetic rubber.

C. High-Pressure Piping System: Fire-suppression piping system designed to operate at working pressure higher than standard 175 psig.

D. PE: Polyethylene plastic.

E. Underground Service-Entrance Piping: Underground service piping below the building.

1.4 SYSTEM DESCRIPTIONS

A. Manual Wet-Type, Class I Standpipe System: Includes NPS 2-1/2 hose connections. Has small water supply to maintain water in standpipes. Piping is wet, but water must be pumped into standpipes to satisfy demand.

B. Wet-Pipe Sprinkler System: Automatic sprinklers are attached to piping containing water and that is connected to water supply. Water discharges immediately from sprinklers when they are opened. Sprinklers open when heat melts fusible link or destroys frangible device. Hose connections are included if indicated.

1.5 PERFORMANCE REQUIREMENTS

A. Standard Piping System Component Working Pressure: Listed for at least 175 psig.

B. High-Pressure Piping System Component Working Pressure: Listed for 250 psig minimum 300 psig.

C. Fire-suppression standpipe system design shall be approved by authorities having jurisdiction.

1. Minimum residual pressure at each hose-connection outlet is the following:

a. NPS 1-1/2 Hose Connections: 65 psig.
b. NPS 2-1/2 Hose Connections: 100 psig.

2. Unless otherwise indicated, the following is maximum residual pressure at required flow at each hose-connection outlet:

   a. NPS 1-1/2 Hose Connections: 100 psig.
   b. NPS 2-1/2 Hose Connections: 175 psig.

D. Design sprinkler piping according to the following and obtain approval from engineer, prior to submitting to other authorities having jurisdiction:

1. Design sprinkler system with the following 10% reduced flow data:

   Flow data available at 500 E 1400 N Logan, UT 84341

   ~~**Static – 128 psi**~~ **115 psi**

   ~~**Residual – 90 psi @ 2,599 gpm**~~ **flowing 81 psi @ 2,599 gpm**

   Date of Test – 08/14/2019 by VBFA, Inc.

2. Margin of Safety for Available Water Flow and Pressure: 10 percent, including losses through water-service piping, valves, and backflow preventers.

3. Sprinkler Occupancy Hazard Classifications:
   a. Building Service Areas: Ordinary Hazard, Group 1.
   b. Electrical Equipment Rooms: Ordinary Hazard, Group 1.
   c. General Storage Areas: Ordinary Hazard, Group 1.
   d. Laundries: Ordinary Hazard, Group 1.
   e. Mechanical Equipment Rooms: Ordinary Hazard, Group 1.
   f. Office and Public Areas: Light Hazard.

4. Minimum Density for Automatic-Sprinkler Piping Design:

   a. Light-Hazard Occupancy: 0.10 gpm over 1500-sq. ft. area.
   b. Ordinary-Hazard, Group 1 Occupancy: 0.15 gpm over 1500-sq. ft. area.
   c. Ordinary-Hazard, Group 2 Occupancy: 0.20 gpm over 1500-sq. ft. area.

5. Minimum Density for Deluge-Sprinkler Piping Design:

   a. Ordinary-Hazard, Group 1 Occupancy: 0.15 gpm over entire area.
   b. Ordinary-Hazard, Group 2 Occupancy: 0.20 gpm over entire area.

~~**6. Maximum Protection Area per Sprinkler: Per UL listing.**~~

7. Maximum Protection Area per Sprinkler:

   a. Office Spaces: 225 sq. ft..
   b. Storage Areas: 130 sq. ft..
   c. Mechanical Equipment Rooms: 130 sq. ft..
   d. Electrical Equipment Rooms: 130 sq. ft..
   e. Other Areas: According to NFPA 13 recommendations, unless otherwise indicated.

8. Total Combined Hose-Stream Demand Requirement: According to NFPA 13, unless otherwise indicated:

   a. Light-Hazard Occupancies: 100 gpm for 30 minutes.
   b. Ordinary-Hazard Occupancies: 250 gpm for 60 to 90 minutes.
   c. Extra-Hazard Occupancies: 500 gpm for 90 to 120 minutes.

9. Sprinklers are to be installed throughout the premises, as required by NFPA 13.

E. Seismic Performance: Fire-suppression piping shall be capable of withstanding the effects of earthquake motions determined according to NFPA 13.

1.6 SUBMITTALS

A. Product Data: For the following:
   1. Piping materials, including dielectric fittings, flexible connections, and sprinkler specialty fittings.
   2. Pipe hangers and supports, including seismic restraints.
   3. Valves, including listed fire-protection valves, unlisted general-duty valves, and specialty valves and trim.
   4. Sprinklers, escutcheons, and guards. Include sprinkler flow characteristics, mounting, finish, and other pertinent data.

B. Shop Drawings: Diagram power, signal, and control wiring.

C. Fire-hydrant flow test report.

D. Seismic Calculations.

E. Approved Sprinkler Piping Drawings: Working plans, prepared according to NFPA 13, that have been approved by authorities having jurisdiction, including hydraulic calculations, if applicable. Drawings are to be approved by Engineer prior to submission to State Fire Marshal.

F. Field Test Reports and Certificates: Indicate and interpret test results for compliance with performance requirements and as described in NFPA 13 and NFPA 14. Include "Contractor's Material and Test Certificate for Aboveground Piping" and "Contractor's Material and Test Certificate for Underground Piping."

G. Welding certificates.

H. Field quality-control test reports.

I. Operation and Maintenance Data: For standpipe and sprinkler specialties to include in emergency, operation, and maintenance manuals.

1.7 QUALITY ASSURANCE

A. Installer Qualifications:

1. An experienced installer who has designed and installed fire-suppression piping similar to that indicated for this Project and obtained design approval and inspection approval from authorities having jurisdiction. The Engineer requires evidence to support the ability of the contractor to perform work in the scope and volume as specified. A contractor, who cannot show such experience, may be found not suitable to perform the work. The following are the approved contractors for this project:

    a. PRE-APPROVED CONTRACTORS LIST
        1) Alta Fire
        2) Certified Fire
        3) Chaparral Fire (A-1 National)
        4) Delta Fire
        5) Kimco Fire
        6) Preferred Fire Protection
        7) Quality Fire Protection
        8) FireTrol
        9) FireFly Fire Protection
        10) Simplex-Grinnell
        11) State Fire DC Specialties
        12) The Safety Team
        13) Western Automatic
        14) Or prior approved equal
    b. A contractor not listed in the "PRE-APPROVED CONTRACTORS LIST" must receive prior approval from the engineer to bid this project.

B. Installer's responsibilities include designing, fabricating, and installing fire-suppression systems and providing professional engineering services needed to assume engineering responsibility. Base calculations on results of fire-hydrant flow test.

    1. Engineering Responsibility: Preparation of working plans, calculations, and field test reports by a qualified professional engineer or NICET Level III technician.

C. Welding: Qualify processes and operators according to ASME Boiler and Pressure Vessel Code: Section IX.

D. NFPA Standards: Fire-suppression-system equipment, specialties, accessories, installation, and testing shall comply with the following:

    1. NFPA 13, "Installation of Sprinkler Systems."

E. International Conference of Building Code Officials codes and standards complying with the following:

    1. IBC-2018, "International Building Code."
    2. IFC-2018, "International Fire Code."

F. Utah Amendments
    1. Title 15A

1.8 COORDINATION

A. Coordinate layout and installation of sprinklers with other construction that penetrates ceilings, including light fixtures, HVAC equipment, and partition assemblies.

1.9 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Sprinkler Cabinets: Finished, wall-mounting, steel cabinet with hinged cover, with space for minimum of six spare sprinklers plus sprinkler wrench. Include number of sprinklers required by NFPA 13 and sprinkler wrench. Include separate cabinet with sprinklers and wrench for each type of sprinkler on Project.

1.10 General Engineering Quality

A. Unless noted otherwise the following applies:
1. The maximum water velocity shall not exceed 32-fps.
2. Submit the calculations using the reduced flow data.
3. When calculating flexible drops, the contractor shall use the maximum number of bends for the associated length. The value is to be taken from the UL tests (unless the material is only FM approved).
4. In the event of multiple (3) submittal rejections (including revise and resubmit) a meeting shall be held at the engineer's office at the engineer time of choosing and the designer, fire sprinkler contractor, and general contractor shall be physically in attendance to discuss the required modifications to the design.

1.11 Contract Completion

A. Incomplete and Unacceptable work:
1. If additional site visits or design work is required by the Engineer or Architect because of the use of incomplete or unacceptable work by the Contractor, then the Contractor shall reimburse the Engineer and Architect for all additional time and expenses involved.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 DUCTILE-IRON PIPE AND FITTINGS

A. Mechanical-Joint, Ductile-Iron Pipe: AWWA C151, with mechanical-joint bell end and plain end.

1. Mechanical-Joint, Ductile-Iron Fittings: AWWA C110, Class 53, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.
2. Glands, Gaskets, and Bolts: AWWA C111, ductile- or gray-iron gland, rubber gasket, and steel bolts and nuts.

B. Push-on-Joint, Ductile-Iron Pipe: AWWA C151, with push-on-joint bell end and plain end.

1. Push-on-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.
2. Gaskets: AWWA C111, rubber.

~~**2.3 C-900 TUBE AND FITTINGS**~~

~~**A. PVC, AWWA Pipe: AWWA C900, Class 150, with bell end with gasket and spigot end is not allowed.**~~

~~**2.4 STAINLESS STEEL IN BUILDING RISER**~~

~~**A. Continuous from the factory, no field formed fittings in the stainless steel riser. Field modifications are not allowed. Restrain with thrust block, per NFPA 24, rods as required by manufacture.**~~

~~**1. Inlet: AWWA C900/DIP**~~
~~**2. Outlet: AWWA 606**~~

2.5 STEEL PIPE AND FITTINGS

A. Threaded-End, Standard-Weight Steel Pipe: ASTM A 53/A 53M, ASTM A 135, or ASTM A 795, hot-dip galvanized where indicated and with factory- or field-formed threaded ends.

1. Cast-Iron Threaded Flanges: ASME B16.1.
2. Malleable-Iron Threaded Fittings: ASME B16.3.
3. Gray-Iron Threaded Fittings: ASME B16.4.
4. Steel Threaded Pipe Nipples: ASTM A 733, made of ASTM A 53/A 53M or ASTM A 106, Schedule 40, seamless steel pipe hot-dip galvanized where indicated. Include ends matching joining method.
5. Steel Threaded Couplings: ASTM A 865 hot-dip galvanized-steel pipe where indicated.

B. Plain-End, Standard-Weight Steel Pipe: ASTM A 53/A 53M, ASTM A 135, or ASTM A 795 hot-dip galvanized-steel pipe where indicated.

1. Locking-Lug Fittings: UL 213, ductile-iron body with retainer lugs that require one-quarter turn to secure pipe in fitting not allowed.

C. Plain-End, Standard-Weight Steel Pipe: ASTM A 53/A 53M, ASTM A 135, or ASTM A 795 hot-dip galvanized-steel pipe where indicated.

1. Steel Welding Fittings: ASTM A 234/A 234M, and ASME B16.9 or ASME B16.11.
2. Steel Flanges and Flanged Fittings: ASME B16.5.

D. Grooved-End, Standard-Weight Steel Pipe: ASTM A 53/A 53M, ASTM A 135, or ASTM A 795, hot-dip galvanized where indicated and with factory- or field-formed, roll-grooved ends.

1. Grooved-Joint Piping Systems:

a. Manufacturers:

1) Anvil International, Inc.
2) Central Sprinkler Corp.
3) Victaulic Co. of America.
4) Ward Manufacturing.

b. Grooved-End Fittings: UL-listed, ASTM A 536, ductile-iron casting with OD matching steel-pipe OD.
c. Grooved-End-Pipe Couplings: UL 213 and AWWA C606, rigid pattern, unless otherwise indicated; gasketed fitting matching steel-pipe OD. Include ductile-iron housing with keys matching steel-pipe and fitting grooves, prelubricated rubber gasket listed for use with housing, and steel bolts and nuts.

E. Threaded-End, Threadable, Thinwall Steel Pipe: ASTM A 135 or ASTM A 795, with wall thickness less than Schedule 40 and greater than Schedule 10, and with factory- or field-formed threaded ends.

1. Cast-Iron Threaded Flanges: ASME B16.1.
2. Malleable-Iron Threaded Fittings: ASME B16.3.
3. Gray-Iron Threaded Fittings: ASME B16.4.
4. Steel Threaded Pipe Nipples: ASTM A 733, made of ASTM A 53/A 53M or ASTM A 106, Schedule 40, seamless steel pipe.
5. Steel Threaded Couplings: ASTM A 865.

F. Plain-End, Threadable, Thinwall Steel Pipe: ASTM A 135 or ASTM A 795, with wall thickness less than Schedule 40 and greater than Schedule 10.

1. Locking-Lug Fittings: UL 213, ductile-iron body with retainer lugs that require one-quarter turn to secure pipe in fitting not allowed.

G. Plain-End, Threadable, Thinwall Steel Pipe: ASTM A 135 or ASTM A 795, with wall thickness less than Schedule 40 and greater than Schedule 10.

1. Steel Welding Fittings: ASTM A 234/A 234M, and ASME B16.9 or ASME B16.11.
2. Steel Flanges and Flanged Fittings: ASME B16.5.

H. Grooved-End, Threadable, Thinwall Steel Pipe: ASTM A 135 or ASTM A 795, with wall thickness less than Schedule 40 and greater than Schedule 10, and with factory- or field-formed, roll-grooved ends.

1. Grooved-Joint Piping Systems:

a. Manufacturers:

1) Anvil International, Inc.
2) Central Sprinkler Corp.
3) Victaulic Co. of America.
4) Ward Manufacturing.

b. Grooved-End Fittings: UL-listed, ASTM A 536, ductile-iron casting with OD matching steel-pipe OD.
c. Grooved-End-Pipe Couplings: UL 213 and AWWA C606, rigid pattern, unless otherwise indicated; gasketed fitting matching steel-pipe OD. Include ductile-iron housing with keys matching steel-pipe and fitting grooves, prelubricated rubber gasket listed for use with housing, and steel bolts and nuts.

I. Plain-End, Schedule 10 Steel Pipe: ASTM A 135 or ASTM A 795, Schedule 10 is not allowed.

J. Plain-End, Nonstandard OD, Thinwall Steel Pipe: ASTM A 135 or ASTM A 795, with wall thickness less than Schedule 10 is not allowed.

K. Plain-End, Hybrid Steel Pipe: ASTM A 135 or ASTM A 795, lightwall, with wall thickness less than Schedule 10 and greater than Schedule 5 is not allowed.

L. Grooved-End, Hybrid Steel Pipe: ASTM A 135 or ASTM A 795, lightwall, with wall thickness less than Schedule 10 and greater than Schedule 5; with factory- or field-formed, roll-grooved ends are not allowed.

M. Schedule 5 Steel Pipe: ASTM A 135 or ASTM A 795, lightwall, with plain ends is not allowed.

2.6 CPVC TUBE AND FITTINGS

A. CPVC pipe is produced to the specifications of ASTM F442; Complete system in accordance with its listing limitations, including installation instructions. CPVC is not allowed on this project.

2.7 FLEXIBLE SPRINKLER DROPS

A. Flexible connectors shall be FM approved with exterior wire braid and have materials suitable for system fluid. Include 175-psig minimum working-pressure rating and ends according to the following:

1. NPS 1: Threaded.

B. Manufacturers:

1. Flex-Head
2. Victaulic

C. Stainless-Steel-Hose/Steel Pipe, Flexible Connectors: Corrugated, stainless-steel, inner tubing covered with stainless-steel wire braid. Include steel nipples or flanges, welded to hose.

D. Stainless-Steel-Hose/Stainless-Steel Pipe, Flexible Connectors: Corrugated, stainless-steel, inner tubing covered with stainless-steel wire braid. Include stainless-steel nipples or flanges, welded to hose.

2.8 FLEXIBLE PIPE CONNECTORS (SEISMIC)

A. Flexible connectors shall be FM approved with exterior wire braid and have materials suitable for system fluid. Include 175-psig minimum working-pressure rating and ends according to the following:

1. NPS 2 and Smaller: Threaded.
2. NPS 2-1/2 and Larger: Flanged.
3. Option for NPS 2-1/2 and Larger: Grooved for use with grooved-end-pipe couplings.

B. Manufacturers:

1. Flexicraft Industries.
2. Flex-Pression, Ltd.
3. Metraflex, Inc.

C. Bronze-Hose, Flexible Connectors: Corrugated, bronze, inner tubing covered with bronze wire braid. Include copper-tube ends or bronze flanged ends, braze welded to hose.

D. Stainless-Steel-Hose/Steel Pipe, Flexible Connectors: Corrugated, stainless-steel, inner tubing covered with stainless-steel wire braid. Include steel nipples or flanges, welded to hose.

E. Stainless-Steel-Hose/Stainless-Steel Pipe, Flexible Connectors: Corrugated, stainless-steel, inner tubing covered with stainless-steel wire braid. Include stainless-steel nipples or flanges, welded to hose.

2.9 SPRINKLER SPECIALTY FITTINGS

A. Sprinkler specialty fittings shall be FMG approved with 175-psig minimum working-pressure rating, and made of materials compatible with piping. Sprinkler specialty fittings shall have 250-psig minimum working-pressure rating if fittings are components of high-pressure piping systems.

B. Sprinkler Drain and Alarm Test Fittings: Cast- or ductile-iron body, with threaded or locking-lug inlet and outlet, test valve, and orifice and sight glass.

1. Manufactures:

a. Central Sprinkler Corp.
b. Fire-End and Croker Corp.
c. Viking Corp.
d. Victaulic Co. of America.

C. Sprinkler Branch-Line Test Fittings: Brass body with threaded inlet, capped drain outlet, and threaded outlet for sprinkler.

D. Sprinkler Inspector's Test Fitting: Cast- or ductile-iron housing with threaded inlet and drain outlet and sight glass.

E. Drop-Nipple Fittings: UL 1474, adjustable with threaded inlet and outlet, and seals.

F. Dry-Pipe-System Fittings: UL listed for dry-pipe service.

2.10 LISTED FIRE-PROTECTION VALVES

A. Valves shall be FMG approved, with 175-psig minimum pressure rating. Valves shall have 250-psig minimum pressure rating if valves are components of high-pressure piping system.

B. Gate Valves with Wall Indicator Posts:

1. Gate Valves: UL 262, cast-iron body, bronze mounted, with solid disc, nonrising stem, operating nut, and flanged ends.
2. Indicator Posts: UL 789, horizontal-wall type, cast-iron body, with hand wheel, extension rod, locking device, and cast-iron barrel.
3. Manufacturers:

a. Grinnell Fire Protection.
b. McWane, Inc.; Kennedy Valve Div.
c. NIBCO.
d. Stockham.

C. Ball Valves: Comply with UL 1091, except with ball instead of disc.

1. NPS 1-1/2 and Smaller: Bronze body with threaded ends.

2. NPS 2 and NPS 2-1/2: Bronze body with threaded ends or ductile-iron body with grooved ends.
3. NPS 3: Ductile-iron body with grooved ends.
4. Manufacturers:

   a. NIBCO.
   b. Victaulic Co. of America.

D. Butterfly Valves: UL 1091.

1. NPS 2 and Smaller: Bronze body with threaded ends.

   a. Manufacturers:

      1) Global Safety Products, Inc.
      2) Milwaukee Valve Company.

2. NPS 2-1/2 and Larger: Bronze, cast-iron, or ductile-iron body; wafer type or with flanged or grooved ends.

   a. Manufacturers:

      1) Central Sprinkler Corp.
      2) McWane, Inc.; Kennedy Valve Div.
      3) Mueller Company.
      4) NIBCO.
      5) Victaulic Co. of America.

E. Check Valves NPS 2 and Larger: UL 312, swing type, cast-iron body with flanged or grooved ends.

1. Manufacturers:

   a. American Cast Iron Pipe Co.; Waterous Co.
   b. Central Sprinkler Corp.
   c. Clow Valve Co.
   d. Crane Co.; Crane Valve Group; Crane Valves.
   e. Crane Co.; Crane Valve Group; Jenkins Valves.
   f. Fivalco
   g. Globe Fire Sprinkler Corporation.
   h. Grinnell Fire Protection.
   i. Hammond Valve.
   j. McWane, Inc.; Kennedy Valve Div.
   k. Mueller Company.
   l. NIBCO.
   m. Potter-Roemer; Fire Protection Div.
   n. Reliable Automatic Sprinkler Co., Inc.
   o. Star Sprinkler Inc.
   p. Stockham.
   q. United Brass Works, Inc.
   r. Victaulic Co. of America.

s. Watts Industries, Inc.; Water Products Div.

F. Gate Valves: UL 262, OS&Y type.

1. NPS 2 and Smaller: Bronze body with threaded ends.

a. Manufacturers:

1) Crane Co.; Crane Valve Group; Crane Valves.
2) Fivalco.
3) Hammond Valve.
4) NIBCO.
5) United Brass Works, Inc.

2. NPS 2-1/2 and Larger: Cast-iron body with flanged ends.

a. Manufacturers:

1) Clow Valve Co.
2) Crane Co.; Crane Valve Group; Crane Valves.
3) Crane Co.; Crane Valve Group; Jenkins Valves.
4) Fivalco
5) Hammond Valve.
6) Milwaukee Valve Company.
7) Mueller Company.
8) NIBCO.
9) United Brass Works, Inc.

G. Indicating Valves: UL 1091, with integral indicating device and ends matching connecting piping.

1. Indicator: Electrical, 115-V ac, prewired, single-circuit, supervisory switch and Visual.
2. NPS 2 and Smaller: Ball or butterfly valve with bronze body and threaded ends.

a. Manufacturers:

1) Milwaukee Valve Company.
2) NIBCO.
3) Victaulic Co. of America.

3. NPS 2-1/2 and Larger: Butterfly valve with cast- or ductile-iron body; wafer type or with flanged or grooved ends.

a. Manufacturers:

1) Central Sprinkler Corp.
2) Grinnell Fire Protection.
3) McWane, Inc.; Kennedy Valve Div.
4) Milwaukee Valve Company.
5) NIBCO.
6) Victaulic Co. of America.

H. Supervised Normally Closed Valve

1. Indicator: Electrical, 115-V ac, prewired, single-circuit, supervisory switch and visual to send signal on partial close.

a. Manufactures:

1) NIBCO.
2) Victaulic Co. of America.

2.11 UNLISTED GENERAL-DUTY VALVES

A. Ball Valves NPS 2 and Smaller: MSS SP-110, 2-piece copper-alloy body with chrome-plated brass ball, 600-psig minimum CWP rating, blowout-proof stem, and threaded ends.

B. Check Valves NPS 2 and Smaller: MSS SP-80, Type 4, Class 125 minimum, swing type with bronze body, nonmetallic disc, and threaded ends.

C. Gate Valves NPS 2 and Smaller: MSS SP-80, Type 2, Class 125 minimum, with bronze body, solid wedge, and threaded ends.

D. Globe Valves NPS 2 and Smaller: MSS SP-80, Type 2, Class 125 minimum, with bronze body, nonmetallic disc, and threaded ends.

2.12 SPECIALTY VALVES

A. Sprinkler System Control Valves: FMG approved, cast- or ductile-iron body with flanged or grooved ends, and 175-psig minimum pressure rating. Control valves shall have 250-psig minimum pressure rating if valves are components of high-pressure piping system.

1. Manufacturers:

a. Globe Fire Sprinkler Corporation.
b. Reliable Automatic Sprinkler Co., Inc.
c. Victaulic Co. of America.
d. Viking Corp.

B. Automatic Drain Valves: UL 1726, NPS 3/4, ball-check device with threaded ends.

1. Manufacturers:

a. Grinnell Fire Protection.

2.13 SPRINKLERS

A. Sprinklers shall be UL listed or FMG approved, with 175-psig minimum pressure rating. Sprinklers shall have 250-psig minimum 300-psig pressure rating if sprinklers are components of high-pressure piping system.

B. Sprinklers shall have 250-psig minimum 300-psig pressure rating if sprinklers are components of high-pressure piping system.

C. Manufacturers:

1. Globe Fire Sprinkler Corporation.
2. Reliable Automatic Sprinkler Co., Inc.
3. Victaulic Co. of America.
4. Viking Corp.
5. Tyco Fire

D. Automatic Sprinklers: With heat-responsive element complying with the following:

1. UL 199, for nonresidential applications.
2. ~~**UL 1626, for residential applications.**~~

E. Sprinkler Types and Categories: Nominal 1/2-inch orifice for "Ordinary" temperature classification rating, unless otherwise indicated or required by application.

1. Open Sprinklers: UL 199, without heat-responsive element.

a. Orifice: 1/2 inch, with discharge coefficient K between 5.3 and 5.8.
b. Orifice: 17/32 inch, with discharge coefficient K between 7.4 and 8.2.

F. Sprinkler types, features, and options as follows:

1. Concealed ceiling sprinklers, including cover plate.
2. Extended-coverage sprinklers, not allowed unless approved in writing prior to bidding.
3. Flow-control sprinklers, with automatic open and shutoff feature.
4. Flush ceiling sprinklers, including escutcheon, not allowed.
5. Institution sprinklers, made with a small, breakaway projection.
6. Pendent sprinklers.
7. Pendent, dry-type sprinklers.
8. Quick-response sprinklers.
9. Recessed sprinklers, including escutcheon.
10. Sidewall sprinklers.
11. Sidewall, dry-type sprinklers.
12. Upright sprinklers.

G. Sprinkler Finishes: Chrome plated, bronze, and painted. Finishes as approved by FM Global.

H. Special Coatings: Wax, lead, and corrosion-resistant paint.

I. Sprinkler Escutcheons: Materials, types, and finishes for the following sprinkler mounting applications. Escutcheons for concealed, flush, and recessed-type sprinklers are specified with sprinklers.

1. Ceiling Mounting: Flat plate concealed, white.
2. Sidewall Mounting: Semi-Recessed, white.

J. Sprinkler Guards: Wire-cage type, including fastening device for attaching to sprinkler.

2.14 ALARM DEVICES

A. Alarm-device types shall match piping and equipment connections.

B. Electrically Operated Alarm: Horn/Strobe, NEMA 3R minimum suitable for outdoor use.

1. Manufacturers:

a. Potter Electric Signal Company.
b. System Sensor.

C. Water-Flow Indicator: UL 346, electrical-supervision, paddle-operated-type, water-flow detector with 250-psig pressure rating and designed for horizontal or vertical installation. Include two single-pole, double-throw circuit switches for isolated alarm and auxiliary contacts, 7 A, 125-V ac and 0.25 A, 24-V dc; complete with factory-set, field-adjustable retard element to prevent false signals and tamperproof cover that sends signal if removed.

1. Manufacturers:

a. ADT Security Services, Inc.
b. Grinnell Fire Protection.
c. ITT McDonnell & Miller.
d. Potter Electric Signal Company.
e. System Sensor.
f. Viking Corp.
g. Watts Industries, Inc.; Water Products Div.

D. Pressure Switch: UL 753, electrical-supervision-type, water-flow switch with retard feature. Include single-pole, double-throw, normally closed contacts and design that operates on rising pressure and signals water flow.

1. Manufacturers:

a. Grinnell Fire Protection.
b. Potter Electric Signal Company.
c. System Sensor.
d. Viking Corp.

E. Valve Supervisory Switch: UL 753, electrical, single-pole, double-throw switch with normally closed contacts. Include design that signals controlled valve is in other than fully open position.

1. Manufacturers:

a. McWane, Inc.; Kennedy Valve Div.
b. Potter Electric Signal Company.
c. System Sensor.

F. Indicator-Post Supervisory Switch: UL 753, electrical, single-pole, double-throw switch with normally closed contacts. Include design that signals controlled indicator-post valve is in other than fully open position.

1. Manufacturers:

a. Potter Electric Signal Company.
b. System Sensor.

2.15 PRESSURE GAGES

A. Manufacturers:

1. Brecco Corporation.
2. Dresser Equipment Group; Instrument Div.
3. Marsh Bellofram.
4. WIKA Instrument Corporation.

B. Description: UL 393, 3-1/2- to 4-1/2-inch- diameter, dial pressure gage with range of 0 to 250 psig minimum.

1. Water System Piping: Include caption "WATER" or "AIR/WATER" on dial face.
2. Air System Piping: Include retard feature and caption "AIR" or "AIR/WATER" on dial face.

PART 3 - EXECUTION

3.1 PREPARATION

A. Obtain Engineer's Water Analysis or fire-hydrant flow test. Use results for system design calculations required in "Quality Assurance" Article in Part 1 of this Section.

B. Engineer's Water Analysis. See Flow Analysis provided by Van Boerum & Frank Associates.

3.2 EARTHWORK

A. Refer to Division 31 Section "Earth Moving" for excavating, trenching, and backfilling.

3.3 EXAMINATION

A. Examine roughing-in for hose connections and stations to verify actual locations of piping connections before installation.

B. Examine walls and partitions for suitable thicknesses, fire- and smoke-rated construction, framing for hose-station cabinets, and other conditions where hose connections and stations are to be installed.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.4 PIPING APPLICATIONS

A. Shop weld pipe joints where welded piping is indicated.

B. Do not use welded joints for galvanized-steel pipe.

C. Flanges, flanged fittings, unions, nipples, and transition and special fittings with finish and pressure ratings same as or higher than system's pressure rating may be used in aboveground applications, unless otherwise indicated.

D. Piping between Fire Department Connections and Check Valves: Galvanized, standard-weight steel pipe with grooved ends; grooved-end fittings; grooved-end-pipe couplings; and grooved joints.

E. Underground Service-Entrance Piping: Ductile-iron, push-on or mechanical-joint pipe and fittings and restrained joints. Include corrosion-protective encasement.

F. Sprinkler Main Piping: Use the following:

1. NPS 6 and Smaller: Standard-weight steel pipe with threaded ends, or grooved ends. No plain ends allowed.
2. Outlets shall be welded.

a. Victaulic Brand Mechanical tee fittings may be used in lieu of welded outlets.

G. Branch line piping: Use the following:

1. NPS 1-1/4 and Smaller: Threadable steel pipe with threaded ends; cast- or malleable-iron threaded fittings; and threaded joints.

a. Victaulic Brand Mechanical tee fittings may be used

H. Standpipes and mains: Use the following:

1. NPS 4 to NPS 6: Schedule 40 steel pipe with grooved ends & Welded outlets.
2. NPS 3 and Smaller: Schedule 40 steel pipe with threaded ends, or grooved ends. No plain ends allowed.

3.5 VALVE APPLICATIONS

A. Drawings indicate valve types to be used. Where specific valve types are not indicated, the following requirements apply:

1. Fire-Protection-Service Valves: UL listed and FM approved for applications where required by NFPA 13 and NFPA 14.
2. General-Duty Valves: For applications where UL-listed and FM-approved valves are not required by NFPA 13 and NFPA 14.

a. Shutoff Duty: Use gate, ball, or butterfly valves.
b. Throttling Duty: Use globe, ball, or butterfly valves.

3.6 JOINT CONSTRUCTION

A. Refer to Division 23 Section "Common Work Result for HVAC" for basic piping joint construction.

B. Ductile-Iron-Piping, Grooved Joints: Use ductile-iron pipe with radius-cut-grooved ends; ductile-iron, grooved-end fittings; and ductile-iron, keyed couplings. Assemble joints with couplings, gaskets, lubricant, and bolts according to coupling manufacturer's written instructions.

C. Steel-Piping, Grooved Joints: Use Schedule 40 steel pipe with cut or roll-grooved ends and Schedule 30 or thinner steel pipe with roll-grooved ends; steel, grooved-end fittings; and steel, keyed couplings. Assemble joints with couplings, gaskets, lubricant, and bolts according to coupling manufacturer's written instructions. Use gaskets listed for dry-pipe service for dry piping.

3.7 WATER-SUPPLY CONNECTION

A. Install shutoff Backflow preventions assemblies, valve, pressure gage's, drain, and other accessories at connection to water service.

3.8 PIPING INSTALLATION

A. Refer to Division 23 Section "Common Work Result for HVAC" for basic piping installation.

B. Locations and Arrangements: Drawing plans, schematics, and diagrams indicate general location and arrangement of piping. Install piping as indicated, as far as practical.

1. Deviations from approved working plans for piping require written approval from authorities having jurisdiction. File written approval with Architect before deviating from approved working plans.

C. Use approved fittings to make changes in direction, branch takeoffs from mains, and reductions in pipe sizes.

D. Install unions adjacent to each valve in pipes NPS 2 and smaller. Unions are not required on flanged devices or in piping installations using grooved joints.

E. Install flanges or flange adapters on valves, apparatus, and equipment having NPS 2-1/2 and larger connections.

F. Install "Inspector's Test Connections" in sprinkler piping, complete with shutoff valve, sized and located according to NFPA 13.

G. Install sprinkler piping with drains for complete system drainage.

H. Install sprinkler zone control valves, check valves, test assemblies, and drain risers adjacent to standpipes when sprinkler piping is connected to standpipes.

I. Install drain valves on standpipes.

J. Install ball drip valves to drain piping between fire department connections and check valves. Drain to floor drain or outside building.

K. Install alarm devices in piping systems.

L. Hangers and Supports: Comply with NFPA 13 for hanger materials. Install according to NFPA 13 for sprinkler piping and to NFPA 14 for standpipes.

1. No powder driven studs allowed.
2. Wrap-around braces are to be provided at end of branch lines.

M. Earthquake Protection: Install piping according to NFPA 13-9.3 requirements, to protect from earthquake damage. Seismic Bracing shall be designed to withstand vertical forces and movement.

N. Install piping with grooved joints according to manufacturer's written instructions. Construct rigid piping joints, unless otherwise indicated, or required by NFPA 13 for flexibility in seismic zones.

O. Install pressure gages on riser or feed main, at each sprinkler test connection, and at top of each standpipe. Include pressure gages with connection not less than NPS 1/4 and with soft metal seated globe valve, arranged for draining pipe between gage and valve. Install gages to permit removal, and install where they will not be subject to freezing.

P. When a fire pipe crosses a seismic expansion joint it shall have a Metraflex fire loop installed at the joint in accordance with NFPA 13 chapter 9.

3.9 SPECIALTY SPRINKLER FITTING INSTALLATION

A. Install specialty sprinkler fittings according to manufacturer's written instructions.

3.10 VALVE INSTALLATION

A. Refer to Division 23 Section "Valves" for installing general-duty valves. Install fire-protection specialty valves, trim, fittings, controls, and specialties according to NFPA 13 and NFPA 14, manufacturer's written instructions, and authorities having jurisdiction.

B. Valves: Install fire-protection-service valves supervised-open, located to control sources of water supply except from fire department connections. Provide permanent identification signs indicating portion of system controlled by each valve.

C. Double Check Valve Assemblies: Install valves in vertical up or horizontal position, per listings and for proper direction of flow.

D. Deluge Valves: Install in vertical position, in proper direction flow, in main supply to deluge system.

3.11 SPRINKLER APPLICATIONS

A. General: All sprinklers are to be quick response type. Sprinkler heads shall be of the latest design closed spray type for 155°F unless specified otherwise or required by code. Extended coverage heads shall not be used. Orifices larger than 1/2" may be used as required by density and spacing demands. Use sprinklers according to the following applications:

1. Rooms without Ceilings: Upright and/or pendent sprinklers. Provide mechanical guards on all heads at or below 7'-0" height above the floor or where damage from room occupant use may occur.
2. Rooms with Ceilings: Concealed sprinklers~~, **where indicated.**~~ **Throughout**.
3. Wall Mounting: Sidewall sprinklers with recessed escutcheon.
4. Institutional sprinklers shall be installed in areas of detention, correctional or mental health care facilities.
5. Heads located within the air streams of unit heaters or other heat-emitting equipment shall be selected for proper temperature rating.
6. Sprinkler Finishes: Use sprinklers with the following finishes:

a. Upright, Pendent, and Sidewall Sprinklers: Chrome in finished spaces exposed to view; rough bronze in unfinished spaces not exposed to view.
b. Concealed Sprinklers: Rough brass, with White cover plate to match ceiling color.

B. Sprinklers: Use the following:

1. All sprinklers shall be listed, quick response type.
2. Sprinkler in future finish spaces (shelled) 10' x 10' spacing shall be pendents/uprights installed with 1 x ½" bushing, to accommodate future finishes.
~~**3. Finish ceiling spaces shall have semi-recessed type escutcheon.**~~

3.12 SPRINKLER INSTALLATION

A. Every effort shall be required to ensure that the heads form a symmetrical pattern in the ceiling with the ceiling grid if included, as well as lights, diffusers and grilles. Offsets shall be made in piping to accommodate ductwork in the ceiling. Heads shall be symmetrical in all ceilings and all piping run parallel or perpendicular to building lines. Heads shall be linearly aligned in corridors.

1. In no case shall sprinkler heads be installed closer than approved distances from ceiling obstructions and HVAC ductwork.
2. Sprinkler heads shall not conflict with tile grids.
3. Sprinkler heads shall be located near center of corridors.

B. Where layout of sprinkler heads is shown on reflected ceiling plans the locations shall be followed unless approval is obtained from the Architect or such locations shown do not meet the requirements of NFPA-13. In either case, approval of the Architect shall be obtained in writing before sprinkler head locations are changed. If the installation of additional heads is needed to conform to NFPA 13 requirements in areas where heads are shown on reflected ceiling plans, they shall be included in the contract price.

C. Install sprinklers in patterns indicated.

D. Do not install pendent or sidewall, wet-type sprinklers in areas subject to freezing. Use dry-type sprinklers with water supply from heated space.

E. Future finish shelled and tenant finish; Shell spaces shall be piped to accommodate future. Install sprinklers with 1" x ½" bushings, and space heads at a maximum spacing of 100 sq. ft. per head. Occupancy shall be Ordinary-Hazard Group 1 Design.

~~**F. Concealed type sprinkler shall be installed in the following areas:**~~

~~**1. Procedure, Operating & Sterile rooms**~~
~~**2. Communications rooms**~~
~~**3. CT Scan Control/computer room**~~
~~**4. Cat scan/control/computer room**~~
~~**5. All Pre-action sprinkler systems, where ceilings are provided.**~~
~~**6. Other areas as indicated on drawings.**~~

3.13 CONNECTIONS

A. Connect water-supply piping and standpipes and sprinklers where indicated.

B. Connect piping to specialty valves, hose valves, specialties, fire department connections, and accessories.

C. Electrical Connections: Power wiring is specified in Division 28.

D. Connect alarm devices to fire alarm.

3.14 LABELING AND IDENTIFICATION

A. Install labeling and pipe markers on equipment and piping according to requirements in NFPA 13 and NFPA 14 and in Division 23 Section "Common Work Result for HVAC."

3.15 FIELD QUALITY CONTROL

A. Flush, test, and inspect sprinkler piping according to NFPA 13, "System Acceptance" Chapter.

B. Flush, test, and inspect standpipes according to NFPA 14, "Tests and Inspection" Chapter.

C. Replace piping system components that do not pass test procedures and retest to demonstrate compliance. Repeat procedure until satisfactory results are obtained.

D. When making a mechanical tee connection the coupon shall be attached at the mechanical tee.

E. Report test results promptly and in writing to Architect and authorities having jurisdiction.

F. Whether the underground serving the sprinkler system is done by this contractor or another, this contractor will be responsible to assure and have in his possession a certificate that the underground has been flushed and tested by the contractor who installed it in accordance with NFPA-24 prior to connection of the underground piping to the overhead sprinkler system.

3.16 CLEANING

A. Clean dirt and debris from sprinklers.

B. Remove and replace sprinklers having paint other than factory finish.

3.17 PROTECTION

A. Protect sprinklers from damage until Substantial Completion.

3.18 COMMISSIONING

A. Verify that specialty valves, trim, fittings, controls, and accessories are installed and operate correctly.

B. Verify that specified tests of piping are complete and that “Material Test Certificates” are complete.

C. Verify that damaged sprinklers and sprinklers with paint or coating not specified are replaced with new, correct type.

D. Verify that sprinklers are correct types, have correct finishes and temperature ratings, and have guards as required for each application.

E. Verify that hose connections and fire department connections have threads compatible with local fire department equipment.

F. Fill wet-pipe sprinkler piping with water.

G. Fill standpipes with water.

H. Verify that hose connections are correct type and size.

I. Coordinate with fire alarm tests. Operate as required.

3.19 DEMONSTRATION & TESTS

A. Demonstrate equipment, specialties, and accessories. Review operating and maintenance information.

B. All tests will be conducted as required by the local authority having jurisdiction, and in no case less than those required by NFPA standards. As a minimum, piping in the sprinkler system shall be tested at a water pressure at 200 psi for a period of not less two hours, or at 50 psi in excess of the normal pressure when the normal pressure is above 150 psi. Bracing shall be in place, and air shall be removed from the system through the hydrants and drain valves before the test pressure is applied. No apparent leaks will be permitted on interior or underground piping.

C. The local jurisdiction having authority and the Utah State Fire Marshal's office (where required) shall be notified at least three working days in advance of all tests and flushing. This includes any flushing of underground, hydrostatic testing, or flow testing that may be required.

D. This contractor shall make all the required tests to the sprinkler system as required by code. He shall be responsible to assure that the Contractor Test Certificates for the overhead, backflow and underground work are completed and delivered to the owner's insurance underwriter to assure proper insurance credit.

E. All tests requiring the witnessing by local authorities will be the responsibility of this contractor. If tests are not run or do not have the proper witness, then they will be run later and all damage caused by the system, or caused in uncovering the system for such test, will be borne by this contractor.

3.20 WARRANTY

A. This contractor shall warranty the sprinkler system and all its components for one year from the date of acceptance by the owner. Any costs incurred to extend any warranties of materials to assure this time frame shall be borne by this contractor.

B. Provide Operation and Maintenance Manuals with correct as-builts test certificates and warranties included. A minimum 6 sets to be provided in red 3-ring binders. Include a current adopted version of NFPA 25 softbound copy left with owner.

C. Electronic copy of AutoCAD as-built drawings shall also be provided on CD, with each O&M Manual.

3.21 FIELD QUALITY CONTROL

A. Flush, test and inspect sprinkler piping according to NFPA 13, "System Acceptance" Chapter.

B. Replace piping system components that do not pass test procedures and retest to demonstrate compliance. Repeat procedure until satisfactory results are obtained.

C. Report test results promptly and in writing to Architect and authorities having jurisdiction.

END OF SECTION

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SECTION 22 63 14 - MEDICAL GAS PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes piping and related specialties for the following medical gas systems:

1. Oxygen piping, designated "oxygen," OX.
2. Medical compressed-air piping, designated "medical air, MA.
3. Medical-surgical vacuum piping, designated "medical vacuum," V or MV.
4. Waste anesthetic gas disposal piping, designated "evacuation," EV or WAGD.

B. Contractor furnished products and services.

1. All materials – piping, fittings, hangers, labeling, etc. that are not owner-furnished required by contract documents NFPA 99, for a complete system.

C. Related Sections include the following:

1. Division 23 Section "Meters and Gages" for thermometers, pressure gages, and fittings.
2. Division 22 Section "Medical Air and Medivac Equipment" for medical and dental air equipment and accessories.

1.3 SEISMIC REQUIREMENTS

A. Component Importance Factor: All plumbing components shall be assigned a component importance factor. The component importance factor, Ip, shall be taken as 1.5 if any of the following conditions apply:

1. The component is required to function for life-safety purposes after an earthquake.
2. The component contains hazardous materials.
3. The component is in or attached to an Occupancy Category IV structure and it is needed for continued operation of the facility or its failure could impair the continued operation of the facility.

B. All other components shall be assigned a component importance factor, Ip, equal to 1.0.

C. Seismic Performance: Plumbing equipment, hangers and supports shall withstand the effects of earthquake motions determined according to SEI/ASCE 7 and with the requirements specified in Section 220548 " Vibration and Seismic Controls for Plumbing Piping and Equipment.

1. For components with a seismic importance factor of 1.0 the term "withstand" means "the system will remain in place without separation of any parts when subjected to the seismic forces specified."
2. For components with a seismic importance factor of 1.5 the term "withstand" means "the system will remain in place without separation of any parts when subjected to the seismic forces specified and the system will be fully operational after the seismic event."

1.4 DEFINITIONS

A. PTFE: Polytetrafluoroethylene.

B. TFE: Tetrafluoroethylene.

1.5 SUBMITTALS

A. Product Data: For the following:

1. Medical gas tubes & fittings
2. Medical gas valves & valve boxes.
3. Medical gas specialties.
4. Medical gas manifolds.
5. Medical gas service connection & pressure control panels
6. Medical gas service units. Include integral service connections.
7. Medical gas alarm system components.
8. Cylinder wall racks and storage racks.

B. Wiring diagrams for medical gas alarm systems and tanks. Differentiate between manufacturer-installed and field-installed wiring.

C. Review reports for testing agency's review of construction documents

D. Coordination Drawings: For medical gas systems, including relationship to other services that serve same work areas.

E. Brazing Certificates: As required by ASME Boiler and Pressure Vessel Code, Section 1X, or AWS B2.2

F. Product Certificates: Signed by manufacturer certifying that copper tubing complies with NFPA 99, Paragraph 4-3.1.2.7, "Piping Materials."

G. Certificates of Shop Inspection and Data Report: As required by ASME Boiler and Pressure Vessel Code.

H. Inspection and test reports specified in "Field Quality Control" Article in Part 3 of this Section.

I. Certificates of inspections and tests from an independent testing agency specified in "Field Quality Control" Article in Part 3 of this Section.

J. Operation & Maintenance Data: For specialties to include in the maintenance manuals specified in Division 1.

K. Delegated-Design Submittal:

1. Design calculations and detailed fabrication and assembly of pipe anchors and alignment guides, hangers and supports for multiple pipes, expansion joints and loops, and attachments of the same to the building structure.
2. Locations of pipe anchors and alignment guides and expansion joints and loops.
3. Locations of and details for penetrations, including sleeves and sleeve seals for exterior walls, floors, basement, and foundation walls.
4. Seismic calculations and detailed analysis: Indicate fabrication and arrangement. Detail attachments of restraints to the restrained items and to the structure. Show attachment locations, methods, and spacings. Identify components, list their strengths, and indicate directions and values of forces transmitted to the structure during seismic events. Indicate association with vibration isolation devices. Project specific design documentation and calculations shall be prepared and stamped by a registered professional engineer who is responsible for the seismic restraint design and who is licensed in the state where the project is being constructed (ASCE 7, 13.2.1.1).

1.6 QUALITY ASSURANCE

A. Testing Agency Services: This Division will provide an independent testing agency to inspect, test, and certify medical gas piping and components, except for inspections and tests specified in "Field Quality Control" Article in Part 3 of this Section.

B. Testing Agency Qualifications: Demonstrate to Architect's satisfaction, based on Architect's evaluation of criteria conforming to ASTM E 699 that the independent testing agency has the experience and capability to satisfactorily conduct the testing indicated without delaying the Work.

C. Listing and Labeling: Provide electrically operated specialties specified in this Section that are listed and labeled.

1. Terms "Listed" and "Labeled": As defined in National Electrical Code, Article 100.
2. Listing and Labeling Agency Qualifications: A "Nationally Recognized Testing Laboratory" as defined in OSHA Regulation 1910.7.

D. Comply with NFPA 50, "Standard for Bulk Oxygen Systems at Consumer Sites."

E. Comply with NFPA 70, "National Electrical Code."

F. Comply with NFPA 99, "Health Care Facilities."

G. Comply with UL 498, "Attachment Plugs and Receptacles."

H. Comply with UL 544, "Medical and Dental Equipment."

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store large medical gas specialties on factory-installed shipping skids, small specialties in factory-fabricated fiberboard containers, and piping with sealing plugs in ends or with other end protection.

1. Store pre-cleaned and sealed medical gas pipe, fittings, valves, and specialties with sealing plugs and sealing packaging intact.
2. Label medical gas pipe, fittings, valves, and specialties that have not been pre-cleaned, or that have been pre-cleaned but have seal or packaging that is not intact, with temporary labels indicating that cleaning is required before installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Medical Gas Piping Specialties:

a. Allied Healthcare
b. Pattons Medical

2. Medical Gas Alarm Systems:

a. Allied Healthcare
b. Pattons Medical

3. Medical Gas Storage Tanks (Bulk Oxygen Tanks):

a. Praxair

2.2 PIPE AND TUBES

A. Pre-cleaned, Hard Copper Tube: ASTM B 819, Type K or Type L, seamless, drawn temper, factory cleaned, purged, and sealed for medical gas service. Include marking or labeling "CLEANED FOR MEDICAL GAS SERVICE," "CLEAN FOR OXYGEN SERVICE," "NITROGENIZED."

B. Soft Copper Tube: ASTM B 88, Type K water tube, seamless, annealed temper. Tube may be factory cleaned, purged, and sealed for medical gas service according to ASTM B 819 or field cleaned, purged, and sealed as specified in "Preparation" Article in Part 3. Include marking or labeling "CLEANED FOR MEDICAL GAS SERVICE," "CLEAN FOR OXYGEN SERVICE," "NITROGENIZED."

2.3 PIPE AND TUBE FITTINGS

A. Wrought-Copper Fittings: ASME B16.22, solder-joint, pressure type. Fittings may be factory cleaned, purged, and sealed for medical gas service according to ASTM B

819 or field cleaned, purged, and sealed as specified in "Preparation" Article in Part 3. Include marking or labeling "CLEANED FOR MEDICAL GAS SERVICE," "CLEAN FOR OXYGEN SERVICE," "NITROGENIZED."

B. Bronze-Tube Flanges: ASME B16.24, Class 300.

C. Flexible Connectors: Bronze or stainless-steel flexible pipe connectors as specified in Division 22 Section "Vibration Control."

2.4 JOINING MATERIALS

A. Refer to Division 23 Section "Basic Mechanical Materials and Methods" for joining materials not in this Section.

B. Brazing Filler Metals: AWS A5.8, BCuP (copper-phosphorus) series alloys. Flux is prohibited, except when used with bronze fittings.

C. Threaded-Joint Tape: PTFE plastic.

D. Gasket Material: ASME B16.21, nonmetallic, flat, asbestos free, and suitable for oxygen use.

2.5 VALVES AND VALVE BOXES

A. Ball Valves, 3-Inch NPS and Smaller: MSS SP-110, bronze-body, full-port valve rated for 300-psig working pressure, with chrome-plated brass ball, PTFE or TFE seals, blowout-proof stem, threaded or braze-joint ends. Provide locking type for valves not located in valve box and handle designed for quarter turn between open and closed positions.

1. Include union-type body with bolted swing-away center section.
2. Include factory-cleaned, factory-sealed for oxygen use, and factory-installed, ASTM B 88, Type K or L, copper-tube extensions with pressure gage installed downstream from valve in pressure systems and upstream from valve in vacuum systems.

B. Ball Valves, 4-Inch NPS and Larger: MSS SP-72, bronze- or iron-alloy body, full-port valve rated for 300-psig working pressure, with chrome-plated brass ball valve, PTFE or TFE seals, blowout-proof stem, flanged ends, and provide locking type for valves not located in a valve box, and handle designed for quarter turn between open and closed positions.

C. Check Valves, 3-Inch NPS and Smaller: Bronze-body, straight-through pattern, spring-loaded ball check valve, designed for 300-psig minimum working pressure.

D. Check Valves, 4-Inch NPS and Larger: MSS SP-71, Class 250, iron-body, bronze-trim, swing check valve, with flanged ends.

E. Safety Valves: Bronze body with settings to match system requirements.

1. Pressure Safety Valves: ASME construction.
2. Vacuum Relief Valves: Equipment manufacturer's option.

F. Pressure Regulators: Brass or bronze body and trim; spring-loaded, diaphragm-operated, relieving type; manual pressure-setting adjustment; rated for 250-psig minimum inlet pressure; and capable of controlling delivered air pressure within 0.5 psig for each 10-psig inlet pressure.

G. Automatic Drain Valves: Corrosion-resistant metal body and internal parts, 200-psig minimum working-pressure rating, capable of automatic discharge of collected condensate.

H. Zone Valve Boxes: Minimum 0.048-inch- thick steel, valve boxes for recessed mounting, with holes for medical gas piping and anchors. Include for single- or multiple-valve (with pressure gage) installation and in sizes to permit manual operation of valves.

1. Interior Finish: Factory-applied white enamel.
2. Cover Plate: Minimum 0.08-inch- thick aluminum or extruded-anodized aluminum with frangible or removable windows.
3. Valve-Box Windows: Clear or tinted transparent plastic with labeling, including space for rooms served, according to NFPA 99.

2.6 MEDICAL GAS PIPING SPECIALTIES

A. General: Provide the following medical gas piping specialties by same manufacturer:

B. Emergency Oxygen Connection: Low-pressure gaseous-oxygen inlet assembly, consisting of weatherproof enclosure with hinged locking cover, suitable for recessed mounting, with factory-installed 1- or 1-1/4-inch NPS plugged inlet, pressure gage, and minimum 1-inch NPS ball valve, for connection to oxygen system. Include brass-body safety valve, set at 75 or 80 psig, which may be installed in enclosure or be separate for installation in oxygen piping system. Label enclosure cover "Emergency Low-Pressure Gaseous Oxygen Inlet." Comply with NFPA 99.

C. Medical Gas Manifolds: Comply with NFPA 99, Chapter 4, "Cylinder Systems without Reserve Supply," with the following features:

1. Central Control Panel Unit: Weatherproof cabinet, supply and delivery pressure gages, electrical alarm system connections and transformer, indicator lights or devices, manifold connection, pressure changeover switch, line-pressure regulator, shutoff valves, and safety valve.
2. Manifold and Headers: Duplex, nonferrous metal header for number of cylinders indicated on plans, divided into 2 equal banks or as noted two equal banks __ x __. Units include design for 2000-psig minimum inlet pressure, except nitrous-oxide manifolds may be designed for 800 psig and carbon-dioxide manifolds may be designed for 1500 psig. Include cylinder bank headers with flexible braided stainless steel inlet (pigtail) connections complying with CGA V-1, individual inlet check valves, shutoff valve, pressure regulator, check valve, and pressure gage.
3. Operation: Automatic, pressure-switch-activated changeover from one cylinder bank to other cylinder bank when first bank becomes exhausted, without line-

pressure fluctuation or resetting of regulators, and without supply interruption by shutoff of either cylinder bank header.
4. Mounting: Wall mounting, complete with mounting brackets for manifold control cabinet and headers.
5. Mounting: Floor mounting, complete with support legs for manifold control cabinet.
6. Label manifold control unit with permanent label identifying medical gas type and system operating pressure.
7. Nitrous-Oxide Manifolds: 2000 cu. ft./h at 55-psig line pressure with electric heater or orifice design that will prevent freezing during high demand.
8. Nitrogen Manifolds: 3000 cu. ft./h at 180-psig line pressure.
9. Carbon-Dioxide Manifolds: 500 cu. ft./h at 55-psig line pressure.
10. High-Pressure Air Manifolds: 3000 cu. ft./h at 180-psig line pressure.

D. Service Outlets (wall type): Gas specific for services listed with roughing-in and finishing assemblies. Include the following:

1. Roughing-in Assembly: Include the following:

a. Steel outlet box or mounting plate.
b. Brass-body outlet block with secondary check valve that will prevent gas flow when primary valve is removed.
c. Double seals that will prevent gas leakage.
d. ASTM B 88, Type K, 3/8-inch NPS copper inlet or outlet tube brazed to valve with gas-service marking and tube-end dust cap.

2. Finishing Assembly: Include the following:

a. Brass housing with primary check valve.
b. Double seals that will prevent gas leakage.
c. Cover plate with gas-service label.

3. Quick-Connect Coupling: Indexing to prevent interchange between services, constructed to permit one-handed connection and removal of equipment, and with positive-locking that retains equipment stem in valve during use. Outlets to be Chemetron faceplate style. All new outlets to MATCH EXISTING HOSPITAL EQUIPMENT WITHOUT THE USE OF ADAPTERS.

4. DISS-Type Coupling: CGA V-5, DISS-threaded indexing to prevent interchange between services; constructed to permit one-handed connection and removal of equipment.

a. Oxygen Outlets: CGA V-5, DISS No. 1240.
b. Medical Air Outlets: CGA V-5, DISS No. 1160.
c. Medical Vacuum Inlets: CGA V-5, DISS No. 1220.
d. Nitrous-Oxide Outlets: CGA V-5, DISS No. 1040.
e. Nitrogen Outlets: CGA V-5, DISS No. 1120.
f. Evacuation Inlets: CGA V-5, DISS No. 2220.
g. Carbon-Dioxide Outlets: CGA V-5, DISS No. 1080.
h. High-Pressure Air Outlets: CGA V-5, DISS No. 1160.

5. Wall Outlet Cover Plates: One-piece metal, with chrome-plated finish and permanent, color-coded, medical gas identifying label matching corresponding outlets.
6. Vacuum Bottle-Slide Brackets: Bottle-slide and mounting assembly matching pattern of vacuum outlet. Include one slide bracket for each wall-mounted vacuum inlet, except where no slide bracket requirement is indicated or for ceiling outlets.

E. Outlet Cover Plates: One-piece stainless steel, with NAAMM AMP 503, No. 4 finish and permanent identifying label.

F. Outlet Cover Plates: One-piece metal, with chrome-plated finish and permanent identifying label.

G. Outlet Cover Plates: One-piece anodized aluminum, with permanent identifying label.

H. Service Hose Assemblies (ceiling type): Color coded, conductive, neoprene, 1/4- or 5/16-inch ID, lengths as required for finished ceiling height, and with indexed or DISS-type end-connection fittings suitable for medical gas service indicated.

1. All gases except Nitrogen, Hose Assemblies: length as required for height of ceiling with 18" of pull down loop, with quick-connect fittings, valve on one end and DISS connection at the ceiling.
2. Nitrogen Hose Assemblies: length as required for height of ceiling, with nitrogen CGA V-5, DISS No. 1120 fittings, nut on ceiling end and female Schrader outlet on other end.
3. All gases: provide single or double key chain retractor as required for retraction of pull down loop.

I. Pressure Control Panels: Steel box and steel support brackets for recessed roughing-in. Include stainless-steel or anodized-aluminum cover plate with printed operating instructions. Include control panels with manifold assembly consisting of inlet supply valve, inlet supply pressure gage, line-pressure control regulator, outlet supply pressure gage, DISS service outlet, and piping outlet for remote service outlet.

1. Minimum Working Pressure: 180 psig.
2. Line-Pressure Control Regulator: Self-relieving, diaphragm type, and with precision manual adjustment.
3. Pressure Gages: 0- to 300-psig range.
4. Provide temporary dust shield and U-tube for testing for use before final assembly.
5. Nitrogen Control Panels: Label cover plate "Nitrogen Pressure Control." Include CGA V-5, DISS No. 1120 nitrogen service outlet or Schrader female outlet as required by owners.
6. Air Control Panels: Label cover plate "Air Pressure Control." Include CGA V-5, DISS No. 1160 air service outlet or Schrader female outlet as required by owners.

2.7 MEDICAL GAS ALARM SYSTEMS

A. Description: Compatible alarm panels, remote sensing devices, and other related components where indicated and where required by NFPA 99. Power wiring is

specified in Division 16 Sections. Panel wiring is by Division 15, Automatic Temperature Controls.

B. Components: Designed for continuous service and to operate on power supplied from 120-V, ac power source to alarm panels and with connections for 24- or 12-V, ac low-voltage wiring to remote sensing devices. Include step-down transformers if required.

C. Dew-Point Monitors: Continuous line monitoring, having panel with gage or digital display, pipeline sensing element, electrical connections for alarm system, factory- or field-installed valved bypass, and visual and cancelable audio signal for dryer site and master alarm panels. Operate alarm when pressure dew point rises above 39 deg F at 55 psig.

1. Operation: Chilled-mirror method.
2. Operation: Hygrometer moisture analyzer with sensor probe.

D. Pressure and Vacuum Switches or Pressure Transducer Sensors: Continuous line monitoring with electrical connections for alarm system.

1. Low-Pressure Switches: 0- to 100-psig operating range.
2. High-Pressure Switches: Up to 250-psig operating range.
3. Vacuum Switches: 0- to 30-in. Hg range.

E. Carbon-Monoxide Monitors: Panel with gage or digital display, pipeline sensing element, electrical connections for alarm system, and factory- or field-installed valved bypass. Operate alarm when carbon-monoxide level rises above 10 ppm.

F. Alarm Panels: Factory wired with audible and color-coded visible signals to indicate specified functions.

1. Mounting: Recessed installation.
2. Enclosures: Fabricated from minimum 0.047-inch- thick steel or minimum 0.05-inch- thick aluminum, and with knockouts for electrical and piping connections.

G. Special Features: In addition to manufacturer's standard features, include the following:

1. Area Alarm Panels: Separate trouble alarm signals; pressure and vacuum gages; and indicators for gases served - oxygen, medical air, and medical vacuum.
2. Anesthetizing-Area Alarm Panels: Separate trouble alarm signals; pressure and vacuum gages; and indicators for oxygen, medical air, medical vacuum, nitrous oxide, nitrogen, evacuation, carbon dioxide, and high-pressure air.
3. Signal alarms at area alarm panels and at anesthetizing-area alarm panels when the following conditions exist:

a. Oxygen: Pressure drops below 40 psig or rises above 60 psig.
b. Medical Air: Pressure drops below 40 psig or rises above 60 psig.
c. Medical Vacuum: Vacuum drops below 12 in. Hg.
d. Nitrous Oxide: Pressure drops below 40 psig or rises above 60 psig.
e. Nitrogen: Pressure drops below 160 psig or rises above 200 psig.
f. Evacuation: Vacuum drops below 12 in. Hg.
g. Carbon Dioxide: Pressure drops below 40 psig or rises above 60 psig.

h. High-Pressure Air: Pressure drops below 160 psig or rises above 200 psig.

2.8 CYLINDER WALL AND STORAGE RACKS

A. Medical Gas Cylinder Wall Racks: provide manufactured wall racks.

2.9 IDENTIFICATION

A. Refer to Division 23 Section "Mechanical Identification" for piping, valves, gages, alarms, accessories, and labels for bulk storage tanks.

PART 3 - EXECUTION

3.1 PREPARATION

A. General: Where factory-precleaned and -capped piping is not available, or when precleaned piping must be recleaned because of exposure, perform the following procedures:

1. Clean medical gas pipe and pipe fittings, valves, gages, and other components of oil, grease, and other readily oxidizable materials as required for oxygen service, according to CGA G-4.1, "Cleaning Equipment for Oxygen Service."
2. Wash medical gas piping and components in hot, alkaline cleaner-water solution of sodium carbonate or trisodium phosphate in proportion of 1 lb of chemical to 3 gal. of water.

a. Scrub to ensure complete cleaning.
b. Rinse with clean, hot water after washing to remove cleaning solution.

3.2 CONCRETE BASES

A. Construct concrete bases of dimensions indicated, but not less than 6 inches larger in both directions than supported unit and not less than 4 inches high.

B. Refer to Division 3 Section "Cast-in-Place Concrete" for reinforcement, framing, and concrete materials for 4000-psig, 28-day compressive strength.

3.3 PIPING APPLICATIONS

A. General: Refer to Part 2 of this Section for the following materials:

1. Interior and Medical Gas Piping: Use precleaned, hard copper tube with wrought-copper fittings and brazed joints.
2. Exterior, Buried Medical Gas Piping: Use soft copper tube with wrought-copper fittings and brazed joints.

3. Underground, Protective Conduit: Use Schedule 80 PVC plastic pipe, Schedule 80 PVC plastic threaded pipe fittings, and threaded joints; or Schedule 80 PVC plastic socket-type pipe fittings, and solvent cement joints.

3.4 SERVICE ENTRANCES

A. Extend piping and connect to bulk storage tanks and exterior manifolds, of sizes and in locations indicated for service entrances to building.

B. Install sleeve and mechanical sleeve seal at penetrations through foundation wall for watertight installation.

3.5 PIPING INSTALLATION, GENERAL

A. Refer to Division 23 Section "Basic Mechanical Materials and Methods" for basic piping installation.

B. Install supports and anchors according to Division 23 Section "Hangers and Supports."

1. Spacing between Hangers: As described in NFPA 99 and NFPA 99C.

C. Comply with SEI/ASCE 7 and with requirements for seismic-restraint devices in Section 220548 "Vibration and Seismic Controls for Plumbing Piping and Equipment."

D. Install emergency oxygen connection assembly with pressure relief valve and full-size discharge piping to outside, with check valve downstream from pressure relief valve, and with ball valve and check valve in supply main from bulk oxygen storage tank.

E. Valve Applications: Use ball valves specified in this Section for main shutoff and zone valve duties.

F. Install zone valves in valve box anchored to structure. Install valves at angle that prevents closure of cover when valve is in closed position. Single boxes may be used for multiple valves that serve same area or function.

G. Install thermometers and pressure gages according to Division 15 Section "Meters and Gages."

H. Install exterior, buried medical gas piping in protective conduit fabricated with PVC pipe and fittings. Do not extend conduit through foundation wall. Provide sand bedding 6" all around and metallic warming tape 18" above pipe. Bury pipe at 36" depth.

I. Purging: Purge medical gas piping using oil-free, dry nitrogen during brazing and after installing piping but before connecting to service-outlet valves, alarms, and gages.

3.6 JOINT CONSTRUCTION

A. Refer to Division 23 Section "Basic Mechanical Materials and Methods" for basic piping joint construction.

3.7 SPECIALTIES INSTALLATION

A. Install specialties according to NFPA 99 and manufacturer's written instructions.

B. Install manifolds firmly anchored to substrate and with seismic controls as indicated.

C. Connect to ceiling-mounting service units firmly anchored to substrate according to manufacturer's written instructions.

3.8 MEDICAL GAS ALARM SYSTEM INSTALLATION

A. General: Install alarm system components according to NFPA 99 and manufacturer's written instructions.

B. Install alarm panels in locations indicated.

3.9 CONNECTIONS

A. Install piping next to equipment to allow service and maintenance.

B. Connect medical gas piping to bulk storage tanks with unions. Install with ball valves and strainers where required.

C. Connect medical gas piping to equipment, gas manifolds, and accessories with unions. Install with ball valves and strainers.

1. Install flexible pipe connectors on air piping connections to air compressors, vacuum piping connections to vacuum units, and where indicated.
2. Install thermometers on air-compressor discharge piping, air receiver tanks, vacuum receiver tanks, and where indicated.
3. Install pressure gages on air-compressor discharge piping, air receiver tanks, vacuum receiver tanks, and where indicated.
4. Install pressure regulators downstream from air compressors, dryers, purification units, and filter assemblies.

D. Install medical gas piping and electrical connections to medical gas alarm system components.

E. Arrange for electric-power connections to specialties and devices that require power. Electric power, wiring, and disconnect switches are specified in Division 26 Sections.

3.10 LABELING AND IDENTIFICATION

A. Install labeling on valves, valve-box covers, and alarm panels according to requirements of NFPA 99.

B. Refer to Division 23 Section "Mechanical Identification" for labeling and identification materials.

C. Captions and Color Coding: Use the following or similar medical gas captions and color coding for specialties, when specified and where required by NFPA 99:

1. Oxygen: White letters on green background.
2. Medical Air: Black or white letters on yellow background.
3. Medical Vacuum: Black letters on white background.
4. Nitrous Oxide: White letters on blue background.
5. Nitrogen: White letters on black background.
6. Evacuation: Black letters on white background or white letters on purple background.
7. Carbon Dioxide: White letters on gray background.

D. Label medical gas systems operating at other than standard pressure with system operating pressure.

E. Install continuous metallic underground warning tape during backfilling of trench for underground medical gas piping.

F. Refer to Division 2 Section "Earthwork" for warning tapes.

3.11 FIELD QUALITY CONTROL

A. Pressure Test: Subject each piping section of each system, except high-pressure air and nitrogen, to test pressure of from 150 to 200 psig and high-pressure air and nitrogen systems to test pressure of 250 psig with oil-free, dry nitrogen before attaching system components, after installing station outlets with test caps (when supplied) in place, and before concealing piping system. Maintain test until joints are examined for leaks by means of soapy water.

B. Standing-Pressure Test: Install assembled system components after testing individual systems as specified above. Subject systems to 24-hour standing-pressure test at 20 percent above normal line pressure, but not less than 66 psig. Subject vacuum and evacuation systems to 12- to 18-in. Hg minimum vacuum instead of pressure test.

C. Repair leaks, replace damaged components with new materials, and retest system until satisfactory results are obtained.

D. Review of Construction Documents: Testing Agency shall review the construction documents and note any variation from code requirements and provide a written report of their review and recommendations prior to any installation of compressed air piping

E. Inspect, test, and certify complete medical gas systems according to requirements of NFPA 99, "Health Care Facilities." Inspect, test, and certify each medical gas system, including each piping system, outlets and inlets, accessories, alarm panels and devices, safety devices, medical gas sources, and equipment.

F. Provide oil-free, dry nitrogen; materials; equipment; and labor required for testing.

G. Provide medical gases required for testing systems.

H. Prepare written reports of tests results, including corrective action.

I. Certify that medical gas systems comply with requirements specified, that tests were properly performed, and that test results were satisfactory.

J. Inspect outlets and inlets, gages, alarms, and zone valves for proper labeling for gas service and function.

K. Inspect manifold supply systems for installation and operation as required by NFPA 99, Chapter 4, "Gas and Vacuum Systems."

L. Inspect bulk oxygen supply systems for installation and operation as required by NFPA 50.

M. Inspect bulk nitrous-oxide supply systems for installation and operation as required by CGA G-8.1.

N. Phase I Tests: Perform the following tests using oil-free, dry nitrogen after installing gas systems but before connecting new systems to existing gas sources:

1. Outlet and Inlet Cross-Connection Test: Pressurize one medical gas system to 50 psig, with other systems at atmospheric pressure, and access each outlet with appropriate adapter and test gage. Repeat procedure for each system.
2. Outlet and Inlet Cross-Connection Test: Pressurize each system in 10-psig increments and access each outlet with appropriate adapter and test gage.
3. Alarm System Test: Test for operation of functions specified in "Medical Gas Alarm Systems" Article within limits required.
4. Pressure Test: Test systems at operational pressure with system components installed. No leaks are allowed. Conduct tests by zone.
5. Particulate Sampling: Test positive-pressure terminal outlets, using 0.45-micron filter, for evidence of solid particulate contamination. Allowable limit is 2 mg/cu. m.
6. Moisture: Test positive-pressure terminal outlets for dew point to verify absence of moisture in piping. Dew point of gas dispensed from terminal outlets shall not exceed dew point of source test gas by more than 4 deg F.
7. System Purity: Test terminal outlets and gas source for contaminant levels as defined below. Excessive contaminant levels will require additional purging to outlets within specific zone until levels are within the following limits:

    a. Total Hydrocarbons as Methane: One ppm.
    b. Halogenated Hydrocarbons: 2 ppm.
    c. Carbon Monoxide: 2 ppm.

8. Air-Compressor Purity: Collect medical air-compressor air samples taken from downstream side of filters and air dryers. Test samples for contaminants and moisture within the following limits:

    a. Total Hydrocarbons as Methane: 25 ppm.
    b. Halogenated Hydrocarbons: 5 ppm.
    c. Carbon Monoxide: 10 ppm.
    d. Moisture, Dew Point: Plus 40 deg F at dryer discharge.

O. Phase II Tests: After Phase I testing has been completed, test completed medical gas systems using applicable medical gas for each system. Completed systems have outlets and inlets, alarms, and gages installed; and gas supply systems are installed and ready for operation.

1. Final Purging: Introduce applicable medical gas for each system into respective piping systems. Purge installed outlet valves to remove nitrogen test gas present from Phase I testing. Test vacuum inlets for ability to flow.
2. Outflow Analysis: Analyze medical gas at positive-pressure outlets to confirm delivery of proper medical gas at proper concentration level. Minimum allowable concentration levels are defined by U.S. Pharmacopeia's USP-NF and the following CGA Commodity Specifications:

    a. CGA G-4.3, "Commodity Specification for Oxygen."
    b. CGA G-6.2, "Commodity Specification for Carbon Dioxide."
    c. CGA G-7.1, "Commodity Specification for Air."
    d. CGA G-8.2, "Commodity Specification for Nitrous Oxide."
    e. CGA G-10.1, "Commodity Specification for Nitrogen."

3. System Delivery Pressures: Test pressure piping systems to confirm supply sources are set to deliver gas at the following nominal pressure levels:

    a. All Systems, except Nitrogen and High-Pressure Air: 50 to 55 psig at maximum flow.
    b. Nitrogen and High-Pressure Air: 180 psig minimum at maximum flow.

4. System Suction Levels: Test vacuum and evacuation piping systems to confirm that vacuum producers are set to maintain suction of not less than 12 in. Hg at most distant inlets.

P. Testing Agency Certification: Certify that specified inspection, tests, and procedures have been performed and report results. Include the following:

1. Inspections performed.
2. Procedures, materials, and gases used.
3. Test methods used.
4. Results of tests.

3.12 COMMISSIONING

A. Startup Services: Engage a factory-authorized service representative to inspect alarm system installation and to provide startup service.

1. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment discovered by service representative.

B. Perform the following final checks before startup:

1. Verify that specified tests of piping are complete.
2. Check safety valves for correct settings. Ensure settings are greater than air-compressor discharge pressure, but not greater than rating of system components.

3.13 DEMONSTRATION

A. Startup Services: Engage a factory-authorized service representative to demonstrate procedures for alarm system startup and shutdown, preventive maintenance and servicing, and troubleshooting. Review operating and maintenance information.

B. Provide written notice 7 days in advance of demonstration.

END OF SECTION

SECTION 22 67 00 - DEIONIZED PURE WATER SYSTEM

PART 1 – GENERAL

1.1 SCOPE OF THE WORK:

A. Furnish and install a complete deionizing system as shown on the drawings and as hereinafter specified. Water purification system supplier shall have been in the ultra pure water purification business for a minimum of 5 years.

1.2 SUBMITTALS:

A. Submit product data:

1. Manufacturer's Literature and Data:
   a. Storage tank(s) including vent filters and level controls
   b. Ultraviolet sterilizer(s)
   c. Repressure pumps
   d. Deionizer
   e. Water quality monitor
   f. Back pressure regulating valve

2. The equipment shall be installed under the supervision of a manufacturer's representative who will place the equipment in service and instruct the owner's personnel in its operation, care, and maintenance.

3. All brackets, hangers, supports, unions, valves, drains, controls etc. necessary for a complete and operating system shall be provided and installed by this section.

PART 2 - PRODUCTS

2.1 PURE WATER SYSTEM:

A. Vendor shall provide a pure water system of approved design, complete from inlet to outlet, having the capacity, flow rate, and operational requirements as hereinafter described. The components listed herein shall be supplied by Vendor. The completed installation of the system shall be inspected by Vendor's representative, who shall place the equipment in service and instruct the owner's personnel in its care, maintenance and operation.

2.2 PURE WATER SYSTEM GENERAL:

A. The items in this specification are placed in order of water flow through the system.

Quantity	Item
1	Auto Fill Valve
4	Deionizer tanks
1	Storage Tank with Breather Filters
1	Level Controls
2	Repressure Pumps
1	Ultraviolet Sterilizer
1	Water Quality Resistivity Control/Monitor & Alarm
1	Pressure Sustaining Valve

2.3 DEIONIZED WATER STORAGE TANK

Vendor shall supply one DI water storage tanks constructed of polyethylene, enclosed domed top with fillwell. The tanks shall be manufactured by Norwesco, with a capacity of 200 gallons. Tank shall be steam cured. It shall be fitted with all necessary plumbing to fill and empty the tank and level indicators. Two hydrophobic polysulfone media air vent filters with a micron rating of 0.2 shall be provided.

2.4 LEVEL CONTROLS FOR DEIONIZED WATER STORAGE TANK

Level controls shall be installed in the water storage tank which will maintain the correct level of water in the storage tank. The level switches shall be an ultrasonic with open/closed contacts. The level floats shall control the on and off of the fill valve and also shall have a low level pump safety shut-off to prevent pump burn in the event of a no-water situation.

2.5 RECIRCULATION PUMPS WITH VFD

Vendor shall provide two (2) Goulds pumps, with a 2 horsepower TEFC motor, 3/60 208-230/460 volt motor Pump shall be 316 stainless steel. Pumps shall be supplied with appropriate Aquavar VFD.

2.6 ULTRAVIOLET STERILIZER

Vendor shall provide one (1) Atlantic Ultraviolet Model S50C ultraviolet sterilizer for water disinfection. Following the deionized water tanks shall be a UV system equipped with 254 Nm lamps for microorganism control. The UV units shall have an inlet and outlet of 1-1/2" NPT connections with a design flow rate of 20 gpm on DI water. The chamber shall be 316 stainless steel. This unit will have an ultraviolet monitor that will indicate the level of germicidal ultraviolet energy that penetrates the quartz sleeve and the water within the disinfection chamber.

2.7 DEIONIZED WATER TANKS

Vendor shall provide four (4) Dual-bed FRP deionizers tanks as shown on Pure Water Schematic. Tanks shall be 14" in diameter and 47" in height. Tanks shall contain 3.6 cubic feet of resin and have an operating pressure of 100 psig.

2.8 WATER QUALITY METER/MONITOR AND ALARM

Vendor shall provide a Myron L. resistivity monitor, model 753II-11 that shall have a single range 0-20 megohm and a single cell input to provide a continuous readout of the water quality. The monitor shall be equipped with LED to indicate above or below set point, a digital meter display and a "set point check" switch.

2.9 BACK PRESSURE RECIRCULATING VALVE

Vendor shall provide a back pressure regulating valve, Plast-O-Matic, model RVDT150V-PP. Valve shall be 1-1/2" in size and shall be constructed of polypropylene. A hand wheel shall be mounted on an adjusting screw for easy setpoint adjustment.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of pure water system

B. Examine roughing-in for piping systems to verify actual locations of piping connections before equipment installation.

C. Examine walls and floors for suitable conditions where equipment will be installed.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 EQUIPMENT MOUNTING

A. Equipment Mounting: Install filters and tanks on concrete bases.

1. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around full perimeter of concrete base.
2. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete floor.
3. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
4. Install anchor bolts to elevations required for proper attachment to supported equipment.

3.3 CONNECTIONS

A. Comply with requirements for piping specified in Division 22 Section “Pure Water Piping." Drawings indicate general arrangement of piping, fittings, and specialties.

B. Install piping adjacent to equipment to allow service and maintenance.

C. Make piping connections between water filtration equipment and dissimilar-metal water piping with dielectric fittings. Comply with requirements for dielectric fittings specified in Division 22 Section "Pure Water Piping."

D. Install shutoff valves on feedwater-inlet and filtrate-outlet piping of each water filtration equipment filter and on inlet and outlet headers.

1. Comply with requirements for pure water valves specified in Division 22 Section " Pure Water Piping."
2. Exception: Water filtration equipment with factory-installed shutoff valves at locations indicated.

E. Install pressure gages on feedwater-inlet and filtrate-outlet piping of each water filtration equipment filter. Comply with requirements for pressure gages specified in Division 22 Section "Meters and Gages for Plumbing Piping."

1. Exception: Water filtration equipment with factory-installed pressure gages at locations indicated.
2. Exception: Cartridge water filters.

F. Install valved bypass water piping around each water filtration equipment filter.

1. Comply with requirements for pure water valves specified in Division 22 Section " Pure Water Piping."

G. Install drains as indirect wastes to spill into open drains or over floor drains.

3.4 IDENTIFICATION

A. Identify system components. Comply with requirements for identification specified in Division 22 Section "Identification for Plumbing Piping and Equipment."

3.5 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.

B. Perform tests and inspections.

1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.

C. Tests and Inspections:

1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
2. Operational Test: After electrical circuitry has been energized, start units to confirm proper unit operation.
3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Water filtration equipment will be considered defective if it does not pass tests and inspections.

E. Prepare test and inspection reports.

3.6 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service for filters and pure water equipment.

1. Complete installation and startup checks according to manufacturer's written instructions.

B. Sample system filtrate after startup and at three consecutive seven-day intervals (total of four samples), and prepare certified test reports for required water performance characteristics.

3.7 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain the pure water equipment.

END OF SECTION

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SECTION 23 7600 - HOSPITAL OPERATING ROOM MODULAR DIFFUSER SYSTEM

PART 1 - GENERAL

1.1. WORK INCLUDED

A. The purpose of this specification is to provide a modular diffuser system with integral LED flush lighting, sprinkler system capability, and integral structural support that has the capability of accepting operating room boom loads directly. The system will be installed by the Contractor in accordance with the manufacturer's instructions as outlined in the manufacturer's installation manual. Supplier of this modular diffuser system shall be responsible for all costs associated with the engineering, manufacturing, and project coordination of lights, sprinklers, structural boom and equipment supports (whether integral or not) included within the boundary of this modular system. These costs shall include the supply of the air delivery system, lighting system, sprinkler system and structural support system as identified above along with the layout and engineering for all electrical wiring, piping, mechanical and support structures within the system. These costs also include a set of fully executed and stamped structural engineering calculations on the entire modular system, including all components mentioned above, for the state in which this project will be installed. The structural calculation package shall be delivered to the project team after a "For Record" approval of submittal documents has been signed and returned by an authorized administrator of the project team.

1.2. SYSTEM DESCRIPTION

A. The operating room diffuser system shall be of modular construction consisting of a continuous ceiling grid with anti-microbial powder coated extruded aluminum grid channel, integrated LED lighting, integrated boom mounts, guillotine style dampers, and integrated sprinkler system capability. The ceiling grid is required to be completely sealed off from the air delivery to the room. The diffuser system shall also include a steel air delivery duct that is an integral part of the ceiling grid. The steel duct shall have an anti-microbial powder coating to ensure all exterior and interior surfaces are protected. The system shall be capable of accepting operating room boom loads directly as part of an engineered and structurally stamped system.

1.3. QUALITY ASSURANCE

A. Owner's Factory Inspection:
   1. The owner or owner's representative shall maintain the right to tour the operating room diffuser system at manufacturer's plants any time that fabrication is being performed on components intended for this project.
   2. The owner may exercise the option, giving 24-hour advance notice minimum, to tour the plant and inspect for component assembly, painting, cleaning, or packaging to ensure that quality control is being maintained.

1.4. SUBMITTAL

A. Submittal shall be by the manufacturer.

B. Required with the Bid: Detailed information on structural, mechanical, electrical, and other services necessary to evaluate installation requirements.

C. Required after execution of Contract: Shop drawings shall be submitted within two weeks of purchase order acceptance, and they shall include: complete specifications, descriptive drawings, catalog cuts, and descriptive literature on all components used in the diffuser system, with make, model, dimensions, capacity, weight, and electrical schematics.

1.5. MANUFACTURER CONTACTS

A. Contact manufacturer directly if additional information is required, such as product or material descriptions, layouts, or installation requirements. Manufacturer is required to have a full scale Surgical Suite mock-up showing the Modular Diffuser system similar to the product available for demonstration.

PART 2 - PART 2 - PRODUCTS

2.1. ACCEPTABLE MANUFACTURERS

A. SLD Airframe

B. Steris CleanSuite

C. Precision Air Monoflex

2.2. DIFFUSER GRID SYSTEM

A. The grid system shall utilize a Bottom-Load Extruded Aluminum Flush Ceiling Grid. Diffusers and blank pans shall be capable of being loaded from the bottom into the grid opening. The powder coated extruded aluminum grid shall have threaded studs for accessory retention clips.
B. Grid members shall be welded together into modules. Grid shall be caulked with an appropriate sealant as necessary. The ceiling support grid shall be structurally constructed so as to remain dimensionally stable.

C. The grid system shall have integrated LED flush lighting within the grid channel. Light fixtures, such as teardrop lights, are not permitted. Light fixtures that block the airflow within the supply air, such as recessed light troffers, are not permitted.

1. The complete lighting system consisting of LED assemblies, drivers, wireway, lenses, and wiring shall be an integral part of the ceiling grid. The grid shall be UL listed and so marked.
2. The drivers shall be housed within the grid channel and separated from the low voltage area with a listed wireway cover. Drivers shall be UL listed and so marked.
3. Wiring within the grid for the lighting circuit shall be contained within and protected by the wireway cover. The raceway system integral to the grid shall have the ability to handle normal and emergency wiring circuits. The raceway system integral to the grid shall have the ability to handle high and low voltage wiring circuits. The

light lens shall sit flush with the bottom of the grid channel. Light lens covers shall be clear acrylic ribbed diffusers that snap flush to the grid channel without external fasteners.

D. The grid system shall incorporate a screen that is flush with the light lens and has perimeter slots on all sides of the screen to jet air underneath the lens so as to wash the area below the lens of particles. The screen shall provide laminar flow 4 inches below the grid surface. Screen shall be made from anti-microbial powder-coated aluminum.
E. The installing contractor shall furnish and install the all thread rod up to and including the connection components at the building structure.

F. The grid system shall be capable of attaching clips for hanging patient lifts, equipment supports, and other components.

G. The flush grid shall have an integrated fire protection sprinkler system.

1. The grid system shall have the ability to place fire protection piping through the grid channel itself. Provide sprinkler port penetrations in the ceiling grid channel at all sprinkler head locations, as indicated on the drawings.
2. Fire sprinkler piping within the module will be factory-installed, sealed, and powder-coated. The piping shall be run internally and stub out on the roof or side of the module. The ceiling grid channel shall be capable of accepting a true flush sprinkler head within the width of the extrusion.

H. All surfaces that are scratched shall be painted and touched up by the contractor after installation. Paint color to match all surfaces or as approved by the engineer or owner.

I. Filler Blank Panels: Solid filler panels shall be constructed of powder coated steel with welded corners, an upward facing trough, gasketed, and designed to affect an airtight seal in the channel grid. The finish of the panel is to match the ceiling grid finish. Hold-down clips shall be furnished as necessary to keep the components in place.

J. Furnish guillotine style dampers for each air delivery opening to provide a means of balancing the airflow. These Equalizer® dampers shall have a gear mechanism that can be actuated through a port in the center from the room side.

K. Care should be used in selection of materials that are resistant to cleaning agents used by the owner.

2.3. AIR SUPPLY INTEGRATED TO CEILING GRID

A. Provide an air delivery duct attached to the ceiling grid as an integral part of the ceiling grid diffuser system. Modules shall be supplied completely pre-assembled with the grid and duct as one piece.

B. The ceiling grid module shall be capable of being suspended from the building structure based on the coordination between the structural engineer of record and the modular diffuser system manufacturer's structural stamped package. The structural engineer of record shall be responsible for designing the structural connections and related steel infrastructure to support the ceiling system from the building.

C. Modules will be welded style construction using steel roof panels welded to steel side panels. Side and top panel thickness shall be sized so as to meet structural load requirements. Holes will be provided at the perimeter of the module roof for suspension. The entire ceiling grid module shall be coated with an anti-microbial baked on powder coating.

D. Units shall be manufactured to dimensional tolerance of +/- 1/8" on width and length and diagonal dimensions or squareness of +/-1/8".

E. Provide pre-drilled bolt holes in the sides of modules for field connection of one module to another where applicable.

F. The modules shall be capable of accepting operating room boom loads directly as part of an engineered and structurally stamped system.

PART 3 - PART 3 - EXECUTION

3.1. INSTALLATION - GENERAL

A. Install in accordance with the manufacturer's installation manual. The installing contractor shall be responsible for the complete installation of the operating room ceiling system. All repairs and re-testing cost of the repairs and other related tests that would have to be repeated as a result of repairs done to the system shall be the installing contractor's responsibility.

3.2. MODULE INSTALLATION

A. It is the intent that the modules be installed to line and true level, symmetrical to rooms and spaces, and with due regard to appearance and structural stability. The ceiling shall be level throughout within 1/8 inch.

B. All suspended ceiling system work shall be done in accordance with the procedures endorsed by the Ceiling and Interior Systems Contractor's Association (CISCA), except where specified otherwise.

C. Lay out modules as shown on shop drawings. Coordinate with mechanical and electrical equipment in framing and cutting around ceiling penetrations.

D. Hang level as shown on the drawings in accordance with ASTM C636 and the manufacturer's current printed instructions for the type of installation used.

E. Modules shall be supported per structural specifications. Modules are butted side to side and end to end and bolted together. A sealant is required at all joints. All field assembly and materials are by contractor unless noted.

F. Install hanging hardware at specified locations and per manufacturer's instructions.

G. Install seals per manufacturer's instructions.

H. Blank pans and associated hold-down clips are to be installed per manufacturer's instructions.

I. Lighting fixtures are to be installed per the ceiling plans. Wiring shall be installed by electrical contractor to meet all local codes.

3.3. MATERIAL PREPARATION, CLEANING, AND FINAL CLEANUP

A. The general cleanliness requirements shall be that all hardware exposed to the operating room interior or in the airstream, regardless of size or complexity, must be visibly free of oil, grease, particles, chips, fibers, dirt, etc., prior to installation in the operating room area.

B. The general cleaning sequence for the units shall be as follows: Visual inspection per above; vacuum removal of particles; solvent wipe cleaning; drying; visual inspection per above.

3.4. CEILING CERTIFICATION

A. At the completion of the ceiling installation, with all components installed and wall system in place, an independent certifier under a separate contract shall conduct a series of tests to ensure that the operating room complies with owner's specifications.

END OF SECTION

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To:	Shailesh Munot	Phone:	404.614.5092
Company:	NJRA Architects 5272 S. College Drive, Suite 104 Murray, Utah 84123	Date: Copied:	November 24, 2020
Re:	ASC Addendum #2		
From:	Carlton A. Getz	Job:	Salt Lake City Convention Center Hotel
[p]:	801.401.8461	Job No.:	20190083
Distributed Via: E-Mail		Email:	cag@spectrum-engineers.com

Memo

This memorandum summarizes the revisions in Addendum #2 dated November 24, 2020:

Sheet EPA101

- Floor box in multipurpose room changed to poke through.

Sheet EPA603

- WH-1 and WS-1 removed to match Mechanical coordination.

Sheet ELA101

- G-3 changed to RAB 2x4 – gyp mounted.

Sheet ELA601

- G-3 changed to RAB 2x4 – gyp mounted.
- G-1 and G-2 updated to RAB lighting fixtures.

Sheet ETA001

- Schedules updated per clouding.

Sheet ETA101

- Keynote one provided for clarity.
- Data in OR ceiling changed to (2) 4 drop devices.

Sheet ETA501

- Detail updated.

Sheet ETA502

- Details updated.

Sheet ETA601

- Diagrams updated.

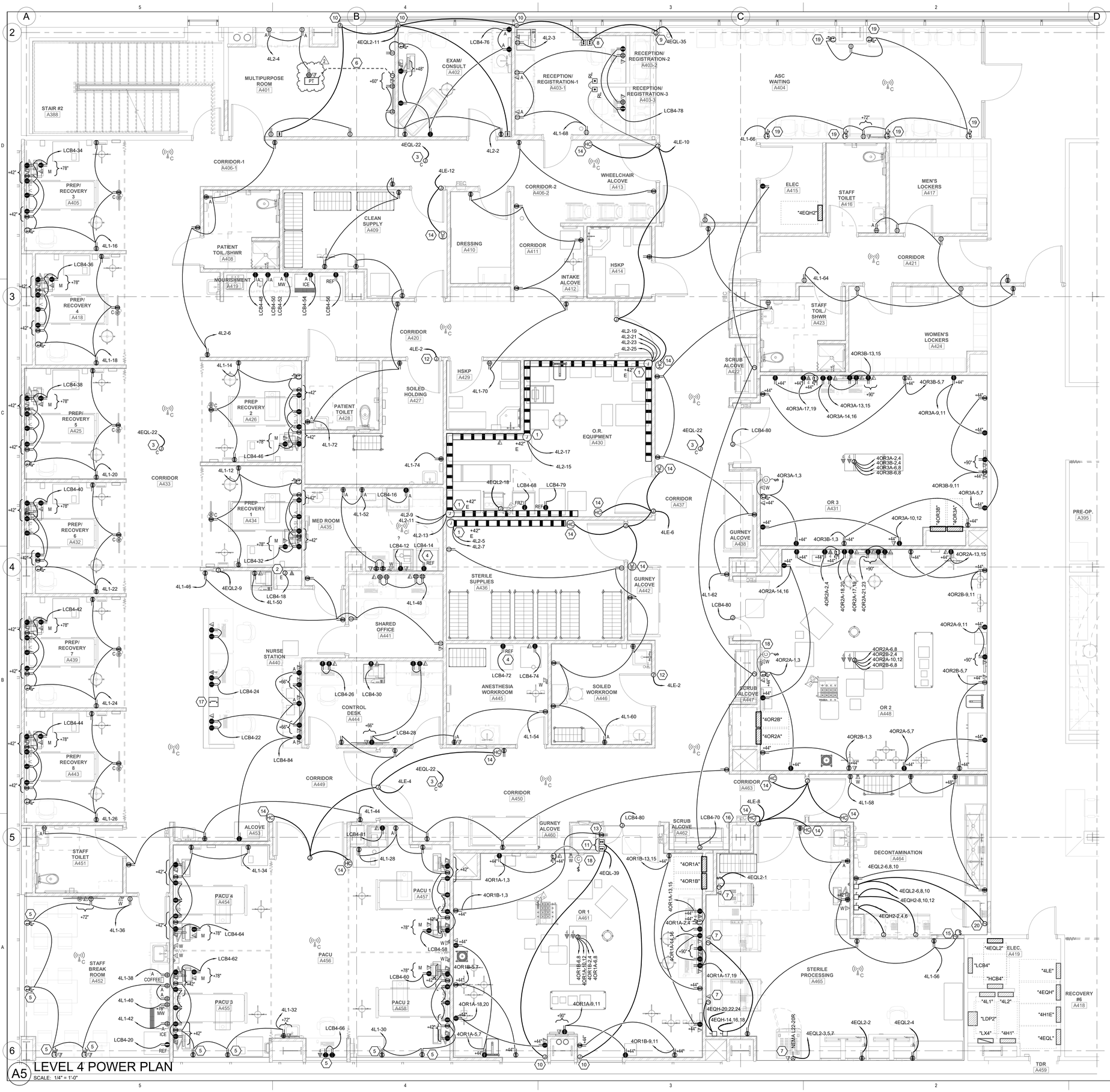
Sheet EYA101

- Added general notes.

If you require any additional information, please contact me at (801).401.8461.

Regards,

Carlton A. Getz, P.E.
Principal
Spectrum Engineers, Inc.



LEVEL 4 POWER PLAN

A5 SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

1 PROVIDE LABELS ON ALL NEW DEVICES PER PROJECT SPECIFICATIONS CONFORMING WITH DIVISION 26 SPECIFICATIONS FOR IDENTIFICATION OF ELECTRICAL EQUIPMENT AND INTERMOUNTAIN'S DIVISION 27 SPECIFICATIONS PRIOR TO SUBSTANTIAL COMPLETION.

2 PROVIDE XHWN CONDUCTORS FOR ALL OPERATING ROOM BRANCH POWER CIRCUITING.

SHEET KEYNOTES

1 PROVIDE SINGLE CHANNEL METAL WIREWAY WITH REMOVABLE COVER (WIREMOLD OR EQUIVALENT) WITH DUPLEX RECEPTACLES MOUNTED AT 18" O.C.

2 JUNCTION BOX FOR POWER CONNECTION TO PNEUMATIC TUBE STATION.

3 JUNCTION BOX FOR POWER CONNECTION TO VAV CONTROL POWER. EXTEND BRANCH CIRCUIT TO EACH VAV BOX LOCATIONS.

4 PROVIDE GFCI CIRCUIT BREAKER FOR INDICATED DEVICE.

5 PROVIDE DEVICES MOUNTED IN FURRING WALL UNDER EXTERIOR WINDOW.

6 PROVIDE (1) 1-1/4" CONDUIT FROM FLOOR BOX DEVICE TO JUNCTION BOX MOUNTED AT MONITOR. PROVIDE (1) HDMI CABLE. TERMINATE HDMI CABLE IN FLOOR BOX WITH FEMALE CONNECTOR. PROVIDE HDMI CABLE FROM FLOOR BOX TO TABLE CONNECTION.

7 DATA CONNECTION FOR THE STERILIZER. COORDINATE EXACT LOCATION WITH EQUIPMENT PRIOR TO ROUGH-IN.

8 PROVIDED BY VENDOR WITH AUTOMATIC DOOR TO COORDINATE WITH MANUFACTURER INSTALLATION INSTRUCTIONS.

9 PROVIDE JUNCTION BOX FOR CONNECTION TO AUTOMATIC DOOR. COORDINATE EXACT LOCATION WITH EQUIPMENT PRIOR TO ROUGH-IN.

10 PROVIDE POWER CONNECTION TO AUTOMATIC WINDOWS. COORDINATE EXACT LOCATION WITH MANUFACTURER PRIOR TO ROUGH-IN.

11 PROVIDE SWITCHES FOR AUTOMATIC WINDOWS ABOVE THE CEILING. COORDINATE EXACT LOCATION IN AN ACCESSIBLE LOCATION RELATIVE TO THE OR CEILING ACCESS PANEL.

12 PROVIDE CONNECTION TO SAFE ZONE DOOR CLOSERS. SEE FA PLANS FOR CONTROL MODULE CONNECTION AT DOOR CLOSER.

13 PROVIDE ABOVE CEILING DUPLEX RECEPTACLE. COORDINATE EXACT LOCATION IN AN ACCESSIBLE LOCATION RELATIVE TO THE OR CEILING ACCESS PANEL.

14 PROVIDE TOUCHLESS HAND WAVE DEVICE AS SPECIFIED UNDER THE DOOR HARDWARE FOR ALL HC DEVICES SHOWN.

15 PROVIDE CONNECTION TO AUTO PASS THROUGH WINDOW. COORDINATE EXACT LOCATION WITH EQUIPMENT PRIOR TO ROUGH-IN.

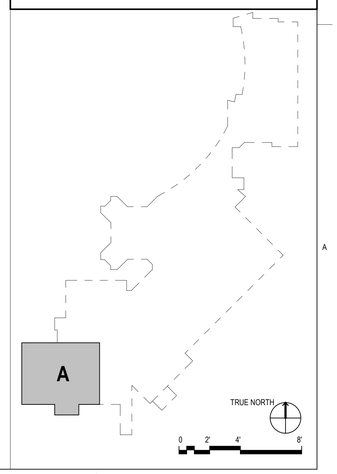
16 PROVIDE GFCI BREAK IN PANEL FOR SCRUB SINK CIRCUIT.

17 PROVIDE ANALOG EMERGENCY PHONE. CONNECT TO EXISTING ANALOG SYSTEM.

18 PROVIDE CONNECTION TO ELAPSED TIME CLOCK.

19 PROVIDE STANDARD USB DUPLEX RECEPTACLE.TG

20 COORDINATE EXACT CONNECTION REQUIREMENTS WITH EQUIPMENT IN THE FIELD



HDR

NJRA ARCHITECTS

NJRA Architects, Inc.
5272 S. College Drive, Suite104
Murray, Utah 84123
801.364.9259
www.njraarchitects.com

INTERMOUNTAIN HEALTHCARE CAMPUS RECONFIGURATION - ASC

1350N 500 E
Logan, UT 84341

Intermountain Healthcare

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Project Designer	ERIC MEUB
Project Architect	FRANK PENROSE
Landscape Architect	ARCSITIO
Civil Engineer	GREAT BASIN
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Electrical Engineer	SPECTRUM
Plumbing Engineer	VAN BOERUM & FRANK
Interior Designer	RUBY THORP
Equipment Planner	ROBERT GRIESCHE
Wayfinding	
Sheet Reviewer	Author

MARK	DATE	DESCRIPTION
1	11/13/2020	Addendum # 01
2	11/24/2020	Addendum # 02

Project Number	10173823
Original Issue	11/6/20

LICENSED PROFESSIONAL ENGINEER No. 7705218 CAMERON A. GETZ 11/24/2020 STATE OF UTAH

Sheet Name

LEVEL 4 POWER PLAN

Sheet Number

EPA101

Project Status

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EQUIPMENT SCHEDULE

MARK	QTY	ITEM DESCRIPTION	LOAD DATA							WIRE AND CONDUIT SIZE	OVERCURRENT PROTECTION			DISCONNECT			STARTER DATA															NOTES	MARK
			HP	kW	MCA	FLA	VOLT	PH	Hz		FURN BY	DEVICE	LOCATION	FURN BY	DEVICE	LOCATION	FURN BY	DEVICE	LOCATION	SIZE	SPEED	CTRL VOLT	SELECTOR SWITCH	PUSH BUTTON	PILOT LAMP	NORMALLY OPEN CONTACTS	NORMALLY CLOSED CONTACTS	PHASE FAILURE RELAY	SCHEMATIC REFERENCE	REMOTE CTRL		
AHU-3S	1	AIR HANDLER SUPPLY FANS	(6) 8		59.0	57	480	3	60	CC #14	E	60A C/B	PANEL	Q	VFD	ADJ. TO UNIT	Q	VFD	ADJ. TO UNIT													AHU-3S
AHU-3R	1	AIR HANDLER RETURN FANS	(6) 3		27.0	26	480	3	60	CC #5	E	30A C/B	PANEL	Q	VFD	ADJ. TO UNIT	Q	VFD	ADJ. TO UNIT													AHU-3R
AHU-3	1	AIR HANDLER LIGHTING/OUTLETS		1.6		13.3	120	1	60	CC #1	E	20A C/B	PANEL	Q																		AHU-3
DI-1	4	DOMESTIC PURE WATER SYSTEM		0.14		1.16	120	1	60	CC #1	E	20A C/B	PANEL	E	TOGGLE SWITCH	ADJ. TO UNIT																	DI-1
EF-1	1	EXHAUST FAN	0.5	1.176	12.3	9.8	120	1	60	CC #1	E	15A C/B	PANEL	Q	TOGGLE SWITCH	ADJ. TO UNIT	Q	VFD	ADJ. TO UNIT														EF-1
EF-2	1	EXHAUST FAN	0.334	0.864	9.0	7.2	120	1	60	CC #1	E	15A C/B	PANEL	Q	TOGGLE SWITCH	ADJ. TO UNIT	Q	VFD	ADJ. TO UNIT														EF-2
EF-3	1	EXHAUST FAN	0.75	1.643	9.9	7.9	208	1	60	CC #1	E	15A C/B	PANEL	Q	30A D/S	ADJ. TO UNIT	Q	VFD	ADJ. TO UNIT														EF-3
EF-4	1	EXHAUST FAN	0.334	0.864	9.0	7.2	120	1	60	CC #1	E	15A C/B	PANEL	Q	TOGGLE SWITCH	ADJ. TO UNIT	Q	VFD	ADJ. TO UNIT														EF-4
EF-5	1	EXHAUST FAN	0.5	1.176	12.3	9.8	120	1	60	CC #1	E	15A C/B	PANEL	Q	TOGGLE SWITCH	ADJ. TO UNIT	Q	VFD	ADJ. TO UNIT														EF-5
GFS-3	1	GLYCOL FEED SYSTEM		0.5	5.2	4.2	120	1	60	CC #1	E	20A C/B	PANEL	E	TOGGLE SWITCH	ADJ. TO UNIT																	GFS-3
P-1	1	DOMESTIC PUMP	2	2.8	4.3	3.4	480	3	60	CC #2	E	15A C/B	PANEL	E	30A D/S	ADJ. TO UNIT	E	FVNR	ADJ. TO UNIT														P-1
P-2	1	DOMESTIC PUMP	2	2.8	17.5	14.0	480	3	60	CC #2	E	15A C/B	PANEL	E	30A D/S	ADJ. TO UNIT	E	FVNR	ADJ. TO UNIT														P-2
P-3-1	1	HOT WATER PUMP	2.2		4.6	3.6	480	3	60	CC #2	E	20A C/B	PANEL	E	VFD	ADJ. TO UNIT	E	VFD	ADJ. TO UNIT														P-3-1
P-3-2	1	HOT WATER PUMP	2.2		4.6	3.6	480	3	60	CC #2	E	20A C/B	PANEL	E	VFD	ADJ. TO UNIT	E	VFD	ADJ. TO UNIT														P-3-2
UH-1	1	HOT WATER UNIT HEATER			1.0	0.8	120	1	60	CC #1	E	20A C/B	PANEL	E	TOGGLE SWITCH	ADJ. TO UNIT																	UH-1

2

EQUIPMENT SCHEDULE KEY

E	DIVISION 16
Q	FURNISHED WITH THE EQUIPMENT
*	COORDINATE WITH THE DIVISION 15 TEMPERATURE CONTROL INSTALLER
**	AUTOMATIC CONTROL WIRING BY DIVISION 15

NJRA Architects, Inc.
5272 S. College Drive, Suite104
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No. 7705218
CAMRON A. GETZ
11/24/2020
STATE OF UTAH

Sheet Name

EQUIPMENT SCHEDULE

Sheet Number

EPA603

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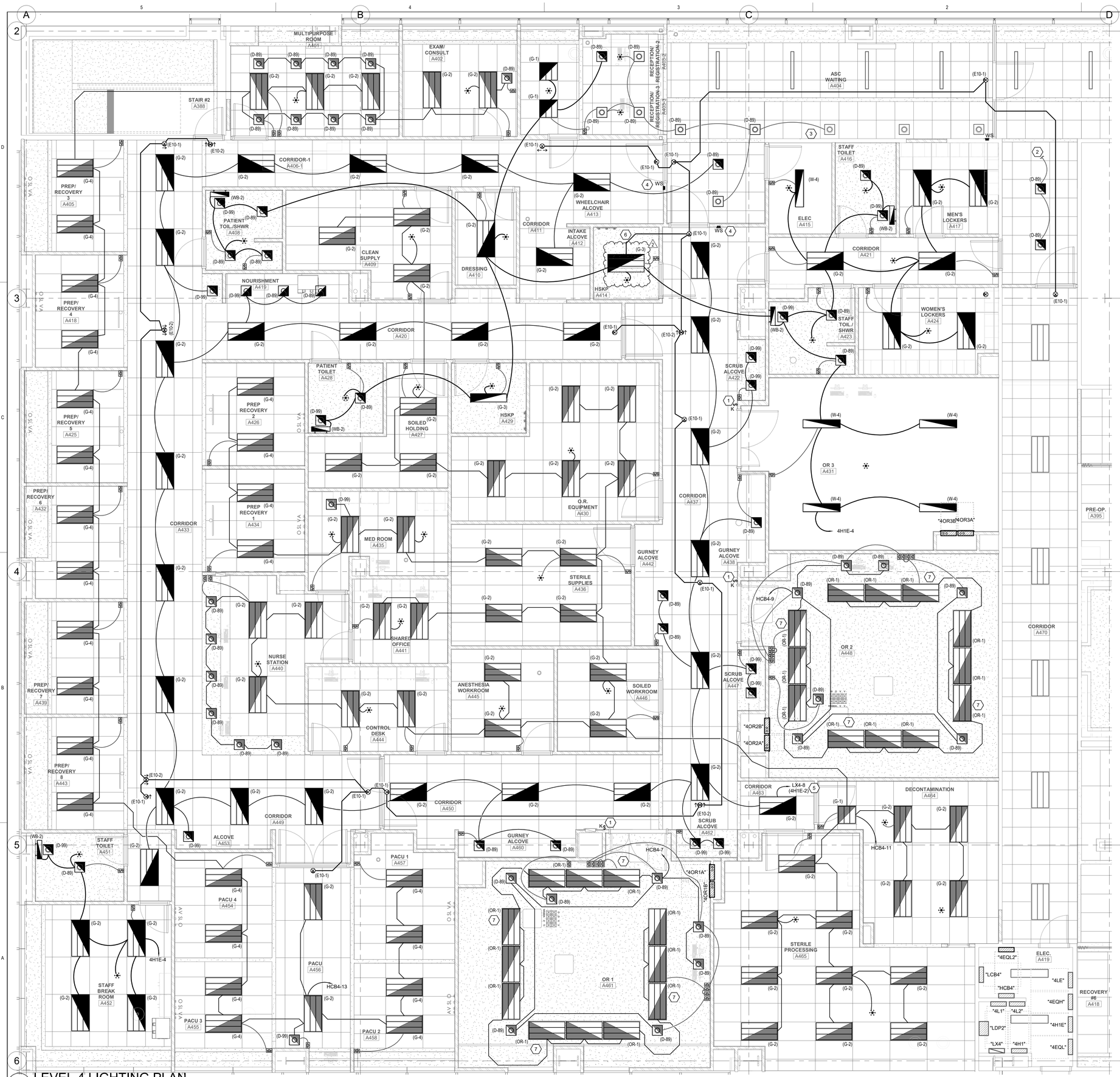

A5 LEVEL 4 LIGHTING PLAN

SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

SHEET KEYNOTES

1 KEYED TEST SWITCH TO DISCONNECT POWER TO TEST OR LIGHTING FIXTURE BATTERIES.

2 CONNECT TO EXISTING LIFE SAFETY BRANCH CIRCUIT SERVING EXISTING CORRIDOR.

3 EXTEND AND CONNECT EXISTING NORMAL POWER LIGHTING CIRCUIT SERVING EXISTING FIXTURES MAINTAINED DURING DEMOLITION.

4 PROVIDE WALL STATION OVERRIDES TO TURN ON ALL CORRIDOR LIGHTING FIXTURES.

5 CIRCUIT THROUGH EXISTING LIGHTING CONTROL PANEL.

6 CIRCUIT ALL EXIT SIGNS AHEAD OF ALL CONTROLS.

7 PROVIDE LIGHTING FIXTURE WITH INTERNAL BATTERY BACKUP.

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LICENSED PROFESSIONAL ENGINEER No. 7052218 CAMERON A. GETZ 11/24/2020 STATE OF UTAH

Sheet Name

LEVEL 4 LIGHTING PLAN

Sheet Number

ELA101

Project Status

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LIGHTING RELAY PANEL SCHEDULE (EXISTING)

PANEL NAME: LX4
LOCATION: ELEC. A419
SUPPLY VOLTAGE:
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

ACCESSORIES: INTEGRAL PROCESSOR
ASTRONOMICAL TIMECLOCK
LAN CONNECTIVITY AND CONTROL

				CHANNEL CONTROL												CHANNEL CONTROL								
RELAY	DIMMING	PANEL...	DESCRIPTION	A	B	C	D	E	F	LOAD (WATTS)						F	E	D	C	B	A	DESCRIPTION	PANEL...	DIMMING	RELAY
1		--	(EXISTING)							0	0											(EXISTING)	--		2
3		--	(EXISTING)									0	0									(EXISTING)	--		4
5		--	(EXISTING)											0	0							(EXISTING)	--		6
7		--	(EXISTING)							0	1751											ASC LS LIGHTING EGRESS	**4H1E-2**		8

CHANNEL	DIMMING	CHANNEL DESCRIPTION	CHANNEL PROGRAMMING REQUIREMENTS
A	NO	MANUAL ON, AUTO SWEEP OFF	SWEEP OFF AT (10PM), MANUAL ON/OFF VIA LOW VOLTAGE SWITCH**
B	NO	CORRIDOR & COMMON SPACE	TIME OFF (10PM)/TIME ON (6AM)**
C	NO	NIGHT LIGHTS	ALWAYS ON - NIGHT LIGHTING, MANUAL OFF VIA LOW VOLTAGE SWITCH
D	NO	EXTERIOR LIGHTS OUT AT MIDNIGHT	EXTERIOR PHOTOCELL ON/TIME OFF (12AM)
E	NO	EXTERIOR LIGHTING ALL NIGHT	EXTERIOR PHOTOCELL ON/OFF
F	NO	SPARE	PROGRAM AS DIRECTED BY OWNER

GENERAL NOTES:

1. PROGRAMMING OF SYSTEM SHALL COMPLY WITH CURRENT IECC REQUIREMENTS.
2. COORDINATE INITIAL PROGRAMMING WITH OWNER AND MODIFY CONTROL TIMES AND OPERATION AS REQUESTED BY OWNER.
3. PROVIDE FINE TUNING PROGRAMMING AND ADJUSTMENTS UPON REQUEST BY OWNER WITHIN FIRST 6 MONTHS AFTER SUBSTANTIAL COMPLETION.
4. ALL SPARE RELAYS AND CHANNELS SHALL BE INCLUDED WITH ORIGINAL SYSTEM INSTALLATION.
5. UPON LOSS OF NORMAL POWER, ALL EMERGENCY LIGHTING RELAYS SHALL TURN ON TO 100% UNTIL NORMAL POWER IS RESTORED, THEN GO BACK TO STANDARD MODE.

** CHANNEL SHALL BE PROGRAMMED WITH 10 MINUTE WARNING PRIOR TO TURNING LIGHTS OFF BY BLINKING THE LIGHTS OFF/ON/OFF/ON.

LIGHTING FIXTURE SCHEDULE

NOTE TO BIDDERS: COMPLY WITH THE SPECIFICATIONS.
REFER TO SPECIFICATIONS FOR IMPORTANT TECHNICAL REQUIREMENTS FOR LIGHTING FIXTURES, BALLASTS, AND LAMPS. THE CATALOG NUMBERS LISTED BELOW HAVE BEEN CAREFULLY PREPARED TO ASSIST BIDDERS IN SELECTING PRODUCTS TO ACHIEVE THE DESIGN CONCEPT, HOWEVER, PRIOR TO BIDDING, EACH MANUFACTURER SHALL COMPARE THE CATALOG NUMBERS SHOWN WITH THE DESCRIPTION AND REQUIREMENTS ON THE DRAWINGS, AND SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES. SPECIFICALLY INCLUDED IN THIS EVALUATION SHALL BE THE VERIFYING OF PROPER MOUNTING KITS OR ACCESSORIES TO FACILITATE INSTALLATION AS SHOWN AT EACH LOCATION ON THE DRAWINGS. NO ALLOWANCE OR REDRESS WILL BE ALLOWED FOR DISCREPANCIES THAT WERE NOT REPORTED TO THE ARCHITECT/ENGINEER IN TIME FOR CORRECTION OR CLARIFICATION BEFORE THE BID. THE REPORTING OF ANY AMBIGUITY IS THE RESPONSIBILITY OF THE BIDDER. PROVIDE UNIT PRICES AND FIXTURE BRAND SELECTED FOR ADD/DELETE CHANGES FOR EACH FIXTURE TYPES SHOWN WITHIN 48 BUSINESS HOURS OF THE BID DATE. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY DISQUALIFY THE PRODUCTS AND EMPOWER THE ENGINEER TO DETERMINE FAIR VALUE FOR FIXTURE AND INSTALLATION CHANGES, WITHOUT FURTHER INPUT FROM THE CONTRACTOR OR INSTALLER. SUBMITTAL PACKAGE SHALL INCLUDE LAMP MANUFACTURER AND CATALOG NUMBER ON EACH FIXTURE SHEET. ON ALL PENDANT MOUNTED FIXTURES, PROVIDE A SECOND SET OF PENDANTS, OF A DIFFERENT LENGTH, AS DIRECTED BY THE ARCHITECT/ENGINEER, PROVIDED AND INSTALLED AT NO ADDITIONAL CHARGE. ALL FIXTURES SHALL BE APPROVED BY UL OR ANOTHER ACCEPTABLE TESTING LAB FOR THE PURPOSE INTENDED AND WITH THE LAMP AND BALLAST PROPOSED. CONTRACTOR ALLOWANCE PRICES ARE ACCURATE WHEN THIS JOB WAS SPECIFIED. CONTRACTOR AND ELECTRICAL DISTRIBUTOR SHALL VERIFY THIS ALLOWANCE AND REPORT ANY PROBLEMS TO THE ENGINEER BEFORE THE BID. ALLOWANCE PRICE MAY OR MAY NOT INCLUDE LAMP(S) OR FREIGHT AS NOTED, AND DO NOT INCLUDE ANY TAXES. UNIVERSAL VOLTAGE (120/277)
BALLASTS REQUIRED UNLESS NOTED OTHERWISE. DIMENSION SEQUENCE = (LENGTH X WIDTH X DEPTH) IN INCHES.

SYMBOL	MARK	FIXTURE CHARACTERISTICS BODY / AIR / MOUNTING / DOOR LENS/LOUVER/REFLECTOR/OTHER	LAMP	WATTS	VOLTS	MANUFACTURER	1 NOTES
	D	RECESSED LED: SOLID STATE LED LIGHT ENGINE; CLASS P THERMALLY PROTECTED 0-10V SOLID STATE DIMMING DRIVER; MINUMUM SYSTEM RATED LIFE 50,000 HOURS AT 70% OUTPUT; UL LISTED FOR THROUGH-BRANCH WIRING AND DAMP LOCATION; LIGHT ENGINE, DRIVER, AND JUNCTION BOX ACCESSIBLE FROM ABOVE OR BELOW CEILING; SELF-FLANGING TRIM.					
	D-89	6" APERTURE: COMFORT CLEAR DIFFUSER; 4000 K COLOR TEMP LED; ~1500 LUMENS; 30 INPUT WATTS; 277V; 0-10V SOLID STATE DIMMING DRIVER; LENS; WHITE FLANGE.	LED	30W	277V	LIGHTOLIER PRESCOLITE GOTHAM PORTFOLIO	C6L1520DL-40K-M-CCL-W / CW-C6L15-N-2
	D-99	7" APERTURE: COMFORT CLEAR DIFFUSER; 4000 K COLOR TEMP LED; ~3500 LUMENS; 60 INPUT WATTS; 120V; 0-10V SOLID STATE DIMMING DRIVER; LENS; WHITE FLANGE.	LED	60W	277V	LIGHTOLIER PRESCOLITE GOTHAM PORTFOLIO	C7L1520-DL-40K-W-CCD-W / C7L35-N-2
	E10	EXIT SIGN: METAL HOUSING; CEILING MOUNT, SEE DRAWINGS; ARROWS PER PLANS; LED LAMPS; A/C ONLY; EDGE LIGHTED CLEAR LENS; GREEN LETTERS ON CLEAR BACKGROUND. MUST MEET NFPA ILLUMINATION STANDARDS. UNITS SHOWN ARE CEILING MOUNT MODELS. CONTRACTOR TO PROVIDE MATCHING LOW LEVEL WALL MOUNTED UNITS WHERE REQUIRED.					
	E10-1	SINGLE FACE:	LED	20W	120/277V	DUAL-LITE MCPHILBEN EELP LITHONIA ISOLITE EVENLITE CHLORIDE LIGHTOLIER	LESCGWA 45VL-1-GC-XX EDG 1 GC W EM LRP W 1 GC XX 120/277 EUN-AC-G-1C SOV-AC-G-1C-WH-XX-XX STDLX-X-1-GC-X LEAC1GCX
	E10-2	DUAL FACE:	LED	20W	120/277V	DUAL-LITE MCPHILBEN EELP LITHONIA ISOLITE EVENLITE CHLORIDE	LECDGWA 45VL-2-GM-XX EDG 2 GC W EM LRP W 2 GMR XX 120/277 EUN-AC-G-2M SOV-AC-G-2M-WH-XX-XX STDLX-X-2-GC-X
	G	DECORATIVE LENSED TROFFERS: RECESSED; ACRYLIC PRISMATIC LENS; EARTHQUAKE CLIPS, LED DRIVER 0-10 VOLT DIMMING DRIVER WHERE INDICATED IN PRODUCT NUMBER					
	G-1	RECESSED LED FIXTURE, 2X2, ACRYLIC DIFFUSER, ~3300 LUMENS, MULTI VOLT, 4000K, GRID MOUNTED MINIMUM 82 CRI	LED	30W	UNV	RAB LIGHTING	SWISH2X2-29N/D10
	G-2	RECESSED LED FIXTURE, 2X4, ACRYLIC DIFFUSER, ~5200 LUMENS, MULTI VOLT, 4000K, MOUNTING PER PLAN, GRID MOUNTED, MINIMUM 82 CRI	LED	40W	UNV	RAB LIGHTING	SWISH2X4-39N/D10
	G-3	RECESSED LED FIXTURE, 2X4, ACRYLIC DIFFUSER, ~5200 LUMENS, MULTI VOLT, 4000K, MOUNTING PER PLAN, GYP MOUNTED, MINIMUM 82 CRI	LED	40W	UNV	RAB LIGHTING	SWISH2X4-39N/D10
	G-4	RECESSED LED FLAT PANEL FIXTURE, 2X4, GRID MOUNTED, 3500K, MULTI VOLT, ~6700 LUMENS, MINIMUM 80 CRI	LED	60W	UNV	LITHONIA LUMENOPTIX ARCHIPELAGO	EPANL-2X4-6800LM-80CRI-35K-MIN1-ZT-MVOLT LUZ LPNL24-60-35-A1
	OR	ASYMMETRIC LENSED TROFFER; RECESSED FRO GYP CEILING; ACRYLIC PRISMATIC LENS; EARTHQUAKE CLIPS; LED DRIVER; 0-10 VOTL DIMMING WHERE INDICATED IN PRODUCT NUMBER					
	OR-1	RECESSED LED FIXTURE, 2X4, ACRYLIC DIFFUSER, ~14,000 LUMENS, 4000K, GYP MOUNTED, MINIMUM 80 CRI, WHITE AND GREEN LIGHT DUAL FIXTURE WITH SEPARATE CONTROL AND OPERATION, MIN 80 CRI	LED	115W	277V	KENALL EMERGENCY: KENALL	M4SEDI-24-43G/100L-40K9-DCC-277-2F-2H -ASYM-RM M4SEDI-24-43G/100L-40K9-DCC-277-2F-2H -ASYM-RM-LEL
	UC	LED UNDERCABINET LIGHT: LOW PROFILE 1" HIGH X 1-3/4"DEEP X LENGTH AS NOTED; EXTRUDED ALUMINUM BODY; EXTRUDED CLEAR, POLYCARBONATE LENS; INTERNAL LED DRIVER; EFFICACY GREATER THAN 40 LUMENS PER WATT; 50,000 HOUR RATED LAMP LIFE; 2700 - 3000 DEG KELVIN COLOR TEMPERATURE, WIRING COMPARTMENT; FLUSH END. CONNECTORS FOR ROW INSTALLATION (CONNECTORS ARE NOT INCLUDED IN THE FIXTURE SCHEDULE CATALOG NUMBERS - CONNECTOR CONFIGURATION TO BE FIELD DETERMINED BY CONTRACTOR PRIOR TO PURCHASE).					
	UC-99	SURFACE MOUNTED UNDERCABINET LIGHT FIXTURE, LED, 19" NOMINAL LENGTH, GLOSSY WHITE, ~345 LUMENS MINIMUM	LED	6W	120V	ALKCO WAC LIGHTING KENALL HEALTHCARE	LINCS100-L19-120-WHG
	W	LOW PROFILE WRAPAROUND: SURFACE MOUNTED SUITABLE FOR MOUNTING ON LOW DENSITY CEILINGS; CURVED ACRYLIC PRISMATIC DIFFUSER; WHITE ENAMEL ENDPLATES; LED.					
	W-4	WIDE BODY WRAPAROUND; LED; ~5000 LUMENS	LED	45W	277/120V	KENALL	MLRS12-48-F-MW-PP-1-45L40K-DCC-1-DV
	WP	SERFACE MOUNTED WET LISTED EMERGENCY LED FIXTURE; UL 924; FULLY GASKETED CORROSION-RESISTANCT ENCLOSURE; SOLID STATE CHARGING CIRCUIT; SEALED MOMENTARY PUSH-TO-TEST SWITCH					
	WB-2	WALL MOUNTED 24" LINEAR FIXTURE; UP AND DOWN LIGHTING; DUST COVER; LED; TOTAL LENGTH AS INDICATED ON PLANS AS EACH LOCATION	LED	20W	277V	LIGHTOLIER ARCH LIGHTING NULITE	MQ26-L-A-K-F-F-X-1-2-E-W HP2W-2-IHP900-4000K-WD-ILED-DHP900- 4000K-EXT-DLED-1CKT-UNV-AL RW2-2-B-09-L40-DIM-1C-FRF-SV-4'-DUST COVER

NJRA Architects, Inc.
5272 S. College Drive, Suite104
Murray, Utah 84123
801.364.9259
www.njraarchitects.com

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Intermountain Healthcare

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Sheet Reviewer	Author

MARK	DATE	DESCRIPTION
1	11/13/2020	Addendum # 01
2	11/24/2020	Addendum # 02

Project Number	10173823
Original Issue	11/6/20

LICENSED PROFESSIONAL ENGINEER
No. 7052213
CAMERON A. GETZ
11/24/2020
STATE OF UTAH

Sheet Name
INTERIOR LIGHTING FIXTURE SCHEDULE

Sheet Number
ELA601

Project Status
100% Construction Documents

CABLE/OUTLET COLOR SCHEDULE

COLOR	TYPE
BLACK	TV COAX
BLUE	ANALOG PHONE
BLUE	DATA
BLUE	IP SECURITY CAMERAS
GREY	SECURITY CARD READERS
ORANGE	CLINICAL ENGINEERING / NURSE CALL
RED	FIRE SYSTEMS
RED	FORESEER
WHITE	PUBLIC ADDRESS
YELLOW	WIRELESS
GREEN	VENDOR NETWORK

COPPER PATCH CORD SCHEDULE

(CATEGORY 6A F/UTP CABLES W/RJ-45 CONNECTORS)

LENGTH (FEET)	COLOR	QUANTITY	UNIT COST (EACH)
5'	BLUE	20% OF TOTAL PORTS IN TDR'S	
7'	BLUE	60% OF TOTAL PORTS IN TDR'S	
10'	BLUE	20% OF TOTAL PORTS IN TDR'S	

STATION PATCH CORD SCHEDULE

(CATEGORY 6A F/UTP CABLES W/RJ-45 CONNECTORS)

LENGTH (FEET)	COLOR	QUANTITY	UNIT COST (EACH)
7'	BLUE	40% OF TOTAL PORTS IN TDR'S	
10'	BLUE	40% OF TOTAL PORTS IN TDR'S	
15'	BLUE	20% OF TOTAL PORTS IN TDR'S	

COPPER PATCH CORD SCHEDULE

(CATEGORY 5E CABLES W/RJ-45 CONNECTORS)

LENGTH (FEET)	COLOR	QUANTITY	UNIT COST (EACH)
5'	BLUE	10	
7'	BLUE	10	
10'	BLUE	10	

WIRELESS PATCH CORD PATCH CORD SCHEDULE

(CATEGORY 6A F/UTP W RJ/45 CONNECTORS

LENGTH (METER)	COLOR	QUANTITY	UNIT COST (EACH)
7'	YELLOW	100% OF TOTAL PORTS IN TDR'S	

CLINICAL ENGINEERING PATCH CORD SCHEDULE

(CATEGORY 6A F/UTP W RJ/45 CONNECTORS)

LENGTH (METER)	COLOR	QUANTITY	UNIT COST (EACH)
5'	ORANGE	70% OF TOTAL PORTS IN TDR'S	
7'	ORANGE	30% OF TOTAL PORTS IN TDR'S	

2

EQUIPMENT/CABLE LIST

THE ITEMS INDICATED BELOW SHALL NOT BE CONSTRUED AS A "BILL OF MATERIALS". THIS LIST IDENTIFIES ITEMS OF SIGNIFICANCE USED DURING THE DESIGN OF THE CABLING INSTALLATION. WHERE THE ITEMS INDICATED ARE ONE PORTION OF AN ASSEMBLY, THE ENTIRE ASSEMBLY SHALL BE PROVIDED UNLESS SPECIFIED OTHERWISE. PROVIDE ALL MISCELLANEOUS HARDWARE AND SUPPORTS WHICH MAY NOT BE LISTED HERE, FOR A COMPLETE INSTALLATION. COMPARE CATALOG NUMBERS WITH DESCRIPTIONS AND NOTIFY ENGINEER OF DISCREPANCIES PRIOR TO BID. IF CATALOG NUMBERS DO NOT MATCH DESCRIPTIONS, THE DESCRIPTIONS TAKE PRECEDENCE. PROVIDE COMPLETE SUBMITTAL FOR APPROVAL PRIOR TO PURCHASING ANY EQUIPMENT OR CABLE. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

SYMBOL	ITEM DESCRIPTION	ACCEPTABLE TYPES
	STATION CABLE, DATA - CATEGORY 6A FUTP RISER, DATA, BLUE	SIEMON 9A6R4-A5-06-R1A
	STATION CABLE, DATA - CATEGORY 6A FUTP PLENUM, CLINICAL ENGINEERING, ORANGE	SIEMON 9A6P4-A5-02-R1A
	STATION CABLE, DATA - CATEGORY 6A FUTP PLENUM, WIRELESS, YELLOW	SIEMON 9A6P4-A5-05-R1A
	STATION CABLE, DATA - CATEGORY 6A FUTP PLENUM, SECURITY, BLUE	SIEMON 9A6P4-A5-06-R1A
	STATION CABLE, DATA - CATEGORY 5E RISER, GREEN VENDOR NETWORK	SIEMON 9C5R4-E2-07-R1A
	VOICE OUTLET, SINGLE GANG FACEPLATE, WHITE W/WALL HUNG PHONE MOUNTING STUDS, ONE POSITION W/CATEGORY 6A INSERT	SIEMON MX-WP-Z6AS-SS
M	DATA OUTLET, SINGLE GANG FACEPLATE, WHITE, 2 POSITION	SIEMON 10GMX-FPS02-02
	CATEGORY 6A JACK - CLINICAL ENGINEERING, ORANGE	SIEMON Z6A-S09
	BLANK INSERT, WHITE	SIEMON MX-BL-02
	DATA OUTLET, SINGLE GANG FACEPLATE, WHITE, 2 POSITION	SIEMON 10GMX-FPS02-02
	CATEGORY 6A JACK - DATA, BLUE	SIEMON Z6A-S06
	BLANK INSERT, WHITE	SIEMON MX-BL-02
	DATA OUTLET, SINGLE GANG FACEPLATE, WHITE, 2 POSITION	SIEMON 10GMX-FPS02-02
	CATEGORY 6A JACK - DATA, BLUE	SIEMON Z6A-S06
	DATA OUTLET, SINGLE GANG FACEPLATE, WHITE, 4 POSITION	SIEMON 10GMX-FPS04-02
	CATEGORY 6A JACK - DATA, BLUE	SIEMON Z6A-S06
	BLANK INSERT, WHITE	SIEMON MX-BL-02
4	DATA OUTLET, SINGLE GANG FACEPLATE, WHITE, 4 POSITION	SIEMON 10GMX-FPS04-02
	CATEGORY 6A JACK - DATA, BLUE	SIEMON Z6A-S06
C	DATA OUTLET, SURFACE MOUNT BOX, WHITE, 2 POSITION	SIEMON MX-SMZ2-02
	CATEGORY 6A JACK - DATA, BLUE	SIEMON Z6A-S06
C	DATA OUTLET, SURFACE MOUNT BOX, WHITE, 2 POSITION	SIEMON MX-SMZ2-02
	CATEGORY 6A JACK - WIRELESS, YELLOW	SIEMON Z6A-S05
	DATA OUTLET, SURFACE MOUNT BOX, WHITE, 1 POSITION	SIEMON MX-SMZ1-02
	CATEGORY 6A JACK - SECURITY, BLUE	SIEMON Z6A-S06
SPP1	48 PORT, 1RU ANGLE PATCH PANEL WITH OUTLETS	SIEMON Z6AS-PA-48
CEPP1	48 PORT, 1RU ANGLED PATCH PANEL WITH OUTLETS	SIEMON Z6AS-PA-48
HWM	HORIZONTAL WIRE MANAGERS, 4RU	PANDUIT NCMHAEF4
VWM	VERTICAL WIRE MANAGERS, DOUBLE SIDED, BLACK, 10" WIDE x 8'-0" HIGH	CHATSWORTH 40096-715
	EQUIPMENT RACK 19" WIDE x 8'-0" HIGH, 52RU, BLACK	CHATSWORTH 55053-715

NOTE: ALL RACKS, LADDER, PATCH PANELS AND ACCESSORIES SHALL BE BLACK IN COLOR.

2

GENERAL PROJECT NOTES

1. UNLESS OTHERWISE NOTED, INSTALL ALL CABLE INSIDE RACEWAY SYSTEMS. WHERE RACEWAY SYSTEMS HAVE NOT BEEN PROVIDED OR SPECIFIED, INSTALL CABLE THROUGH THE SPECIFIED "CADDY" CLIPS AT THE MINIMUM INTERVALS IDENTIFIED IN THE SPECIFICATIONS. SUPPORT "CADDY" CLIPS DIRECTLY FROM THE BUILDING STRUCTURE, NOT FROM OTHER BUILDING SYSTEM SUPPORT WIRES OR CABLE.
2. PROVIDE PLENUM RATED CABLE IN ALL AIR PLENUMS. IF A PLENUM RATED CABLE IS NOT SPECIFIED, PROVIDE THE PLENUM RATED EQUIVALENT TO THE SPECIFIED CABLE.
3. LABEL ALL CABLE INSTALLED UNDER THIS CONTRACT REGARDLESS OF LENGTH.
4. THE EQUIPMENT LABELING IDENTIFIED ON DETAILS IN THESE DRAWINGS ARE EXAMPLES ONLY OF THE ACTUAL LABELING WHICH IS REQUIRED AS PART OF THIS CONTRACT. PRIOR TO FABRICATION, SUBMIT THE NOMENCLATURE FOR ALL LABELS TO THE OWNER FOR REVIEW. THIS REQUIREMENT INCLUDES BUT IS NOT LIMITED TO ALL CABLE LABELING, AND ALL EQUIPMENT LABELING.
5. IF OUTLET IS TERMINATED IN CEILING SPACE, LABEL THE T-BAR GRID WITH THE OUTLET NUMBER FOR EASY LOCATION AND IDENTIFICATION.
6. GROUND ALL EQUIPMENT RACKS INSTALLED UNDER THIS CONTRACT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS.
7. FOR EVERY CABLE PULL SPECIFIED, COIL 15' OF EXCESS CABLE AT THE STATION END FOR FUTURE USE. NEATLY COIL 15' ABOVE THE CEILING OR BELOW FLOOR WHERE APPLICABLE.
8. PROVIDE THE QUANTITY OF PATCH PANELS REQUIRED +20% FOR THE TOTAL DATA OUTLETS SHOWN ON FLOOR PLANS FOR THE PARTICULAR LEVEL.
9. RACK SPACE ALLOCATION SHOULD BE FOLLOWED PER DRAWINGS. IF YOU HAVE A SYSTEM THAT HAS NOT RACK ALLOCATION PLEASE CALL BOE SAUSEDO AT 801-707-3805.
10. ALL DATA LOCATIONS ARE NOT SHOWN IN ET SHEETS. REFER TO ENLARGED POWER PLANS FOR DATA LOCATIONS IF NOT SHOWN ON ET SHEETS.

ABBREVIATIONS

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

A	AUGMENTED
CAT	CATEGORY
E	ENHANCED
EA	EACH
ER	EQUIPMENT ROOM
FPP	FIBER PATCH PANEL
GIG	GIGA HERTZ
HWM	HORIZONTAL WIRE MANAGEMENT
NIC	NOT IN CONTRACT
OE	OWNER ELECTRONICS
PNM	PLENUM
PR	PAIR
PS	POWER SUPPLY
RPP	RISER PATCH PANEL
SPP	STATION PATCH PANEL
TC	TELECOMMUNICATIONS ROOM
TYP	TYPICAL
VWM	VERTICAL WIRE MANANGEMENT

DEFINITIONS

NOTE: ALL DEFINITIONS MAY NOT BE USED.

INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.

DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.

APPROVE: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

ELECTRONIC SYSTEMS: THE TERM "ELECTRONIC SYSTEMS" IS USED TO DESCRIBE ALL LOW VOLTAGE SYSTEMS GENERALLY REFERRED TO AS "SPECIAL SYSTEMS". THESE SYSTEMS INCLUDE BUT ARE NOT NECESSARILY LIMITED TO ALL SYSTEMS WHICH UTILIZE VOLTAGES OF LESS THAN 71 VOLTS SUCH AS SOUND SYSTEMS, VIDEO SYSTEMS, TV SYSTEMS, SECURITY SYSTEMS, VOICE AND DATA CABLING SYSTEMS, ETC...

HDR

SPECTRUM ENGINEERS
324 S. State St., Suite 400
Salt Lake City, UT 84111
800-678-7077
801-328-5151
fax: 801-328-5155
www.spectrum-engineers.com

NJRA ARCHITECTS
NJRA Architects, Inc.
5272 S. College Drive, Suite104
Murray, Utah 84123
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1600 N 500 E
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Intermountain Healthcare

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Wayfinding	

Sheet Reviewer	SJT

MARK	DATE	DESCRIPTION
2	11/24/2020	Addendum # 02

Project Number	10173823
Original Issue	08/20/20

LICENSED PROFESSIONAL ENGINEER
No. 7705218
CAMRON A. GETZ
11/24/2020
STATE OF UTAH

Sheet Name

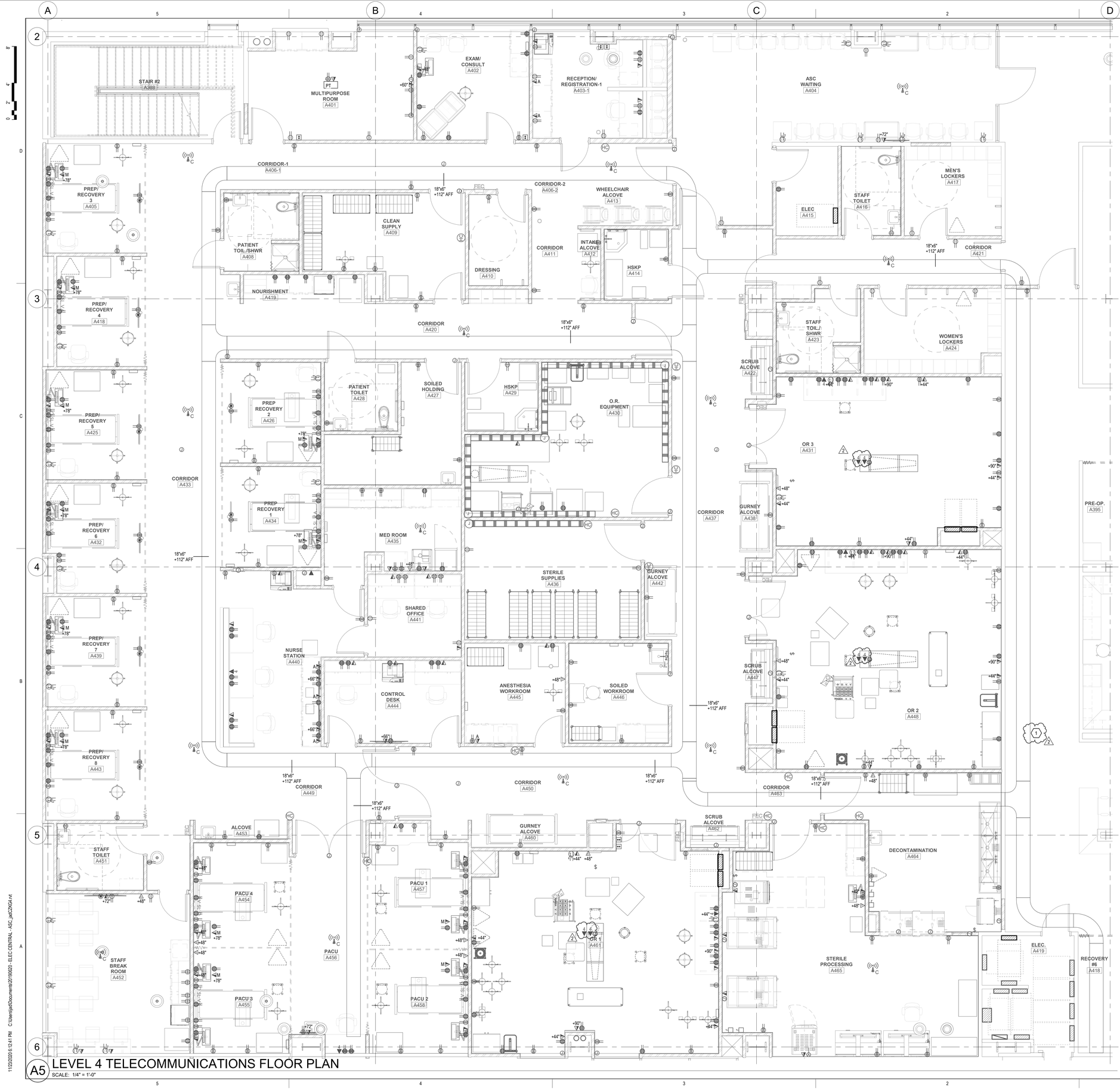
TELECOM SCHEDULES AND NOTES

Sheet Number

ETA001

Project Status

100% Construction Documents



A5 LEVEL 4 TELECOMMUNICATIONS FLOOR PLAN

SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

SHEET KEYNOTES

1 CABLE TRAY TO BE CONNECTED TO RUN TO EXISTING TDR DATA 14016. CONTRACTOR TO VERIFY RACK SPACE AND TERMINATION POINTS WITH IHC REPRESENTATIVE SCOTT PETERSON.

NJRA Architects, Inc.
5272 S. College Drive, Suite104
Murray, Utah 84123
801.364.9259
www.njraarchitects.com

INTERMOUNTAIN HEALTHCARE CAMPUS RECONFIGURATION - ASC

1350N 500 E
Logan, UT 84341

Intermountain Healthcare

Project Manager	TERRI SUDBROOK
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Wayfinding	
Sheet Reviewer	Author

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LICENSED PROFESSIONAL ENGINEER No. 7705213 CAMERON A. GETZ 11/24/2020 STATE OF UTAH

Sheet Name

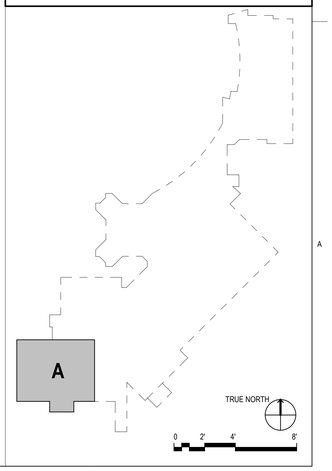
LEVEL 4 TELECOM FLOOR PLAN

Sheet Number

ETA101

Project Status

100% Construction Documents



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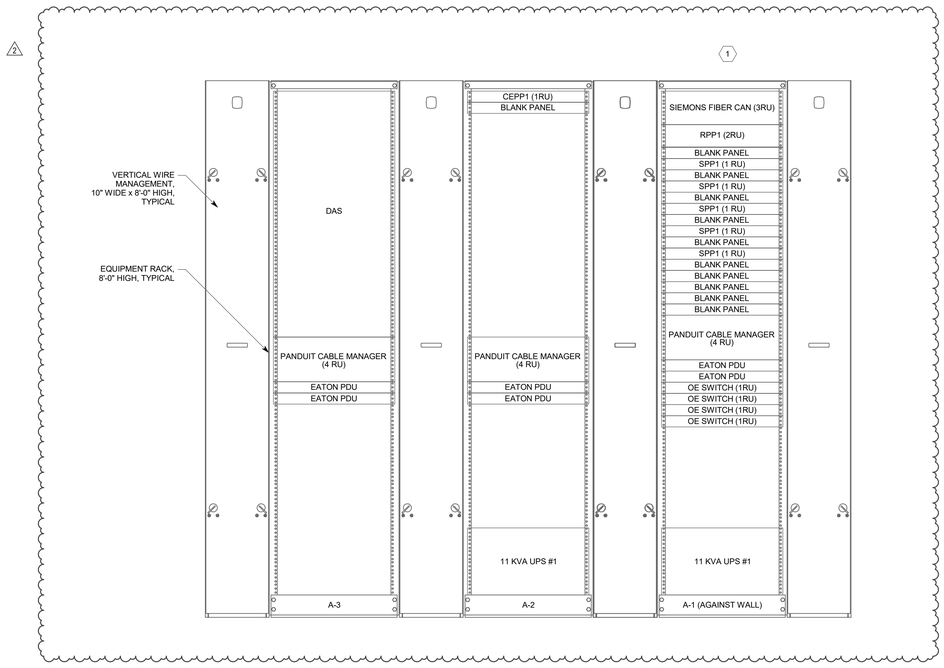
SHEET KEYNOTES

1. COORDINATE PATCH PANEL PLACEMENT AND CABLE TERMINATION WITH IHC REPRESENTATIVE SCOTT PETERSON.



A2 TELECOM RACK ELEVATION DETAIL, LEVEL 4, DATA 14016

NO SCALE

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SPECTRUM ENGINEERS
324 S. State St., Suite 400
Salt Lake City, UT 84111
800-678-7077
801-328-5151
fax: 801-328-5155
www.spectrum-engineers.com

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Project Number	10173823
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LICENSED PROFESSIONAL ENGINEER — No. 7705218 — CAMERON A. GETZ — 11/24/2020 — STATE OF UTAH

Sheet Name

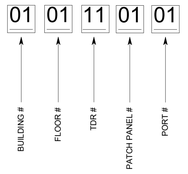
TELECOM EQUIPMENT RACK ELEVATIONS

Sheet Number

ETA501

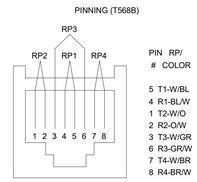
Project Status

100% Construction Documents



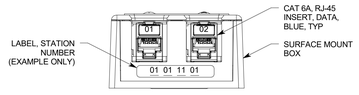
E2 CABLE ID EXAMPLE DETAIL

NO SCALE



E1 TYPICAL VOICE-DATA OUTLET PINNING DETAIL

NO SCALE



D3 TYPICAL 2-PORT CEILING DATA OUTLET

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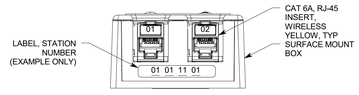

D2 TYPICAL 'WAP' CEILING DATA OUTLET

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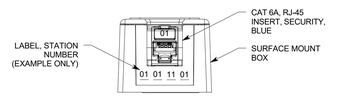

D1 TYPICAL 1-PORT CAMERA DATA OUTLET

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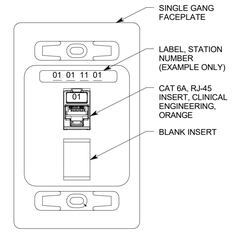

C2 TYPICAL 1-PORT PHYS MON WALL DATA OUTLET

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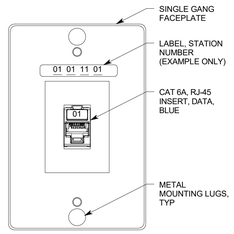

C1 TYPICAL 1-PORT WALL PHONE OUTLET

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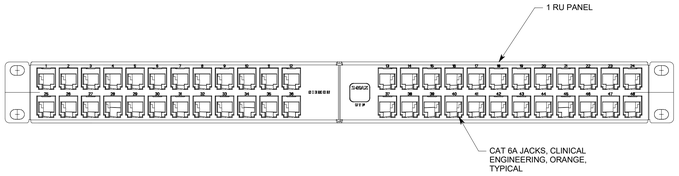
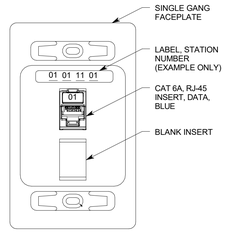


B4 CLINICAL ENGINEERING PATCH PANEL, (CEPP1)

NO SCALE



B2 TYPICAL 1-PORT WALL DATA OUTLET

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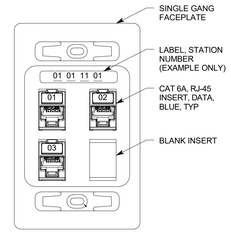

B1 TYPICAL 3-PORT WALL DATA OUTLET

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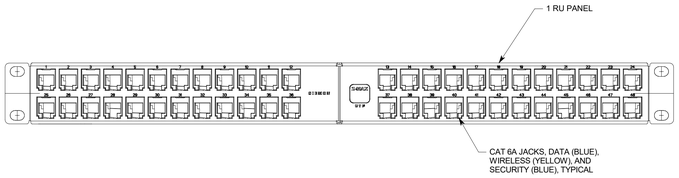
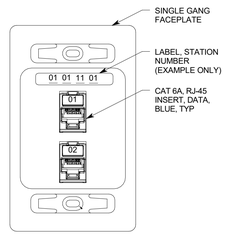


A4 STATION PATCH PANEL, (SPP1)

NO SCALE



A2 TYPICAL 2-PORT WALL DATA OUTLET

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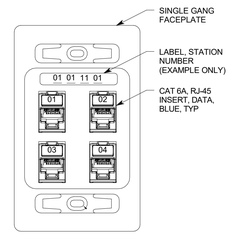


A1 TYPICAL 4-PORT WALL DATA OUTLET

NO SCALE

SPECTRUM ENGINEERS
324 S. State St., Suite 400
Salt Lake City, UT 84111
800-678-7077
801-328-5151
fax: 801-328-5155
www.spectrum-engineers.com

NJRA ARCHITECTS
NJRA Architects, Inc.
5272 S. College Drive, Suite104
Murray, Utah 84123
801.364.9259
www.njraarchitects.com

INTERMOUNTAIN HEALTHCARE CAMPUS RECONFIGURATION - ASC

1800 N 500 E
Logan, UT 84341

Intermountain Healthcare

Project Manager	TERRI SUDBROOK
Project Designer	ERIC MEUB
Project Architect	FRANK PENROSE
Landscape Architect	ARCSITIO
Civil Engineer	GREAT BASIN
Structural Engineer	REAVELEY
Mechanical Engineer	VAN BOERUM & FRANK
Electrical Engineer	SPECTRUM
Plumbing Engineer	VAN BOERUM & FRANK
Interior Designer	RUBY THORP
Equipment Planner	ROBERT GRIESCHE
Wayfinding	
Sheet Reviewer	SJT

MARK	DATE	DESCRIPTION
2	11/24/2020	Addendum # 02

Project Number	10173823
Original Issue	08/20/20

LICENSED PROFESSIONAL ENGINEER
No. 7052918
CARLTON A. GETZ
11/24/2020
STATE OF UTAH

Sheet Name

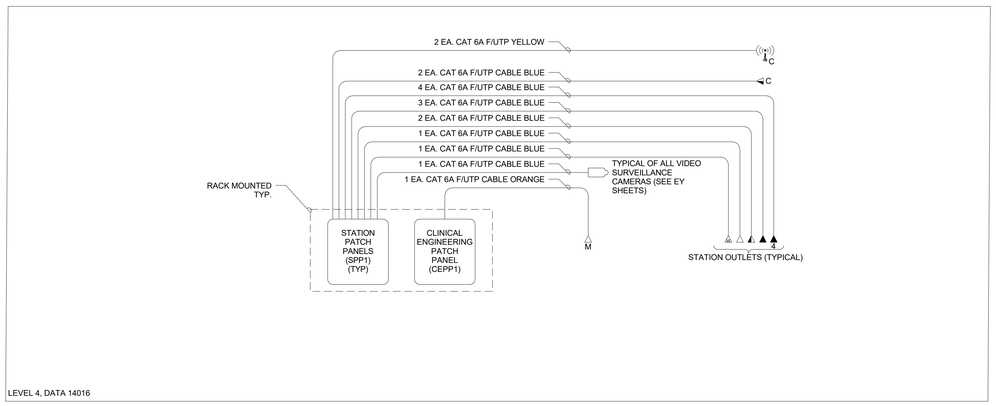
TELECOM DETAILS

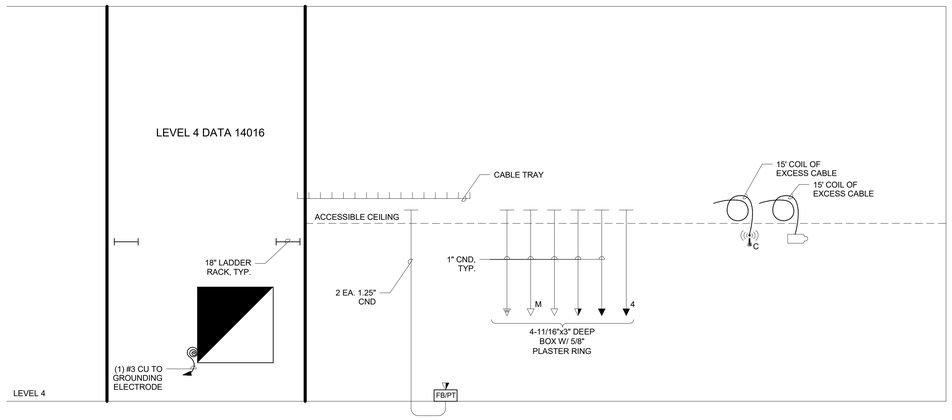
Sheet Number

ETA502

Project Status

100% Construction Documents





3 TELECOM CABLE RISER DIAGRAM
NO SCALE

1 TELECOM CONDUIT RISER DIAGRAM
NO SCALE

SPECTRUM ENGINEERS
324 S. State St., Suite 400
Salt Lake City, UT 84111
800-678-7077
801-328-5151
fax: 801-328-5155
www.spectrum-engineers.com

NJRA ARCHITECTS
NJRA Architects, Inc.
5272 S. College Drive, Suite104
Murray, Utah 84123
801.364.9259
www.njraarchitects.com

INTERMOUNTAIN HEALTHCARE CAMPUS RECONFIGURATION - ASCN
1600 N 500 E
Logan, UT 84341

Intermountain Healthcare

Project Manager	TERRI SUDBROOK
Project Designer	ERIC MEUB
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Equipment Planner	ROBERT GRIESCHE
Wayfinding	

Sheet Reviewer	ECD

MARK	DATE	DESCRIPTION
2	11/24/2020	Addendum # 02

Project Number	10173823
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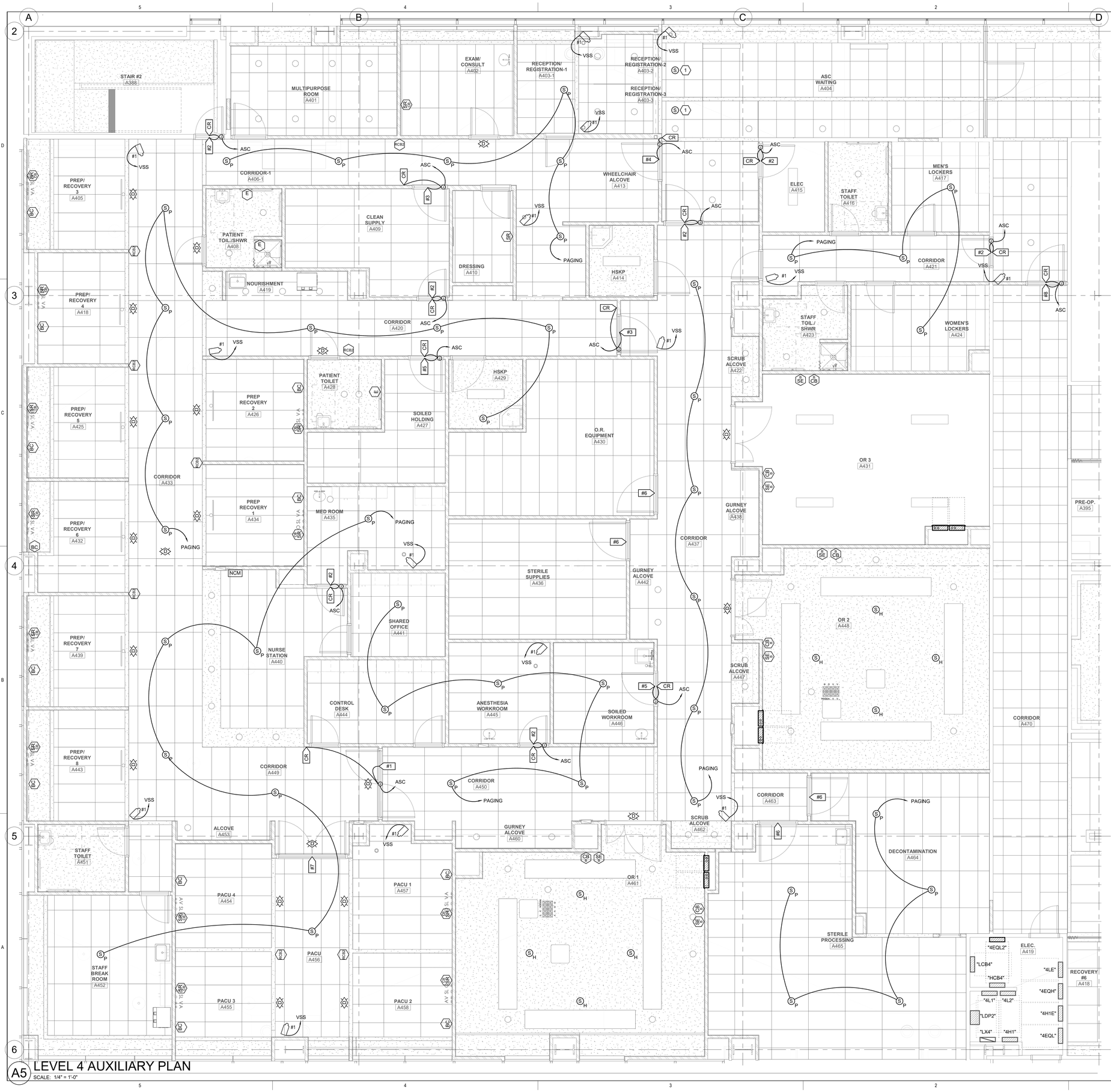
LICENSED PROFESSIONAL ENGINEER
No. 7057918
CARLTON A. GETZ
11/24/2020
STATE OF UTAH

Sheet Name
TELECOM RISER DIAGRAMS

Sheet Number
ETA601

Project Status
100% Construction Documents



A5 LEVEL 4 AUXILIARY PLAN

SCALE: 1/4" = 1'-0"

11/23/2020 6:12:55 PM C:\Users\jad\Documents\20195620 - ELEC CENTRAL - ASC_jadCZKGt4.rvt

GENERAL SHEET NOTES

1. PROVIDE ROUGH-IN FOR NURSE CALL DEVICES (BOXES AND CONDUIT). NURSE CALL DEVICES AND CABLING BY OTHERS (HILLROM). REFER TO HILLROM DESIGN DOCUMENTS FOR ADDITIONAL INFORMATION.
2. THE CONTRACTOR SCOPE OF WORK WILL INCLUDE:
   A) INSTALLATION OF THE ROUGH-IN (BOXES AND CONDUIT) FOR THE NURSE CALL DEVICES IN COORDINATION WITH THE HILL-ROM INSTALLATION DOCUMENTS;
   B) INSTALLATION OF THE CABLING FROM THE HOSPITAL AND/OR CLINIC DATA ROOM (TDR) TO THE ROOM CONTROLLER (RCB) LOCATIONS.
3. THE HILL-ROM (OR SUBCONTRACTOR) SCOPE OF WORK CONTRACTED DIRECTLY WITH INTERMOUNTAIN WILL INCLUDE:
   A) INSTALLATION OF THE CABLING FROM THE ROOM CONTROLLER (RCB) LOCATION TO THE INDIVIDUAL DEVICES WITHIN EACH ROOM;
   B) INSTALLATION OF THE NURSE CALL DEVICES;
   C) FUNCTIONAL TESTING OF THE NURSE CALL SYSTEM.
4. PROVIDE CIRCUITING FOR PAGING SPEAKERS SHOWN WITH ZONING AS DIRECTED BY OWNER.

SHEET KEYNOTES

1. PROVIDE SOUND MASKING SPEAKER. CONNECT TO EXISTING SOUND MASKING SYSTEM.

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1350N 500 E
Logan, UT 84341

Intermountain Healthcare

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Wayfinding	
Sheet Reviewer	Author

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LICENSED PROFESSIONAL ENGINEER No. 7057518 JONATHAN A. GETZ 11/24/2020 STATE OF UTAH

Sheet Name

LEVEL 4 AUXILIARY PLAN

Sheet Number

EYA101

Project Status

100% Construction Documents