JRCA Architects, Inc.
577 South 200 East
Salt Lake City, Utah 84111
(801) 533-2100 Phone
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ADDENDUM NUMBER ONE

DATE OF ISSUANCE:	August 16, 2019	**PROJECT NUMBER:**	19028
PROJECT:	Snowbasin Clinic 3925 Snow Basin Road Huntsville, Utah 84317	**ARCHITECT:**	JRCA Architects, Inc. 577 South 200 East Salt Lake City, Utah 84111
OWNER:	Intermountain Healthcare 36 South State Street Salt Lake City, Utah 84111		

Incorporate the following revisions to the Specifications, Drawings and other Contract Documents of the above named project. General Items are not referenced. Revisions to the Specifications are referenced by section, page number, and paragraph number. Revisions to the Drawings are referenced by drawing sheet number. This addendum forms part of the Construction Documents.

The end of this Addendum is indicated by the note “END OF ADDENDUM”. Attachments are located at the end of the Addendum and are referenced in the Addendum.

General Items:

Item No.	Section or Sheet No.	Description
AD1-1	N/A	Bid Due date and time will be moved to Thursday August 22, 2019 @ 2pm.
AD1-2	N/A	Intermountain will have a $2,000 allowance for moving sprinkler heads in the lobby. Please include line item in bid.
AD1-3	N/A	Intermountain will include a $4,000 allowance for x-ray of floor in clinic space in advance of trenching for any power or plumbing. Please include as line item in bid.
AD1-4	N/A	Existing deck height is 12’-0”. Due to the small space we would like to keep ceilings at 9’-0”. The lobby will obviously remain the same height as existing and be a hard lid. HVAC and electrical accommodations have been made.

Specification Items:

Item No.	Section or Sheet No.	Description
AD1-5	06 41000	Architectural Casework Specification updated to include laminate materials for both counters and cabinets. Laminate materials only, no quartz.

Drawing Items:

Item No.	Section or Sheet No.	Description
AD1-6	DP101	See demo plan indicating demo of any existing ceilings that will require access for new ceiling or MEP equipment.
AD1-7	AE101	See updated plan for wall type in IT room.

AD1-8	AE121	See updated plan for specific finishes in IT room.
AD1-9	AE131	Lobby will be included in scope of work. Furniture will be provided by owner.
AD1-10	AE411	Elevation A2/AE411 for triage area is the same layout as exam rooms, size will be adjusted for the space.
AD1-11	AE601	See updated door schedule with door sizes and specifications. All sliding doors are owner purchased; contractor installed. All swing doors will be purchased and installed by contractor through Robert I. Merrill to match sliding door assemblies. Imaging room door will require lead lining. See finish schedule for door information.

END OF ADDENDUM ONE

SECTION 06 4100

ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Specially fabricated cabinet units.

B. Countertops.

C. Hardware.

1.02 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.

B. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 3.0; 2016.

C. BHMA A156.9 - American National Standard for Cabinet Hardware; 2015.

D. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
   1. Scale of Drawings: 1-1/2 inch to 1 foot, minimum.
   2. Provide the information required by AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).

C. Product Data: Provide data for hardware accessories.

D. Samples: Submit actual samples of architectural cabinet construction, minimum 12 inches square, illustrating proposed cabinet, countertop, and shelf unit substrate and finish.

1.04 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect units from moisture damage.

1.06 FIELD CONDITIONS

A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

PART 2 PRODUCTS

2.01 CABINETS

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Plastic Laminate Cabinets:
   1. Finish - Exposed Exterior Surfaces: Decorative laminate.
   2. Finish - Exposed Interior Surfaces: Decorative laminate.
   3. Finish - Semi-Exposed Surfaces: Decorative laminate
   4. Finish - Concealed Surfaces: Manufacturer's option.
   5. Door and Drawer Front Edge Profiles: Square edge with thin applied band.
   6. Cabinet Style: Flush overlay.
   7. Cabinet Doors and Drawer Fronts: Flush style.
   8. Drawer Side Construction: Multiple-dovetailed.

2.02 WOOD-BASED COMPONENTS

A. Wood fabricated from old growth timber is not permitted.

2.03 LAMINATE MATERIALS

A. High-pressure Decorative Laminate Panel Products:
   1. Wilsonart:
      a. Cabinets - Color: 8213K-28 Phantom Cocoa
      b. Finish: Gloss Line Finish
      c. Counters - Color: 4944-38 Casual Linen
      d. Finish: Fine Velvet Finish
   2. Substitutions: No substitutions.

B. Thermally Fused Laminate (TFL): Melamine resin, NEMA LD 3, Type VGL laminate panels.

C. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications.

D. Provide specific types as indicated.
   1. Vertical Surfaces: VGS, 0.028 inch nominal thickness.

2.04 COUNTERTOPS

A. Plastic Laminate Countertops: Medium density fiberboard substrate covered with HPDL, conventionally fabricated and self-edge banded.

2.05 ACCESSORIES

A. Adhesive: Type recommended by fabricator to suit application.

B. Plastic Edge Banding: Extruded PVC, convex shaped; smooth finish; self locking serrated tongue; of width to match component thickness.
   1. Color: As selected by Architect from manufacturer's standard range.
   2. Use at all exposed plywood edges.
   3. Use at all exposed shelf edges.

C. Fasteners: Size and type to suit application.

D. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; galvanized or chrome-plated finish in concealed locations and stainless steel or chrome-plated finish in exposed locations.

E. Concealed Joint Fasteners: Threaded steel.

F. Grommets: Standard plastic, painted metal, or rubber grommets for cut-outs, in color to match adjacent surface.

2.06 HARDWARE

A. Hardware: BHMA A156.9, types as recommended by fabricator for quality grade specified.

B. Adjustable Shelf Supports: Standard side-mounted system using recessed metal shelf standards or multiple holes for pin supports and coordinated self rests, polished chrome finish, for nominal 1 inch spacing adjustments.

C. Drawer and Door Pulls: "U" shaped wire pull, steel with chrome finish, 4 inch centers.

D. Drawer Slides:
   1. Type: Full extension.
   2. Static Load Capacity: Commercial grade.
   3. Mounting: Side mounted.
   4. Stops: Integral type.

E. Hinges: European style concealed self-closing type, steel with polished finish.

2.07 FABRICATION

A. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.

B. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.

C. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.

D. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs.

2.08 SHOP FINISHING

A. Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:
   1. Transparent:
      a. System - 2, Lacquer, Precatalyzed.
      b. Sheen: Satin.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

B. Verify location and sizes of utility rough-in associated with work of this section.

3.02 INSTALLATION

A. Install work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.

B. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.

C. Use fixture attachments in concealed locations for wall mounted components.

D. Use concealed joint fasteners to align and secure adjoining cabinet units.

E. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.

F. Secure cabinets to floor using appropriate angles and anchorages.

G. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.

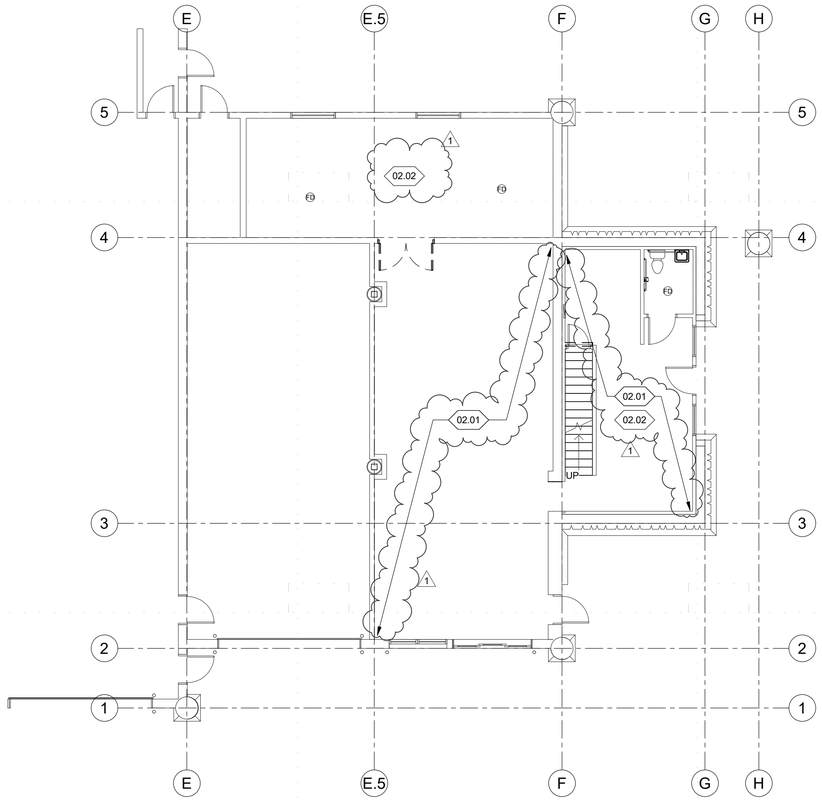
3.03 ADJUSTING

A. Adjust moving or operating parts to function smoothly and correctly.

3.04 CLEANING

A. Clean casework, counters, shelves, hardware, fittings, and fixtures.

END OF SECTION



A3
DP101
DEMO MAIN LEVEL FLOOR PLAN
SCALE 1/8" = 1'-0"

0" 8' 16'

PROJECT NORTH

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS, AND NOTIFY ARCHITECT OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THOSE DOCUMENTED PRIOR TO COMMENCING DEMOLITION.
2. REFER TO MECHANICAL, ELECTRICAL, AND/OR PLUMBING DRAWINGS WHEN DEMOLITION REQUIRES REMOVAL OR TERMINATION OF SUCH UTILITIES.

KEY NOTES:

Key Value	Keynote Text
02.01	DEMO ALL EXISTING CEILING WITHIN SPACE FOR ACCESS TO FLOOR JOISTS ABOVE AS NEEDED.
02.02	DEMO EXISTING FLOOR IN THIS AREA. PREP FLOOR FOR NEW MATERIAL.

1

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INTERMOUNTAIN SNOWBASIN CLINIC

3925 SNOW BASIN RD
HUNTSVILLE, UTAH 84317

PROJECT #: 19028

PERMIT/BID DOCUMENTS 07/31/2019		
△	DATE	REVISION
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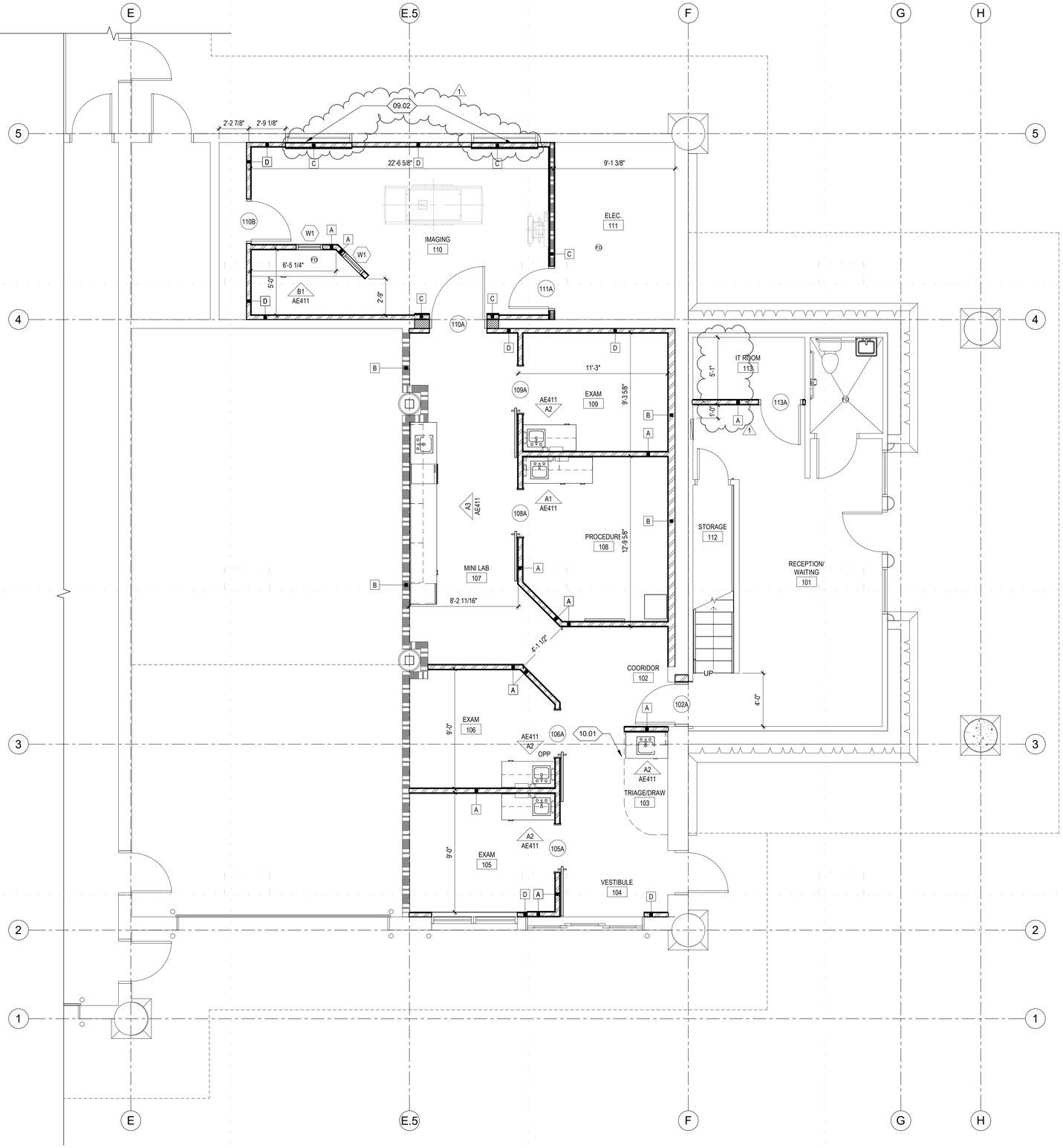
BUILDING DEMOLITION PLAN

DP101



A4
AE101
FLOOR PLAN
SCALE 1/4" = 1'-0"

0" 4' 8'

PROJECT NORTH

GENERAL NOTES:

1. SEE SHEET GI101 FOR ARCHITECTURAL LEGENDS, SYMBOLS, AND ABBREVIATIONS.
2. ALL DIMENSIONS ARE TO FACE OF STUD OR CMU IN NEW CONSTRUCTION. FACE OF FINISH IN EXISTING (U.N.O.).
3. ALL FLOOR FINISH CHANGES OCCUR AT CENTER LINE OF DOORS IN CLOSED POSITION U.N.O.
4. COORDINATE LOCATIONS OF ALL FLOOR AND ROOF DRAINS WITH PLUMBING PLANS.
5. SEE SHEET AE511 FOR WALL TYPES & DETAILS.
6. SEE SHEET AE601 FOR DOOR SCHEDULE.
7. ALL ANGLED WALLS ARE AT 45°, UNLESS NOTED OTHERWISE
8. SEE E4/AE411 FOR TYPICAL TOILET ACCESSORIES INSTALLATION.

KEY NOTES:

09.02 BLACK OUT EXTERIOR SIDE OF WALL AGAINST WINDOW. WINDOWS WILL REMAIN FOR VISUAL APPEARANCE ON EXTERIOR OF BUILDING AS PER OWNER REQUEST.

10.01 CURTAIN

FLOOR PLAN LEGEND:

1i WINDOW TAG, SEE WINDOW TYPES SHEET AE601

101A DOOR TAG, SEE DOOR SCHEDULE SHEET AE601

ROOM NAME 101 ROOM TAG, SEE FINISH SCHEDULE AE121

1t WALL TYPE TAG, SEE SHEET AE511

INTERIOR WALL LEGEND:

WALL ASSEMBLY AS SCHEDULED

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INTERMOUNTAIN SNOWBASIN CLINIC
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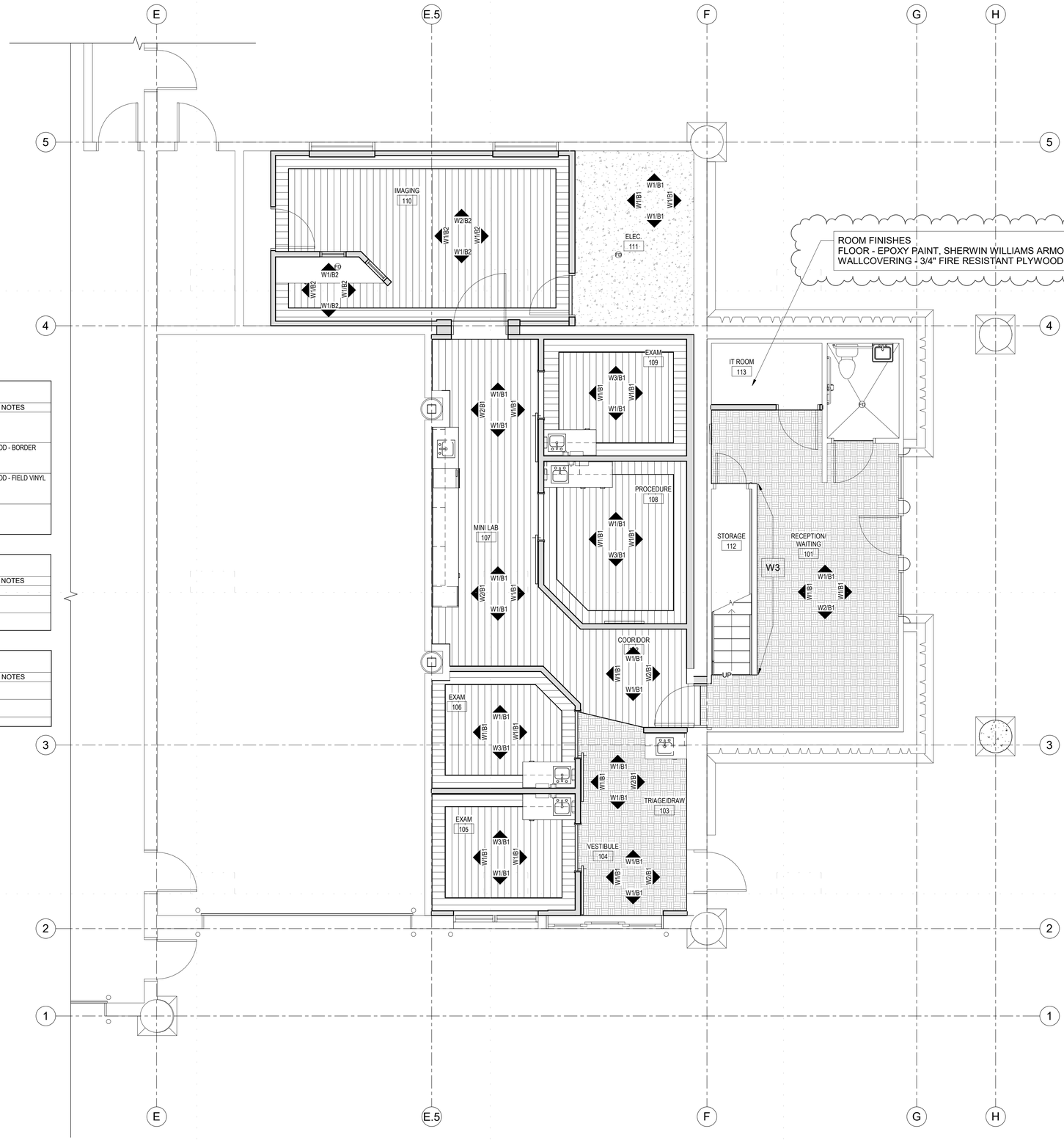
MAIN LEVEL FLOOR PLAN

AE101



FLOOR FINISH LEGEND

TYPE	FILL	DESCRIPTION	MANUFACTURER	PRODUCT	COLOR	NOTES
F1		WALK OFF MAT	SHAW CONTRACT	WELCOME II TILE 5T031	CHARCOAL 31519	
F2		VINYL	MANNINGTON COMMERCIAL	BIOSPEC	BEDROCK SR67369	WELD ROD - BORDER VINYL
F3		VINYL	MANNINGTON COMMERCIAL	BIOSPEC	FLAX SR67361	WELD ROD - FIELD VINYL
F4		SEALED CONCRETE	SEALED CONCRETE			

BASE FINISH LEGEND

TYPE	FILL	DESCRIPTION	MANUFACTURER	PRODUCT	COLOR	NOTES
B1		RUBBER BASE	JOHNSONITE	THERMOSET RUBBER BASE	MOON ROCK	
B2		INTEGRAL COVED SHEET VINYL	MANNINGTON COMMERCIAL	BIOSPEC	BEDROCK	
B3		INTEGRAL COVED SHEET VINYL	MANNINGTON COMMERCIAL	BIOSPEC	FLAX	

WALL FINISH LEGEND

TYPE	FILL	DESCRIPTION	MANUFACTURER	PRODUCT	COLOR	NOTES
W1		FIELD	SHERWIN WILLIAMS		PURE WHITE SW7005	
W2		ACCENT	SHERWIN WILLIAMS		WORLDLY GRAY SW 7043	
W3		ACCENT	SHERWIN WILLIAMS		DISTANCE SW 7082	

A4
AE121
MAIN FLOOR FINISH PLAN
SCALE 1/4" = 1'-0"

GENERAL NOTES:

ROOM FINISH SCHEDULE NOTES:

1. SEE DETAIL

KEY NOTES:

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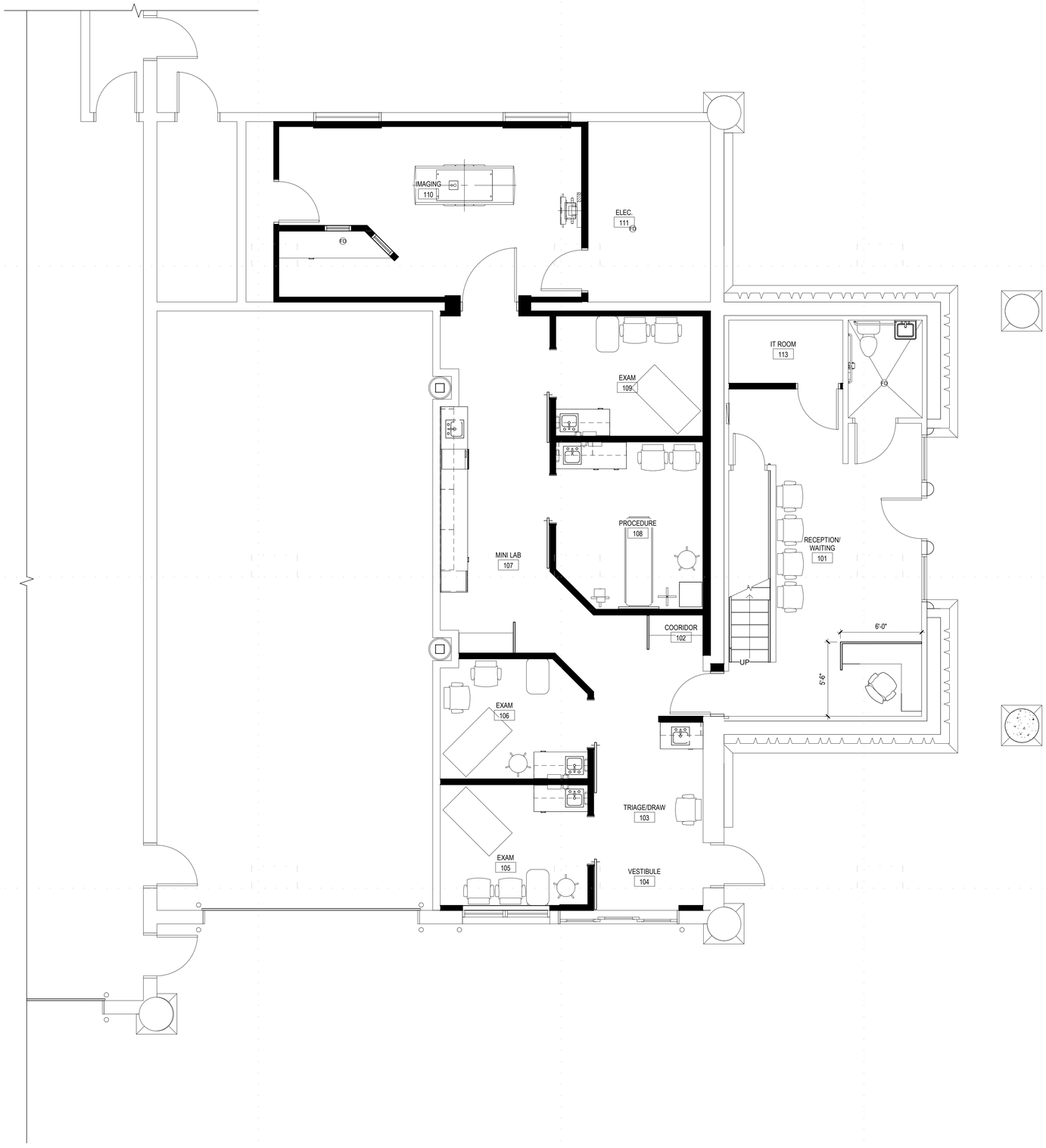
FINISH PLAN

AE121



A4
AE131
FURNISHINGS PLAN
SCALE 1/4" = 1'-0"

0" 4' 8'

PROJECT NORTH

GENERAL NOTES:

1. ALL FURNITURE SHOWN WILL BE PROVIDED BY OWNER. PLAN FOR ELECTRICAL COORDINATION ONLY.

1

KEY NOTES:

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INTERMOUNTAIN SNOWBASIN CLINIC

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PROJECT #: 19028

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07/31/2019

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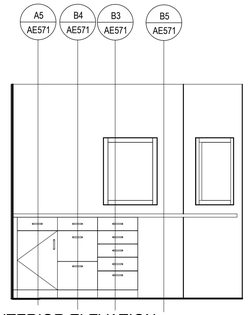
FURNISHINGS PLAN

AE131

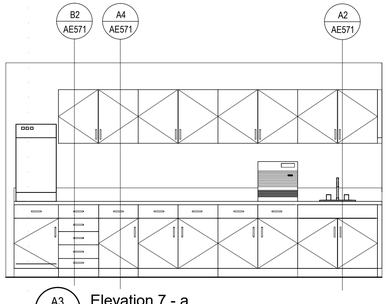
GENERAL NOTES:

1 --

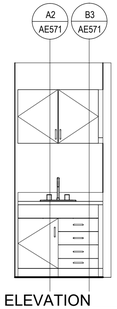
KEY NOTES:



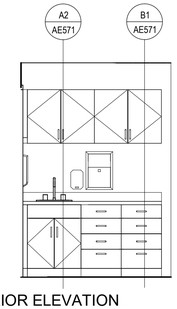
B1 / AE411 INTERIOR ELEVATION
SCALE 3/8" = 1'-0"



A3 / AE411 Elevation 7 - a
SCALE 3/8" = 1'-0"



A2 / AE411 INTERIOR ELEVATION
SCALE 3/8" = 1'-0"



A1 / AE411 INTERIOR ELEVATION
SCALE 3/8" = 1'-0"

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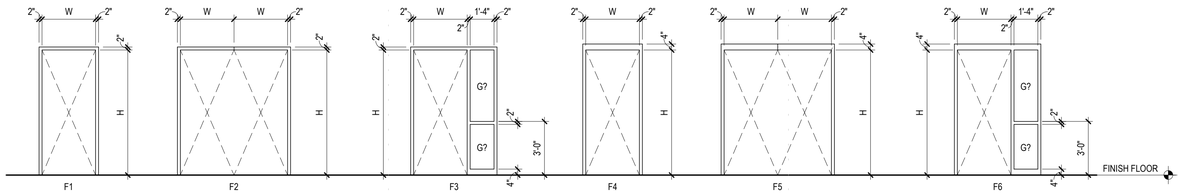
	DATE	REVISION

INTERIOR ELEVATIONS

AE411

DOOR TYPES



DOOR FRAME TYPES

DOOR	SIZE WIDTH	SIZE HEIGHT	TYPE	MATL	FINISH	GLAZING	FRAME TYPE	FRAME MATL	FRAME FINISH	DETAILS (AE591) HEAD	DETAILS (AE591) JAMB	ASSEMBLY FIRE RATING	NOTES
102A	3'-0"	7'-0"	D2	WD	DF1		F1	HM	FF1	A2	A1		
105A	3'-6"	7'-0"		WD	DF1								SLIDING ASSEMBLY
106A	3'-6"	7'-0"		WD	DF1								SLIDING ASSEMBLY
108A	3'-6"	7'-0"		WD	DF1								SLIDING ASSEMBLY
109A	3'-6"	7'-0"		WD	DF1								SLIDING ASSEMBLY
110A	4'-0"	7'-0"	D1	WD	DF1		F1	HM	FF1	A2	A1		LEAD LINED ASSEMBLY
110B	3'-0"	7'-0"	D1	WD	DF1		F1	HM	FF1	A2	A1		
111A	3'-0"	7'-0"	D1	WD	DF1		F1	HM	FF1	A2	A1		
113A	3'-0"	7'-0"	D2	WD	DF1		F1	HM	FF1	A2	A1		

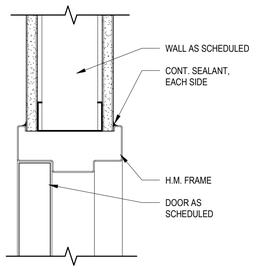
FRAME FINISH LEGEND	
FF1	PAINTED H.M.

DOOR FINISH LEGEND	
DF1	WOOD - OSHKOSH, SLICED CHERRY, FINISH: AWI TR6: 600, COLOR: 102
DF2	PAINTED H.M.

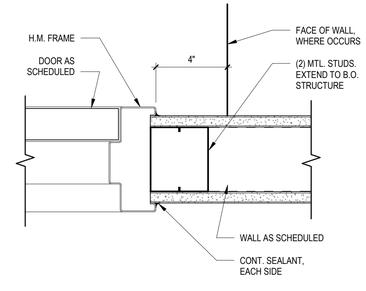
DOOR MATERIAL LEGEND	
WD	WOOD - SOLID CORE
HM	HOLLOW METAL
AL	ALUMINUM
GZ	GLAZING
FRP	FIBERGLASS

DOOR SCHEDULE NOTES:

1



B1 / AE601 9-01 INTERIOR H.M. DOOR HEAD
SCALE 3" = 1'-0"



A1 / AE601 9-03 INTERIOR H.M. DOOR JAMB
SCALE 3" = 1'-0"

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DOOR & FRAME TYPES / SCHEDULES

AE601

VAN BOERUM & FRANK ASSOCIATES, INC. 40+ YEARS
CONSULTING ENGINEERS

MECHANICAL ADDENDUM 1

DATE: August 16, 2019

PROJECT NO: 19328

PROJECT: Intermountain Snowbasin Imaging

SPECIFICATIONS

SECTION - 230100

1. Add on page 12 under Factory Start Up:
   Dedicated Outside Air Unit

SECTION - 230150

1. Add on page 8 after VRF Fan Coil:
   Dedicated Outside Air

   Amp readings for each fan coil

   Supply air CFM for each fan coil

   Outside air CFM for each fan coil

   Make pressure drop across each fan coil

   Record and report all of the above fan coil information and submit it with the commissioning report

SECTION - 230700

1. Add on page 1 under Submittals:
   Dedicated Outside Air Unit
   Electric Heating Coil

2. Add on page 2 after Electric Heaters:
   Dedicated Outside Air Unit:
   Fan coil heating units of the type, arrangement, and size shown on drawings shall be furnished and installed. Motors shall be permanent split capacitor units with overload protectors. Motor and fan bearings shall be permanently lubricated type.

   Disposable filters with permanent metal holding frames shall be provided for the fan coil units.

   Cabinets shall be galvanized steel with duct connections where concealed above ceilings.

   Electric-Resistance Heating Coils: Nickel-chromium heating wire, free of expansion noise and hum, mounted in ceramic inserts in a galvanized-steel housing; with fuses in terminal box for overcurrent protection and limit controls for high-temperature protection. Terminate elements in stainless-steel machine-staked terminals secured with stainless-steel hardware. Electric heating coils are factory-wired

and installed one or two state electric heating coil with over-temperature protection and magnetic contactors. Mercury contactors are not allowed. Secondary manual reset backup protection provided.

Fans shall double width, double inlet centrifugal type, direct driven.

Fan coil units shall be installed as shown on the drawings. Capacities and types are given on the drawings. Fan coil units shall be Trane, Carrier or York.

Electric Heating Coil:
Electric heating coil designed for mounting in ductwork. Nickel-chromium heating wire, free of expansion noise and hum, mounted in ceramic inserts in a galvanized-steel housing; with fuses in terminal box for overcurrent protection and limit controls for high-temperature protection. Terminate elements in stainless-steel machine-staked terminals secured with stainless-steel hardware. Electric heating coils are factory-wired and installed one or two state electric heating coil with over-temperature protection and magnetic contactors. Mercury contactors are not allowed. Secondary manual reset backup protection provided.

Electric heating coils shall be Tutco or Heatrex.

SECTION - 230900

1. Add on page 1 under Scope of Work:
   Dedicated Outside Air Unit
   Electric Heating Coil

SECTION - 230993

1. Add on page 3 before Dial-out:
   Dedicated Outside Air Unit:
   Based on building schedule, the control system shall enable the DOAS unit to operate during normally occupied hours, and shall remain off during un-occupied or morning warm-up/cool-down operation.

   The control system shall monitor fan status, electric heat status and discharge air temperature and display this data on the graphical user interface. Should temperature drop below 50°F while heating is enabled, the system will generate an alarm in the system and display the alarm on the space graphic.

   Provide discharge air temperature sensor in ductwork downstream of DOAS. Discharge air temperature sensor shall report to the ATC system and be graphically displayed. Unit operation shall be displayed at the ATC system graphics. Temperature control initial set point 72°F.

DRAWINGS

SHEET - MH101

1. Refer to attached for modifications to CFMs and duct sizes.

SHEET - MH501

1. Refer to attached for modifications and addition of details.

SHEET - MH601

1. Refer to attached for modifications to the Electric Heating Coil Schedule.
2. Refer to attached for modifications to the Dedicated Outside Air Unit Schedule.
3. Refer to attached for modifications to the VRF Outdoor Unit Schedule – Air Cooled.

SHEET - PL100

1. Refer to attached for modifications to notes and pipe sizes.

SHEET - PL101

1. Refer to attached for modifications to notes and pipe sizes.

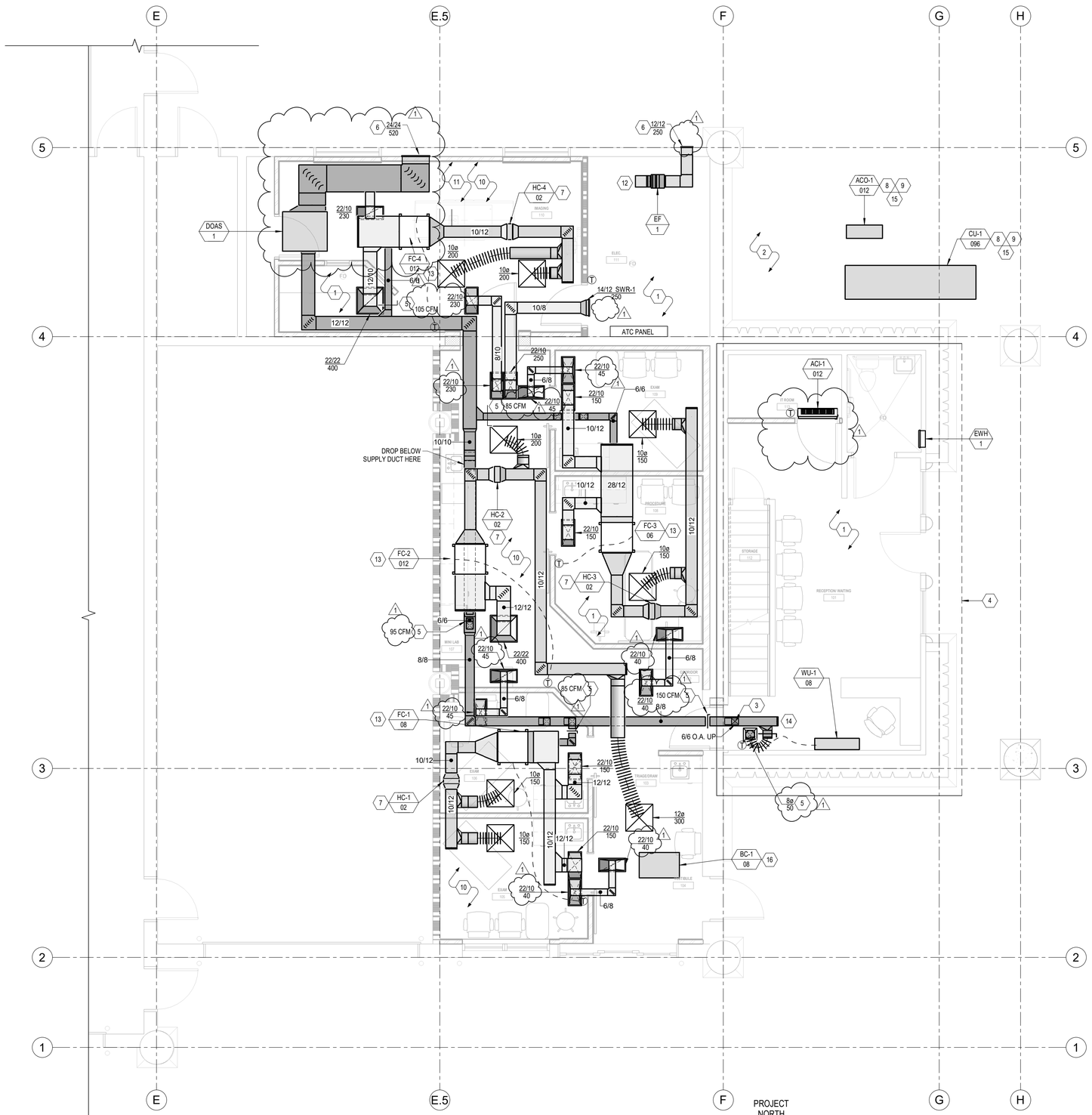
WALK-THRU QUESTIONS / CLARIFICATIONS

1. Do we need a dog house and raised stand to protect the condenser from blowing ice and snow.
   RESPONSE: *Please refer to the notes on the VRF Outdoor Unit Schedule – Air Cooled on MH601. Please refer to 12/MH501 for the outdoor unit mounting.*
2. The drawing just has the line set for the lobby HVAC head running across the ceiling. Do we want this exposed or in a raceway of some sort.
   RESPONSE: *We take no exception to this being exposed.*
3. Can the lobby HVAC unit be relocated to the south wall so that it will have a long throw posed to short one.
   RESPONSE: *Please refer to MH101 in Addendum 1.*
4. We need to verify the location of the outside air fan. Moving the fan further down the wall was discussed in the walk through.
   RESPONSE: *Please refer to MH101 in Addendum 1.*
5. Can we get a spec for the HVAC in the ski patrol area.
   RESPONSE: *Please refer to MH101 keyed note 4.*

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**
Water Heater	Chronmite
Diffusers, Registers, and Grilles	Carnes, Krueger
Louvers	Cesco, United Enertech
High Efficiency Branch Take-Off Fittings	Air-Rite
Volume Dampers	Air-Rite, United Enertech
Flexible Ductwork	JPL, Thermaflex
Damper Regulators	United Enertech



1 MAIN LEVEL MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

KEYED NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, DUCT SIZES, PIPE SIZES AND LOCATIONS PRIOR TO BEGINNING ANY WORK. IF ANY DISCREPANCIES, ERRORS, CONFLICTS OR CONCERNS ARE UNCOVERED BY THE CONTRACTORS THEY SHALL BRING THEM TO THE OWNER/ENGINEER'S ATTENTION PRIOR TO ANY WORK PROGRESSING FOR RESOLUTION.
2. OUTDOOR UNITS TO MAINTAIN 4-FEET CLEAR OF ELECTRICAL TRANSFORMER.
3. ROUTE OUTSIDE AIR DUCT UP TO SKI PATROL OFFICE ABOVE. ROUTE DUCT TO BELOW CEILING ABOVE AT HIGHEST CEILING SLOPE AND TERMINATE WITH ELBOW AND 6X6 DUCT MOUNTED GRILLE. BALANCE TO 100 CFM.
4. LOCATE WU-2/012 ON WALL CENTERED ABOVE WINDOW IN SKI PATROL OFFICE. COORDINATE THERMOSTAT LOCATION WITH SNOWBASIN.
5. BALANCE OUTSIDE AIR CFM AS INDICATED. LOCATE IN ACCESSIBLE LOCATION. COORDINATE WITH ARCHITECT. (TYPICAL)
6. LOCATE TOP OF LOUVER TO MATCH EXISTING LOUVER HEIGHT ON ADJACENT WALL. COORDINATE LOCATION WITH ARCHITECT. MAINTAIN MINIMUM OF 10'-0" BETWEEN INTAKE AND RELIEF LOUVERS.
7. MAINTAIN 4'-0" CLEARANCE FROM FAN COIL UNIT DISCHARGE TO ELECTRIC COIL PER NATIONAL ELECTRICAL CODE.
8. MAINTAIN SNOW REMOVAL FROM REQUIRED CLEARANCE AREAS.
9. LOCATE UNIT TO BE CLEAR OF ROOF SNOW FALL LINE.
10. BRANCH DUCT AND DIFFUSER, GRILLE OR REGISTER NECK SIZE SHALL BE THE SAME SIZE, UNLESS OTHERWISE NOTED. (TYP).
11. COORDINATE CEILING SPACE WITH REQUIRED CONDUIT FOR X-RAY MACHINE.
12. ORIENT ELBOW OPENING TOWARD STRUCTURE.
13. LOCATE FAN COIL UNIT ABOVE CEILING TO ALLOW FOR 18-INCH X 18-INCH REQUIRED ACCESS, VERIFY WITH MANUFACTURER. (TYPICAL)
14. COORDINATE DUCTWORK BETWEEN FLOOR JOISTS AT THIS APPROXIMATE LOCATION.
15. COORDINATE REFRIGERANT PIPING WITH OWNER, TENANT AND ARCHITECT TO MINIMIZE IMPACT TO EXTERIOR AT PENETRATION AT BUILDING.
16. MAINTAIN BRANCH CONTROLLER CLEARANCES, VERIFY WITH MANFACTURER.

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INTERMOUNTAIN SNOWBASIN CLINIC
3925 SNOW BASIN RD
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PROJECT #: 19028

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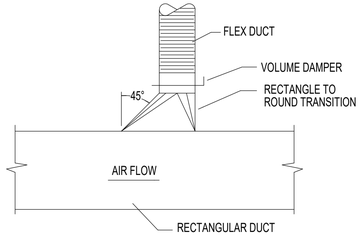
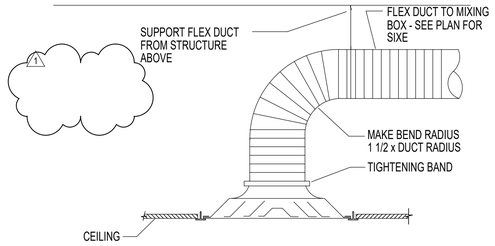
REGISTERED PROFESSIONAL ENGINEER
No. 7715
RICHARD G. REEDER
STATE OF UTAH
07/31/2019

MAIN LEVEL MECHANICAL PLAN

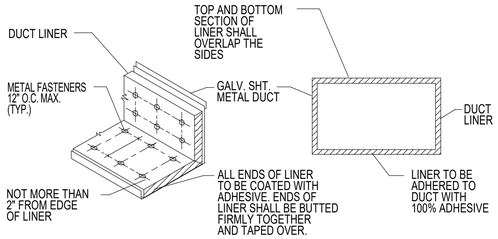
MH101



9 HIGH EFFICIENCY TAKE-OFF DETAIL
NO SCALE



5 DIFFUSER CONNECTION DETAIL
NO SCALE



1 DUCT LINER DETAIL
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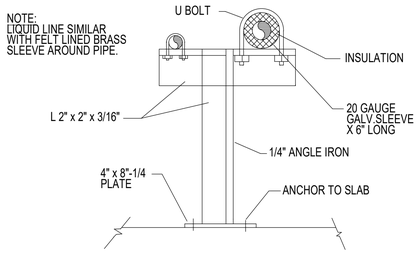

10 EXTERIOR REFRIGERANT PIPE SUPPORT
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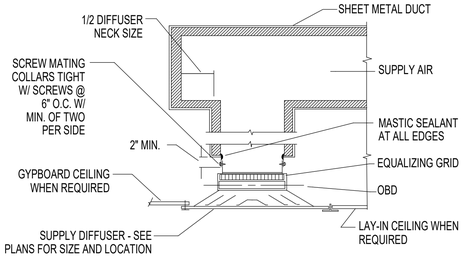

6 TYPICAL CEILING DIFFUSER DETAIL
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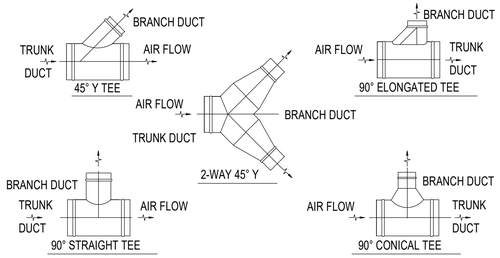
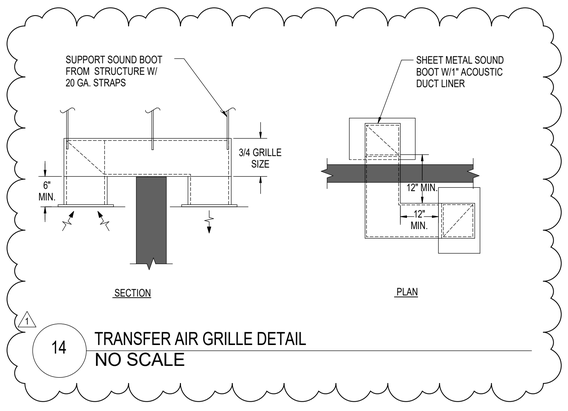


2 ROUND DUCT BRANCH TAKE-OFF DETAILS
NO SCALE



14 TRANSFER AIR GRILLE DETAIL
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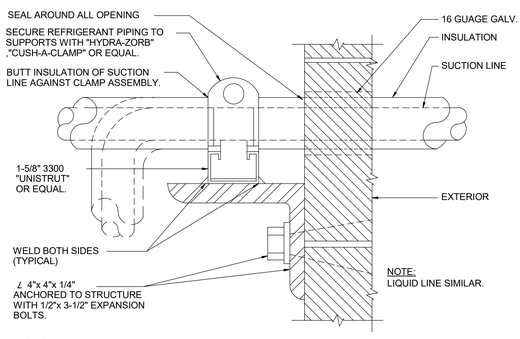

11 REFRIGERANT PIPE ANCHOR AT WALL DETAIL
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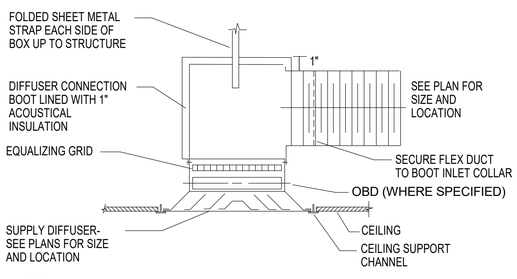

7 SUPPLY DIFFUSER W/ FLEX DUCT DETAIL
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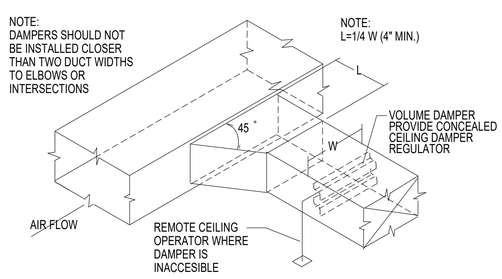
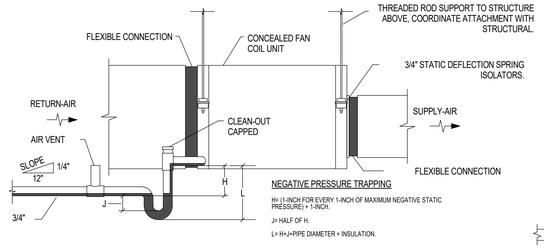
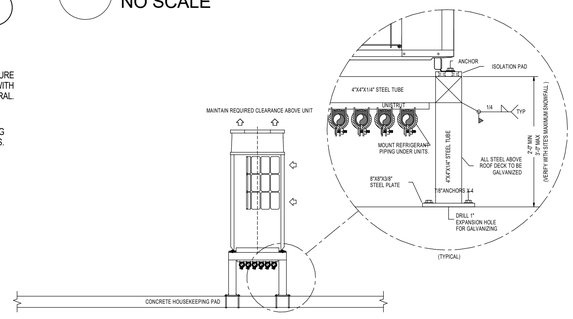


3 BRANCH DUCT TAKE-OFF & DAMPER DETAIL
NO SCALE



13 FAN COIL CONDENSATE P-TRAP DETAIL
NO SCALE



12 VRF OUTDOOR UNIT SUPPORT DETAIL
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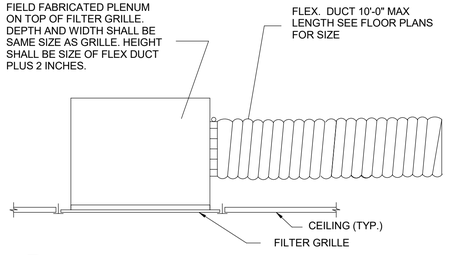

8 FILTER RETURN GRILLE DETAIL
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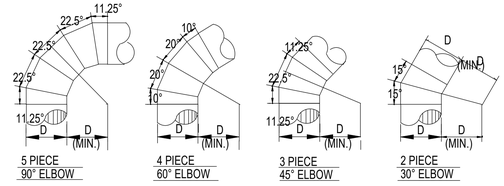

4 ROUND DUCT ELBOW DETAILS
NO SCALE

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STATE OF UTAH
07/31/2019

MECHANICAL DETAILS

MH501

ELECTRIC HEATING COIL SCHEDULE

ID	MANUFACTURER	MODEL NUMBER	STAGES	ELECTRICAL KW	ELECTRICAL VOLT/PH/HZ	PHYSICAL WIDTH (IN)	PHYSICAL HEIGHT (IN)	NOTES
HC-02	TUTCO	DHC	2	2	208 / 3 / 60	53.5	7.06	1, 2, 3, 4, 5, 6, 7

1. INCLUDE CN-24 RELAY KIT TO CONTROL DUCT HEATERS AS SECOND STAGE TO THE VRF FAN COILS.
2. INCLUDE FAN INTERLOCK WITH AUTOMATIC LIMIT SWITCH FOR PRIMARY OVER TEMPERATURE PROTECTION.
3. INCLUDE MANUAL RESET LIMIT SWITCH FOR SECONDARY OVER TEMPERATURE PROTECTION.
4. ALL CONTROL BOXES TO BE INSTALLED TO MATCH SAME ACCESS AS FAN COIL UNIT.
5. INCLUDE AIR FLOW SWITCH TO PREVENT HEATER FROM BEING ENERGIZED WHEN FAN IS NOT ON.
6. BASIS OF DESIGN AIR TEMPERATURE RISE IS 20 DEG F.
7. MAINTAIN CLEARANCE IN FRONT OF THE HEATER ELECTRICAL PANELS TO COMPLY WITH THE NATIONAL ELECTRIC CODE.

VRF INDOOR UNIT SCHEDULE

IDENTIFICATION	MANUFACTURER	MODEL NUMBER	AIRFLOW (CFM)	MAX STATIC PRESSURE (IN. WATER)	COOLING CAPACITY NOMINAL LOAD (BTUH)	COOLING CAPACITY RATED TOTAL LOAD (BTUH)	COOLING CAPACITY RATED SENSIBLE LOAD (BTUH)	COOLING CAPACITY DESIGN ENT AIR TEMP DB/WB (°F)	HEATING CAPACITY NOMINAL LOAD (BTUH)	HEATING CAPACITY RATED TOTAL LOAD (BTUH)	HEATING CAPACITY DESIGN ENT AIR TEMP (°F)	COIL REFRIG. TYPE	ELECTRICAL MINIMUM CIRCUIT AMPACITY (MCA)	ELECTRICAL TOTAL (MOCP)	ELECTRICAL VOLTS/ PHASE	PHYSICAL DEPTH / LENGTH / HEIGHT (IN)	PHYSICAL WEIGHT (LBS)	NOTES
FC-06	TRANE MITSUBISHI	TPEFYP006MA143A	300	0.6	6,000	4,689	4,689	80 / 67	6,700	3,277	70	R-410A	1.05	15	208 / 1	30 / 30 / 10	50	1, 2
FC-08	TRANE MITSUBISHI	TPEFYP008MA143A	300	0.6	8,000	6,253	5,766	80 / 67	9,000	6,929	70	R-410A	1.05	15	208 / 1	30 / 30 / 10	50	1, 2
FC-12	TRANE MITSUBISHI	TPEFYP012MA143A	400	0.6	12,000	9,377	7,300	80 / 67	13,500	6,604	70	R-410A	1.20	15	208 / 1	30 / 30 / 10	50	1, 2
WU-08	TRANE MITSUBISHI	TPKFYP008HM142A	413	-	8,000	6,253	6,167	80 / 67	9,000	6,929	70	R-410A	0.38	15	208 / 1	10 / 40 / 15	30	1, 3
WU-12	TRANE MITSUBISHI	TPKFYP012HM142A	413	-	12,000	9,377	7,806	80 / 67	13,500	6,604	70	R-410A	0.38	15	208 / 1	10 / 40 / 15	30	1, 3

1. COORDINATE WITH ELECTRICAL TO PROVIDE FUSED DISCONNECT, TO BE INSTALLED BY DIVISION 26.
2. PROVIDE PRIME FILTERS.
3. PROVIDE ACCESSORY CONDENSATE.

VRF BRANCH CONTROLLER SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	TYPE (MAIN/SUB)	REFRIGERANT	NUMBER OF PORTS	ELECTRICAL MINIMUM CIRCUIT AMPACITY (MCA)	ELECTRICAL VOLTS/ PHASE	NOTES
BC-8	MITSUBISHI TCMBM0108JA11N4	MAIN	R-410A	8	1.65	208 / 1	1, 2, 3

1. PROVIDE WITH DIAMONDBACK BALL VALVES, BV-SERIES, FULL-PORT, R-410A RATED.
2. PROVIDE WITH MINI-ORANGE 230, 0.11A, 16 W, 60 HZ, 0.5 GPM @ 8 FI. OF HEAD.
3. PROVIDE WITH FUSED DISCONNECT, TO BE INSTALLED BY DIVISION 26.

VRF OUTDOOR UNIT SCHEDULE - AIR COOLED

ID	MANUFACTURER	MODEL NUMBER	REFRIGERANT	TOTAL NOMINAL COOLING CAPACITY (BTUH)	TOTAL NOMINAL HEATING CAPACITY (BTUH)	SUMMER AMBIENT AIR TEMP. DB/WB (°F)	WINTER AMBIENT AIR TEMP. DB/WB (°F)	ELECTRICAL MINIMUM CIRCUIT AMPACITY (MCA)	ELECTRICAL MOCP	ELECTRICAL VOLTS/ PHASE	HEIGHT / WIDTH / DEPTH (IN)	WEIGHT (LBS)	NOTES
CU-096	TRANE MITSUBISHI	TURYH0963AN40AN	R-410A	96,000	108,000	88 / 67	-16	44	70	208 / 3	75 / 50 / 30	600	1, 2, 3, 4, 5, 6

1. UNIT SHALL BE CAPABLE OF OPERATION DOWN TO -25°F.
2. DUAL ELECTRICAL CONNECTION.
3. PROVIDE WITH FUSED DISCONNECT, TO BE INSTALLED BY DIVISION 26.
4. PROVIDE WITH SNOW HOODS AND HAIL GUARDS.
5. PROVIDE WITH BASEPAN HEATER.
6. MAINTAIN CLEARANCES TO OBSTRUCTIONS SUCH AS WALLS, OVERHANGS AND OTHER EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS.

DEDICATED OUTSIDE AIR UNIT

ID	MANUFACTURER	MODEL NO.	OUTSIDE AIR FLOW RATE (CFM)	TOTAL STATIC PRESSURE DROP (IN H20)	HEATING TEMPERATURE RISE (DEG. F)	HEATING LOAD (MBH)	HEATING ELECTRIC HEATING COIL (KW)	ELECTRICAL MCA	ELECTRICAL MOCP	ELECTRICAL V/PH	MOTOR HP	FILTERS	PHYSICAL LENGTH / WIDTH / HEIGHT (IN)	PHYSICAL WEIGHT (LBS)	NOTES
DOAS-1	TRANE	BCHD036E1**A1404Z2110ABA	750	0.6	62	37.56	11	44	4.6	208/3	1	MERV 13	35/40/20	220	1,2

1. PROVIDE WITH DISCONNECT. DISCONNECT INSTALLED BY DIVISION 26.
2. INTERLOCK WITH OUTSIDE AIR ATC DAMPER.

SPLIT SYSTEM A/C UNITS

ID	MANUFACTURER	MODEL NUMBER	COOLING CAPACITY (BTU)	LOCATION	CFM RANGE	DIMENSIONS W" x H" x D"	WEIGHT (LBS.)	AMPS (MCA)	FAN MOTOR FLA	VOLTS/PH/HZ.	EFFICIENCY MINIMUM SEER @ ARI	REFRIGERANT LINES REFRIGERANT	REFRIGERANT LINES LIQUID	REFRIGERANT LINES GAS	NOTES
ACI-012	MITSUBISHI	PKA-A12HA	12,000	INDOOR	530	34 x 34 x 12	46	1.0	0.36	208-230 / 1 / 60	27	R-410A	1/4	1/2	1,2,3,4,5,6,7
ACO-012	MITSUBISHI	PUY-A12NHA3		OUTDOOR	-	33 x 12 x 25	92	11	0.50						

1. CONDENSING UNIT TO BE SIZED MATCHED TO INDOOR UNIT AND TO BE BY SAME MANUFACTURER AS INDOOR UNIT.
2. PROVIDE FACTORY MOUNTED STAND FOR CONDENSING UNIT.
3. PROVIDE FACTORY WIND BAFFLE AND LOW AMBIENT HEAD CONTROLLER TO ALLOW COOLING OPERATION DOWN TO 0 DEG. F. D.B.
4. WIRELESS REMOTE CONTROLLER. PROVIDE WALL MOUNTED HOLDER.
5. PROVIDE ACCESSORY CONDENSATE PUMP FOR INDOOR UNIT.
6. INDOOR UNIT IS TO BE POWERED FROM OUTDOOR UNIT.
7. PROVIDE WITH FUSED DISCONNECT, TO BE INSTALLED BY DIVISION 26.

FAN SCHEDULE

ID	MANUFACTURER	MODEL NUMBER	TYPE	AIR MAXIMUM AIRFLOW RATE (CFM)	AIR STATIC PRESSURE (IN. WATER)	ELECTRICAL MOTOR SIZE (HP)	ELECTRICAL MOTOR SPEED (RPM)	ELECTRICAL VOLT/PH/HZ	NOTES
EF-1	COOK	90SQN15D	INLINE	250	0.50	1/6	1710	120/1	1,2

1. CONTROL FAN WITH A LINE VOLTAGE THERMOSTAT. WIRING AND T-STAT BY ATC CONTRACTOR
2. PROVIDE WITH 0-10 VDC CONTACTS FOR REMOTE SPEED CONTROL.

ELECTRIC WALL HEATER

SYMBOL	MANUFACTURER	MODEL NUMBER	AIR AIRFLOW RATE (CFM)	ELECTRICAL KW	ELECTRICAL AMPS	ELECTRICAL VOLTS/ PHASE/ HZ	NOTES
EWH-1	MARLEY	CWH3150F	100	1.5	12.5	120/1	1

1. PROVIDE WITH REMOTE MOUNTED SINGLE STAGE THERMOSTAT.

GRILLES, REGISTERS AND DIFFUSERS

ID	MANUFACTURER	MODEL	MAX NC	DESCRIPTION
CD-1	EH PRICE	SPD	30	SQUARE PLAQUE FACE CEILING DIFFUSERS. REMOVABLE FACE, C.W./O.B.D. 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.
RG-1 EG-1	EH PRICE	PDDR	30	REMOVABLE FACE AND 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. UNITS SHALL HAVE 1/2" x 1/2" x 1/2" SQUARES. NECK SIZE SHALL BE 22X22 UNLESS NOTED OTHERWISE. PROVIDE WITH FILTER UNLESS NOTED OTHERWISE.
SWR-1	EH PRICE	535	30	SIDEWALL RETURN AIR GRILLE. HORIZONTAL STATIONARY 45 DEG DEFLECTION VANES SET ON 1/2 INCH CENTER, COMPLETE WITH OBD ADJUSTABLE THROUGH FACE.

NOTE: UNLESS NOTED OTHERWISE CD-1 TYPICAL SQUARE DIFFUSER; RG-1 TYPICAL RETURN AIR GRILLE; EG-1 TYPICAL EXHAUST GRILLE

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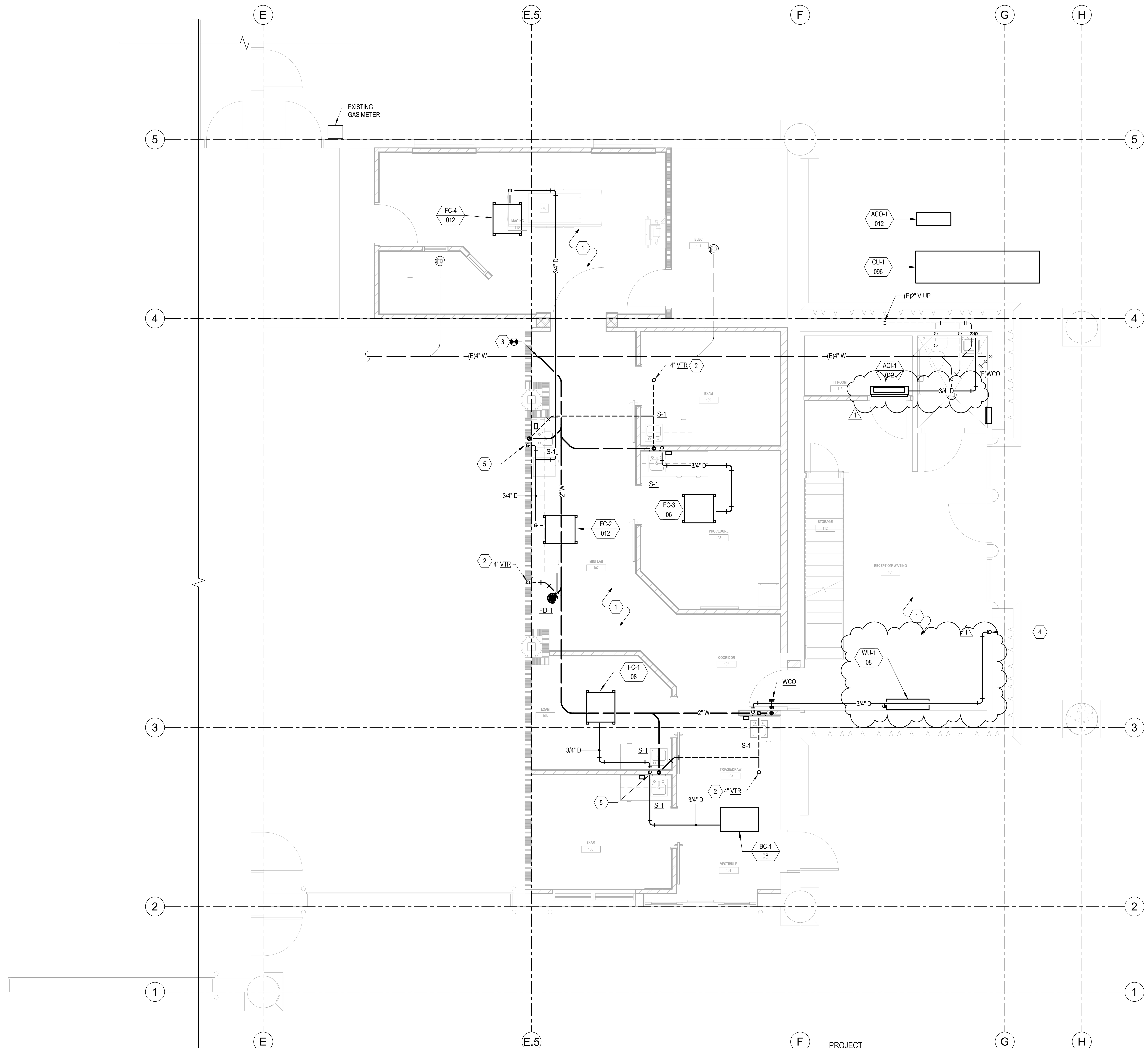
MECHANICAL SCHEDULES

MH601



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2. ROUTE VTR THROUGH MEZZANINE LEVEL ABOVE. COORDINATE FINAL LOCATIONS WITH SNOWBASIN. LOCATE NO LESS THAN 25-FEET FROM ANY FRESH AIR INTAKE.
3. FIELD VERIFY EXISTING SANITARY BELOW FINISHED FLOOR PRIOR TO ROUTING NEW SANITARY. FIELD VERIFY NEW CONNECTION.
4. ROUTE 3/4" CONDENSATE FROM WU-2 ON WALL ABOVE WINDOW. DROP CONDENSATE THROUGH FLOOR SOUTH OF WINDOW. COMBINE WITH CONDENSATE FROM WU-1.
5. REFER TO PLUMBING DETAILS FOR CONDENSATE ROUTING. (TYPICAL)

1 MAIN LEVEL WASTE AND VENT PLUMBING PLAN
SCALE: 1/4" = 1'-0"

PROJECT NORTH

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MAIN LEVEL WASTE AND VENT PLUMBING PLAN

PL100

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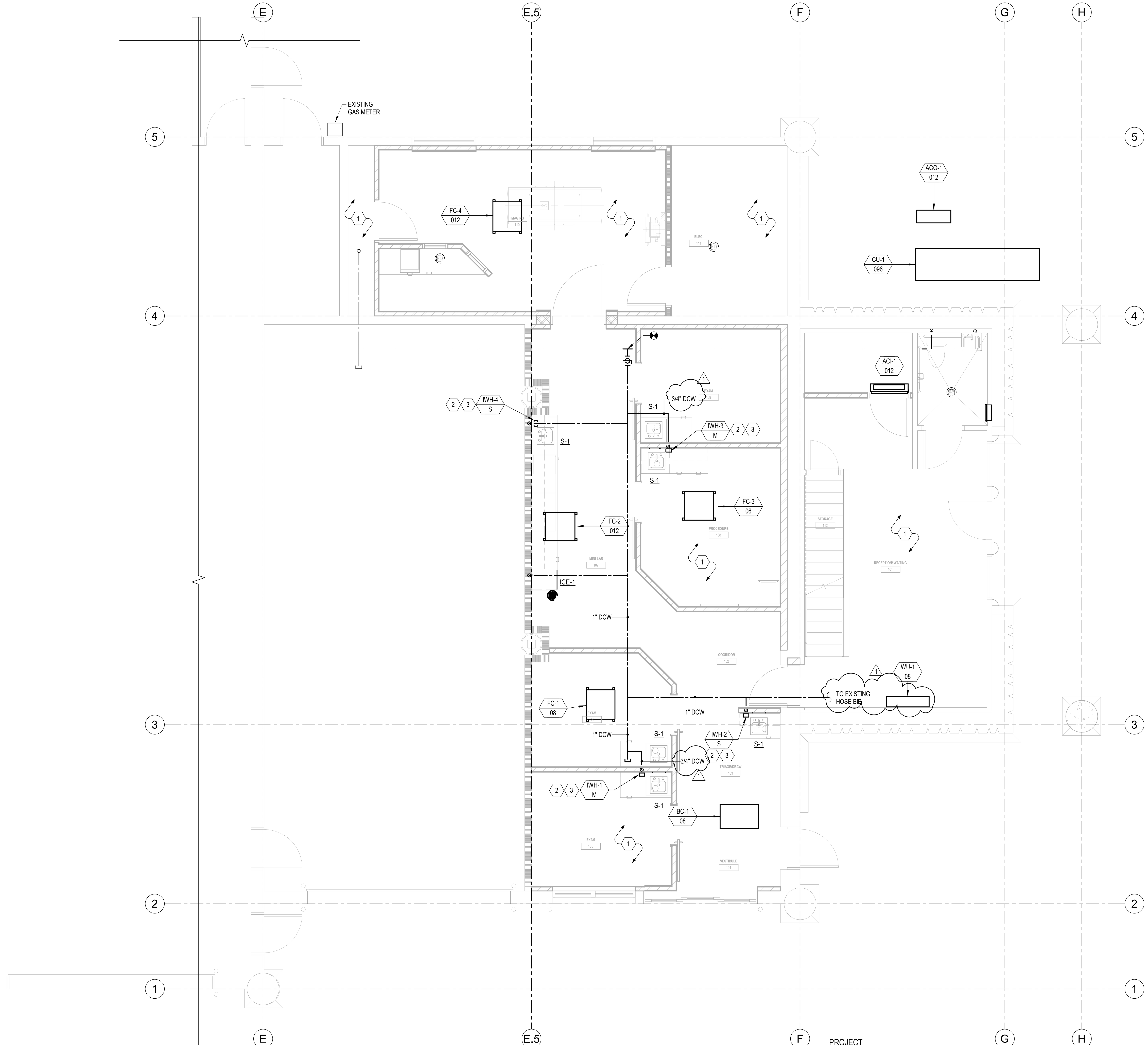

1 MAIN LEVEL PLUMBING PLAN

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

0 2' - 0" 4' - 0" 8' - 0"

PROJECT NORTH

N

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2. ROUTE DHW AS REQUIRED TO WATER HEATER.
3. ROUTE DCW AS REQUIRED TO LAV(S).

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MAIN LEVEL PLUMBING PLAN

PL101

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VAN BOERUM & FRANK ASSOCIATES, INC. 40+ YEARS
CONSULTING ENGINEERS

ELECTRICAL ADDENDUM 1

DATE: August 16, 2019

PROJECT NO: 19328

PROJECT: Intermountain Snowbasin Imaging

DRAWINGS

SHEET - EE501
1. Delete Detail 5/EE501 Programmable Lighting Control Detail.

SHEET - EL101
1. Change fixture types in Reception to AF and AFE.
2. Delete (2) type A fixtures in IT room and add (1) type B fixture.
3. Add dimming switches and dimmer module in Imaging 110. Add keyed note 6.
4. Circuit exam light in Procedure 108 to room lighting circuit. Add keyed note 7.

SHEET - EP101
1. Delete Panel L6.
2. Add power and data for two wall mounted TV monitors.
3. Add ceiling mounted data outlet for wireless access point.
4. Relocate data outlets in exam rooms to opposite wall.
5. Relocate the new fire alarm panel to the IT room.

SHEET - EP111
1. Circuit ACO-1 to Panel L1 in lieu of Panel L5.

SHEET - EP111
1. Revised entire sheet.

SHEET - EY101
1. Add fire alarm pull station and flow switch in fire riser room.

SHEET - EE601
1. Delete Panel L6.

SHEET - EE602
1. Delete Panel L6.
2. Revise Panel L5.
3. Luminaire Schedule: Add fixture types AF and AFE. They shall be the same as fixture type A and AE except that they shall be provided with a flange mounting kit.

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.

LIGHTING FIXTURES:

Item	**Manufacturer**
Type C	**Liton, Juno, Nora**
Type D	**Indessa, Lightway, Metalux**
Type X1	**Dual Lite, Exitronix, Isolite, Emergensee**

LIGHTING CONTROLS:

Lutron/Hubbell
Crestron

Simons X-Ray. Corp.
711 West 800 South
Salt Lake City, Utah 84104
(801) 532-1600 fax (801) 532-1677

Read all 7 pages (with 4 drawings) Any changes require written approval. Non-compliance with these plans may result in additional installation cost

Quest Floor-Mounted Tubestand July 2019

RADIOGRAPHIC CONSTRUCTION NOTES

SITE PREPARATIO PRIOR TO DELIVERY

All plans, drawings and specifications provided by Simons X-Ray and the Manufacturer are necessary for proper equipment function and use. Changes are possible but not recommended. **ANY CHANGE MUST BE APPROVED IN WRITINNG BY SIMONS X-RAY.** All work and products supplied must meet Federal, State and Local codes, including the National Electric Code including Article 660 related to Medical X-Ray. Incoming power is critical! The x-ray system is a non-linear load. Adequate building transformer KVA and K-factor for x-ray and for building use must meet 100% of the demand load. **FAILURE TO COMPLY WITH ALL SPECIFICATIONS MAY RESULT IN INCREASED INSTALLATION COSTS AND/OR A DECREASE IN EQUIPMENT LIFE EXPECTANCY, AND MY VOID THE MANUFACTRERS WARRANTY. COSTS RESULTING FROM NON-COMPLIANC ARE THE RESPONSIBILITY OF THE PURCHASER.** Call Simons X-Ray with any questions.

J-Box Schedule and Construction Notes

DESIGNATION	EQUIPMENT	J BOX and GUTTER SIZE & KO SCHEDULE	LOCATION
A1	Main Power	Circuit breaker (or shunt trip) **3-phase x-ray generator power.** **See pg.3 Power Requirements and explanation**	Flush with finished wall per code
A2	Load Center for Aux. Equipment	Circuit breaker, knife switch or light switch 20Amp, 110VAC Power for: Table, Tubestand and Collimator Power for: CR - Reader, CPU and Monitor	Flush with finished wall Coordinate with "A"
B	Incoming Power	6"x6" pullbox with cover	Recessed in wall, **bottom box at floor level** not higher
C	Control Cabinet Interconnect wiring	RWT 10 Square D recessed trough	Recessed: Open above ceiling and below floor
D	Table	12" x 12" pullbox with cover	**FLUSH** with finished floor
E	Wall Bucky	6"x6" pullbox with cover	Flush with finished wall Center at 48" AFF
F	Control Desk	6"x6" pullbox with cover	Mount under counter
I	Cable Drape	6" diameter nipple	Flush with finished ceiling
G	Collimator	6"x6" pullbox with cover	Flush with finished wall Center at 60" AFF, close to the wall trough
H1,2,3	Warning Light(s)	"X-Ray In Use" light. Outlet box DO NOT POWER	Mount outlet box centered above entry door, facing outside of the x-ray room Note: may not need all three
P	CR Processor	4-gang 115VAC outlet Two (2) Network Ports	*Coordinate exact location with Konica/IHC

CONDUIT SCHEDULE

***All wire to be copper, thnn stranded.**

Use shortest routes possible. Leave 6' pigtails (unless otherwise specified)

Conduits	From - To	Conduit Size	Wire Size
#1	**A1** to **B**	1ea. Size as needed, per code	**See pg. 3 Power Requirements**
#2	**A2** to **C**	1ea. Size as needed, per code (110V, 20Amp)	3ea. #18 gauge, 6' tails
#3	**C** to **D**	**2ea.** C.	Empty
#4	**C** to **E**	**2ea.** C.	Empty
#5	**C** to **F**	1ea. 1-1/2" C. **25' Maximum run length**	Empty
#6	**C** to **I**	Wire ladder/raceway above ceiling to contain high-voltage and interconnect wiring	Empty
#7	**C** to **G**		Empty
#8	**C** to **H**	1ea. Size as needed, per code	3ea. #18 gauge, 3' tails

Construction Notes

<1> Provide Radiation Shielding per Physicist report. 7' height. Solid Core doors.
Control Room window(s) Suggest 18"x24", mounted 60" AFF to window center

<2> Provide convenience outlets throughout the room per code, including at least two outlets above the countertop in the control area

<3> Provide countertop/shelving for x-ray control and monitors. Coordinate all cabinetry and shelving with x-ray and digital equipment needs

<4> Provide backing (2" x 6" x 24"), centered 84" AFF to support wall bucky mounting points
Center 54" from the perpendicular wall. Backing needs to withstand 1,000lbs. pull weight

<5> Area of floor under the x-ray Table and Tubestand Base MUST be plumb and level within 1/8".
Table anchors to withstand 500lbs. pull weight. Tubestand anchors to withstand 200lbs pull weight
NOTE: In-floor radiant heat pipes must not be use in this area due to anchor penetrations

<6> General area lighting in x-ray room on dimmer switch located in the control room area
Separate dimmable lighting in control area

<7> Facility to provide and install equipment to facilitate digital imaging. 115VAC, 20Amp power is needed (4-gang outlet) and two internet ports connected to facility server with static IP addresses provided to Simons X-Ray before equipment delivery

SITE PREPARATION PRIOR TO EQUIPMENT DELIVERY

All plans, drawings, specifications provided by Simons X-Ray are integral to the installation and are subject to change based upon unique circumstances or alterations by the manufacturer. All work and products must meet Federal, State and Local codes.

Responsibility of Purchaser:

Pre-installation refers to work necessary to plan and prepare a site for installation of x-ray equipment and are the responsibility of the facility including the following:

1. Procuring materials required
2. Installing materials required before delivery of x-ray components
3. Cost of alterations and modifications when note specifically provided in the sales contract
4. Procurement of qualified Radiation-Safety Survey and the installation of appropriate radiation shielding

Preparations per Simons X-Ray and Manufacturer's specifications are required prior to beginning the x-ray installation

ELECTRICAL REQUIREMENTS FOR QUANTUM, QUEST HF SERIES GENERATORS

40kw Generator -- **Three-phase Input**

Note: The following are typical values and are dependent on current requirements and lengths of the cable run

QUANTUM *Quest*, High Frequency Generator

Model	Voltage (VAC)	Wire Size (AWG) / Length			Disconnect to Generator Max 15ft.	Momentary Line Current (AMP)	Service Rating (AMP)	Distribution TFMR Rating (kVA)	Line Resistance (OHM)	Ground Wire Size (AWG)
		50 Feet	100 Feet	200 Feet						
QG-40	**208**	#2	#00	#0000	#4 AWG	160	**85**	50	0.017	#4
40kW	**240**	#2	#0	#000	#6 AWG	140	**70**	50	0.27	#4

NOTES: **These specifications are a provided for general guidance. All wiring and grounding should be in compliance with National Electrical Code (NFPA No. 79) or local electrical code**

Wire size from Distribution Transformer to disconnect Switch

Input Voltage is THREE PHASE. ALL WIRE MUST BE COPPER

Input Voltage: 208 - 257 (+/- 5%) VAC, 50/60 Hz, (configured at time of the order)

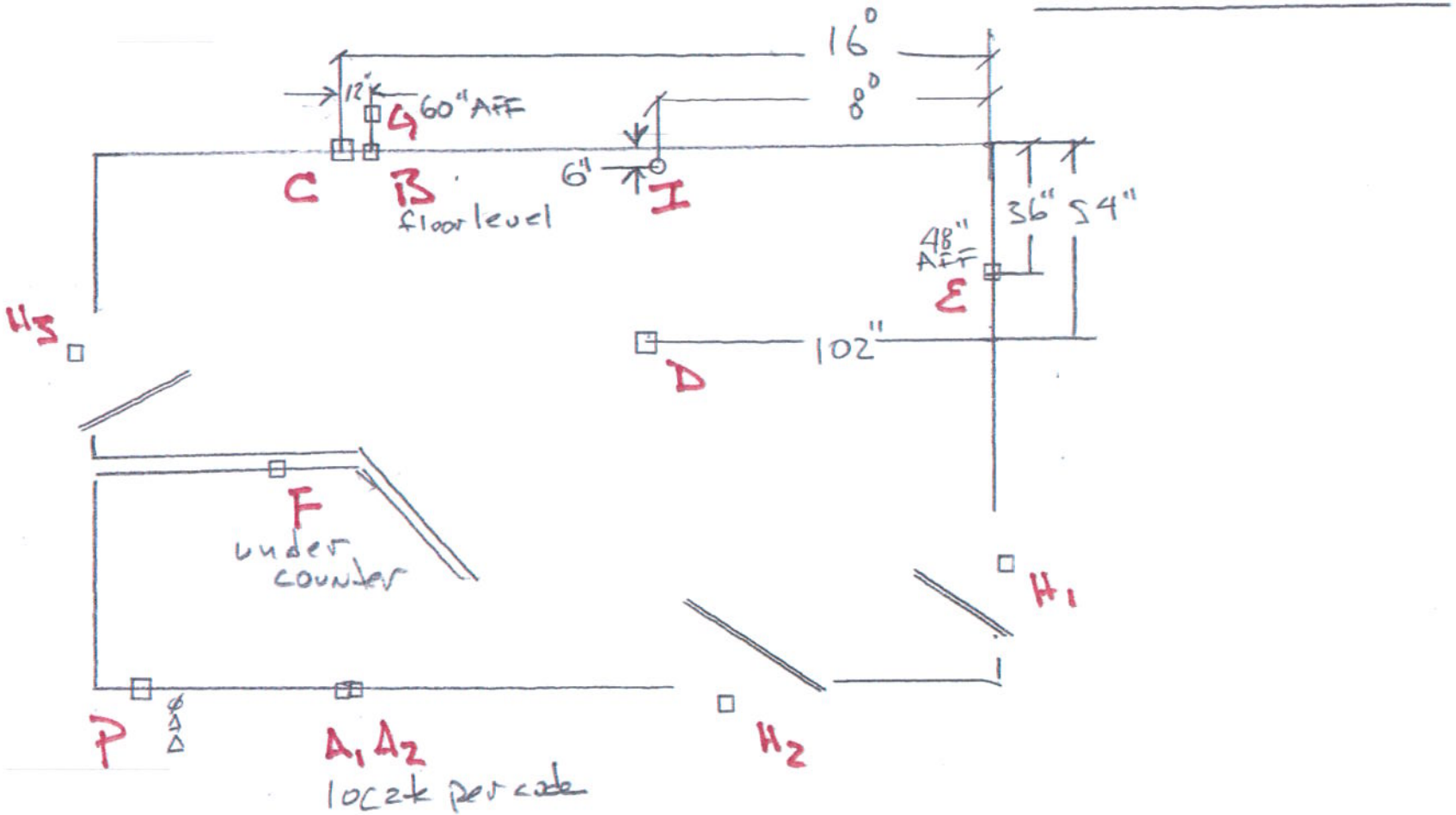
Note: Voltage must be Three-phase Y-configuration, measured line-to-line, balanced to earth ground
(additional Neutral Wire may be used if required by local electrical code
Line regulation: 5% at full load

Input Current: Less than .5 Amps long term: maximum line current measured at 125kVp at the maximum kW output

*Insulation rating of the wire must be at least 50% of momentary line current
*Disconnect Switch: To be located within reach of the operator, per code

NOTE: Power is for x-ray unit ONLY and cannot be use for other office applications

Specifications subject to change. Please consult Simons X-Ray prior to final power supply hook-up

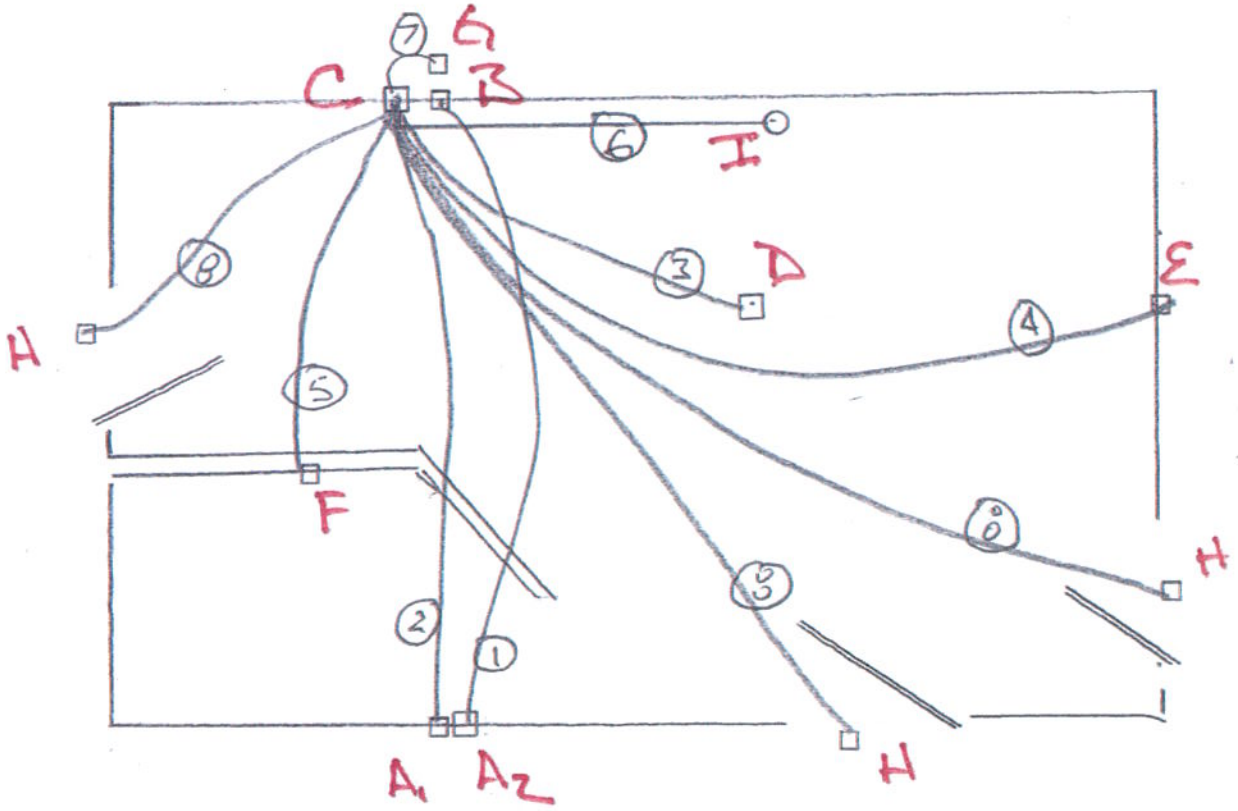


IHC, Snowbasin

1/4" = 1' 7-5-2019

Simons X-Ray

Conduit



IHC, Snowbasin

1/4" = 1' 7-5-2019

Simons X-Ray

ELECTRICAL SYMBOL SCHEDULE

SYMBOL	DEVICE/FIXTURE DESCRIPTION	MOUNTING	COMMENTS
	MECHANICAL/PLUMBING EQUIPMENT CALLOUT		
X-1	KITCHEN EQUIP. CALLOUT		
X	KITCHEN EQUIP. CALLOUT, OR AS NOTED BY ARCH.		
X	LUMINAIRE TYPE		
	DIAGRAM/DETAIL CALLOUT		
	HOME RUN TO PANEL		
	CONDUIT STUB		
	CONDUIT BREAK/CONTINUATION		
	CONDUIT STUB DOWN		
	CONDUIT STUB UP		
	FUSE		
	GROUND/GROUND ROD		
	CIRCUIT BREAKER		

ABBREVIATIONS

A AMPS	ENT ELEC. NON-METAL. TUBING	NL NIGHT LIGHT, BYPASS
AFC AVAILABLE FAULT CURRENT	ER EXISTING TO BE RELOCATED	LOCAL SWITCHING
AFF ABOVE FINISHED FLOOR	EX EXISTING TO REMAIN	PC PLUMBING CONTRACTOR
AFG ABOVE FINISHED GRADE	FMC FLEXIBLE METAL CONDUIT	POC POINT OF CONNECTION
AIC AMPS INTERR. CAPACITY	GC GENERAL CONTRACTOR	POS POINT OF SALE
AWG AMERICAN WIRE GAUGE	GEC GRND. ELEC. COND. AT SES	R RECEIVER
BC BARE COPPER	GFCI GRND. FLT. CURR. INTERR.	RM ROOF MOUNTED
BFC BELOW FINISHED CEILING	GND GROUND	RMC RIGID METALLIC CONDUIT
BFG BELOW FINISHED GRADE	IMC INTER. METAL CONDUIT	RNC RIGID NON-METALLIC COND.
C CONDUIT	IG ISOLATED GROUND	SBJ SYSTEM BONDING JUMPER
CND CONDUIT	KCMIL 1000 CIRCULAR MILS (MCM)	SCA SHORT CIRCUIT AMPERES
CO CONDUIT ONLY	LFMC LIQUID-TIGHT FLEX. METAL. COND.	T TRANSMITTER
CT CURRENT TRANSDUCER	LFNC LIQUID-TIGHT FLEX. NON-METAL. COND.	TC TEMP. CONTROL CONTR.
CU COPPER MATERIAL	MC MECHANICAL CONTRACTOR	UG UNDERGROUND
DED DEDICATED	MCA MINIMUM CIRCUIT AMPS	UNO UNLESS NOTED OTHERWISE
DFA DROP FROM ABOVE	N1 NEMA 1	VA VOLT/AMPS
EC ELECTRICAL CONTRACTOR	N3R NEMA 3R	VIF VERIFY IN FIELD
EF EXHAUST FAN	N NEW	WP WEATHERPROOF/NEMA 3R
EM EMER./EGRESS BATTERY		XP EXPLOSION PROOF
EMT ELEC. METALLIC TUBING		XR EXISTING TO BE REMOVED

NOTES

(1) SEE LUMINAIRE SCHEDULE FOR FIXTURE TYPES AND DETAILS.
(2) SEE LUMINAIRE SCHEDULE FOR MOUNTING REQUIREMENTS.
(3) WIRE LIGHT FIXTURE FROM ADJACENT J-BOX
(4) CONNECT NEAREST UN-SWITCHED HOT CONDUCTOR TO EMERGENCY BALLAST
(5) DIRECTIONAL ARROWS INDICATE REQUIRED CHEVRONS.
(6) COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL INTERIOR ELEVATIONS.
(7) USE WITH POWER PACK.
(8) "X" IN SYMBOL IS INCHES BETWEEN RECEPTACLE ALONG WIREWAY. SEE DRAWINGS.
(9) PROVIDE UL LISTED DEVICE COMPATIBLE WITH THE FIRE ALARM PANEL/SYSTEM.
(10) MATCH THE VOLTAGE OF THE RELAY WITH THAT OF THE CONTROLLING CIRCUIT.
(11) USE A 4" X 4" BOX WITH A MUD RING TO MATCH THE DEVICE AND INSTALLATION.
(12) PROVIDE MUD RING AND/OR BOX COVER APPROPRIATE FOR DEVICE/FIXTURE SERVED.
(13) USE HEAVY DUTY DEVICE FOR 480 VOLT.
(14) SIZE TO THE EQUIPMENT BEING CONTROLLED
(15) FIRE ALARM PANELS: FACP: FIRE ALARM CONTROL PANEL, NAC: NOTIFICATION APPLIANCE CIRCUIT PANEL, ANNUN: GRAPHIC ANNUNCIATOR PANEL, AND SES: SMOKE EVACUATION SYSTEM PANEL
(16) LIGHT FIXTURES ARE SCALED WITHIN THE DRAWINGS BASED ON ACTUAL DIMENSIONS.
(17) NOT ALL SYMBOLS ARE USED.

ELECTRICAL SYMBOL SCHEDULE

SYMBOL	DEVICE/FIXTURE DESCRIPTION	MOUNTING	COMMENTS
	TELEPHONE OUTLET, SINGLE PORT	18"	
	TELEPHONE OUTLET, CUSTOM HEIGHT		(6)
	DATA OUTLET, DUAL PORT	18"	
	DATA OUTLET, CUSTOM HEIGHT		(6)
	DUAL DATA AND SINGLE TELEPHONE PORT	18"	
	DUAL DATA AND SINGLE TELEPHONE PORT, CUSTOM HEIGHT		(6)
2	DATA OUTLET, ATTRIBUTE SIGNIFIES PORT QUANTITY	18"	
	TELEPHONE OUTLET, SINGLE PORT, FLOOR MOUNTED	FLOOR	
	DATA OUTLET, DUAL PORT, FLOOR MOUNTED	FLOOR	
	TELEVISION OUTLET	AS NOTED	(6) (11)
	NURSE CALL STATION, SINGLE BED	4'-11"	(11)
	NURSE CALL STATION, DOUBLE BED	4'-11"	(11)
	NURSE CALL STATION, EMERGENCY	4'-11"	(11)
	NURSE CALL STATION, CODE BLUE	4'-11"	(11)
	NURSE CALL STATION, MICROPHONE/SPEAKER UNIT	4'-11"	(11)
	NURSE CALL PULL CHAIN	AS NOTED	
	NURSE CALL DOME LIGHT	CEILING	(11)
	NURSE CALL DOME LIGHT, WALL	WALL	(11)
	SPEAKER	CEILING	
	SPEAKER, WALL	AS NOTED	(11)
V	VOLUME CONTROL, WALL	4'-0"	(11)
M	MICROPHONE, WALL	AS NOTED	(11)
M	MICROPHONE, FLOOR	FLOOR	
	BELL, WALL	AS NOTED	
	CHIME, WALL	AS NOTED	
6	DOORBELL, VISUAL INDICATOR	7'-6"	(9) (11)
	SECURITY CAMERA, FIXED	CEILING	
	SECURITY CAMERA, PTZ	CEILING	
	SECURITY CAMERA, FIXED, WALL	AS NOTED	(11)
	SECURITY CAMERA, PTZ, WALL	AS NOTED	(11)
CR	CARD READER	4'-0"	(11)
	DOOR CONTACT	DOOR	(9) (11)
	KEYPAD	+48"	(9) (11)
	MOTION SENSOR - CEILING	CEILING	(9) (11)
MDF	MAIN DISTRIBUTION FRAME	6'-6" TO TOP	
IDF	INTERMEDIATE DISTRIBUTION FRAME	6'-6" TO TOP	
	MAIN TELEPHONE BOARD	6'-6" TO TOP	
	SECURITY PANEL, SURFACE	AS NOTED	
	SECURITY PANEL, RECESSED	AS NOTED	
	SMOKE DETECTOR	CEILING	(9) (11)
	DUCT SMOKE DETECTOR	SEE MECH.	(9)
FSD	FIRE/SMOKE DAMPER	SEE MECH.	
	HEAT DETECTOR	CEILING	(9) (11)
	BEAM DETECTOR, RECEIVER		(9)
	BEAM DETECTOR, TRANSMITTER		(9)
	BEAM DETECTOR, RECEIVER/TRANSMITTER		(9)
	BEAM DETECTOR, REFLECTOR		(9)
F	FLAME DETECTOR		(9)
	FIRE FIGHTER TELEPHONE OUTLET		(9) (11)
F	FIRE ALARM MANUAL PULL STATION	4'-0"	(9) (11)
#	FIRE ALARM STROBE, ATTRIBUTE SIGNIFIES CANDELA RATING	7'-6"	(9) (11)
	FIRE ALARM HORN	7'-6"	(9) (11)
#	FIRE ALARM HORN STROBE, ATTRIBUTE SIGNIFIES CANDELA RATING	7'-6"	(9) (11)
	FIRE ALARM SPEAKER	7'-6"	(9) (11) (18)
#	FIRE ALARM SPEAKER STROBE, ATTRIBUTE SIGNIFIES CANDELA RATING	7'-6"	(9) (11) (18)
F	FIRE SPRINKLER FLOW BELL	7'-6" AFF	(9)
F	FIRE ALARM CHIME	AS NOTED	(9)
	LOW FREQUENCY HORN	7'-6"	(9) (11)
	LOW FREQUENCY HORN/STROBE	7'-6"	(9) (11)
	ELECTRO MAGNETIC DOOR HOLDER	AS NOTED	
RM	RELAY MODULE		(9)
MM	MONITOR MODULE		(9)
CM	CONTROL MODULE		(9)
PS	PRESSURE SWITCH		(9)
TS	TAMPER SWITCH		(9)
FS	FLOW SWITCH		(9)
IM	LOOP ISOLATION MODULE		(9)
XM	FIRE EXTINGUISHER MONITOR		(9)
	FIRE RISER	SEE PLANS	
	FIRE ALARM PANEL, SURFACE	AS NOTED	(15)
	FIRE ALARM PANEL, RECESSED	AS NOTED	(15)

ELECTRICAL SYMBOL SCHEDULE

SYMBOL	DEVICE/FIXTURE DESCRIPTION	MOUNTING	COMMENTS
(S) (D) (Q)	(S) SIMPLEX (D) DUPLEX (Q) QUADPLEX OR DOUBLE DUPLEX		
	STANDARD CONVENIENCE OUTLET	18"	
	CONVENIENCE OUTLET, GFCI	18"	
	STANDARD CONVENIENCE OUTLET, EMERGENCY	18"	
	STANDARD CONVENIENCE OUTLET, SWITCHED	18"	
	STANDARD CONVENIENCE OUTLET, CUSTOM HEIGHT		
	CONVENIENCE OUTLET, GFCI, CUSTOM HEIGHT		
	CONVENIENCE OUTLET, ISOLATED GROUND	18"	
	CONVENIENCE OUTLET, FLOOR	FLOOR	
	CONVENIENCE OUTLET, CEILING	CEILING	
	2 CIRCUITS TO EACH DEVICE	18"	
	COMBINATION POWER/COMMUNICATION FLOOR BOX	FLOOR	
	SPECIAL PURPOSE OUTLET		
	DIRECT CONNECTION TO EQUIPMENT		
	CORD DROP OUTLET	SUSPENDED	
	POWER/VOICE-DATA SERVICE POLE	AS NOTED	
DJU	DISTRIBUTION JUNCTION UNIT		
VFD	VARIABLE FREQUENCY DRIVE		
TVS	TRANSIENT VOLTAGE SURGE SUPPRESSION		
	JUNCTION BOX	AS NOTED	(12)
	JUNCTION BOX, WALL	AS NOTED	(12)
	JUNCTION BOX, FLOOR	FLOOR	(12)
	CLOCK OUTLET		(7)
S^M	MANUAL MOTOR CONTROLLER SWITCH WITHOUT TERMINAL OVERLOAD PROTECTION		
S^P	SWITCH WITH PILOT LIGHT		
S^{TH}	MANUAL SWITCH WITH THERMAL OVERLOAD		
S^X	SINGLE POLE DOOR SWITCH		
	PUSH BUTTON SWITCH, SINGLE	AS NOTED	
	PUSH BUTTON SWITCH, DOUBLE	AS NOTED	
	PUSH BUTTON SWITCH, TRIPLE	AS NOTED	
ID	EMERGENCY POWER OFF (EPO) SWITCH		
	NON-FUSED DISCONNECT SWITCH		(13) (14)
F	FUSED DISCONNECT SWITCH		(13) (14)
	MAGNETIC STARTER		(13) (14)
	MAGNETIC STARTER WITH FUSED DISCONNECT		(13) (14)
	MAGNETIC STARTER WITH BREAKER DISCONNECT		(13) (14)
R	POWER RELAY		(13) (14)
	MOTOR OUTLET		
	MOTOR OUTLET, ROOF MOUNTED	ROOF	
	LIGHTNING PROTECTION AIR TERMINAL	ROOF	
	LIGHTNING PROTECTION BOND PLATE		
	LIGHTNING PROTECTION GROUND ROD	GROUND	
	POKETHRU		
	UTILITY POWER POLE	SEE PLANS	
	TRANSFORMER	SEE PLANS	
	EMERGENCY GENERATOR	SEE PLANS	
	CABLE TRAY		
	MAIN DISTRIBUTION POWER PANEL		
	PANEL BOARD, SURFACE	6'-6" TO TOP	(15)
	PANEL BOARD, RECESSED	6'-6" TO TOP	(15)

ELECTRICAL SYMBOL SCHEDULE

SYMBOL	DEVICE/FIXTURE DESCRIPTION	MOUNTING	COMMENTS
	LINEAR LIGHT FIXTURE	CEILING	(1) (2) (3) (16)
	LINEAR EMERGENCY LIGHT FIXTURE	CEILING	(1) (2) (3) (16)
	LINEAR CRITICAL LIFE LIGHT FIXTURE	CEILING	(1) (2) (3) (4) (16)
	LINEAR LIFE SAFETY LIGHT FIXTURE	CEILING	(1) (2) (3) (4) (16)
	RECESSED LIGHT FIXTURE	CEILING	(1) (3)
	RECESSED EMERGENCY LIGHT FIXTURE	CEILING	(1) (3)
	RECESSED WALL WASH LIGHT FIXTURE	CEILING	(1) (3)
	CEILING LIGHT FIXTURE	CEILING	(1) (2)
	PENDENT LIGHT EMERGENCY	CEILING	(1) (2)
	PENDENT/CHANDELIER LIGHT FIXTURE	SUSPENDED	(1) (2) (3)
	WALL LIGHT FIXTURE, SURFACE	AS NOTED	(1) (2)
	WALL LIGHT FIXTURE, RECESSED	AS NOTED	(1) (2)
	TRACK LIGHT FIXTURE WITH TRACK	CEILING	(1) (2) (3)
	CEILING FAN	SUSPENDED	
	FLOOD/LANDSCAPE/MONUMENT LIGHT FIXTURE	GROUND	(1) (2) (3)
	AREA LIGHT FIXTURE	POLE	(1) (2)
	EXIT SIGN, WALL	7'-6"	(1) (2) (4) (5)
	EXIT SIGN	CEILING	(1) (4) (5)
	EMERGENCY LIGHT FIXTURE, WALL	7'-6"	(1) (2)
P	PHOTO-ELECTRIC CELL	AS NOTED	
PP	POWER PACK	CEILING	
SP	SLAVE PACK	CEILING	
MP	MINI POWER PACK	CEILING	
	DUAL TECHNOLOGY VACANCY SENSOR	CEILING	(7)
	DUAL TECHNOLOGY VAC. SENSOR, WALL	AS NOTED	(7)
	DUAL TECHNOLOGY VAC. SENSOR SWITCH, 1-BUTTON	4'-0"	(7)
	DUAL TECHNOLOGY VAC. SENSOR SWITCH, 2-BUTTON	4'-0"	(7)
	DAYLIGHT SENSOR	CEILING	
	MOTION SENSOR	AS NOTED	
	PASSIVE INFRARED SENSOR	CEILING	
S	SINGLE POLE SWITCH	4'-0"	
S^2	DOUBLE POLE, SINGLE THROW SWITCH	4'-0"	
S^3	THREE WAY SWITCH	4'-0"	
S^{3_L}	THREE WAY SWITCH ATTRIBUTE SIGNIFIES FIXTURE SWITCHING	4'-0"	
S^4	FOUR WAY SWITCH	4'-0"	
S_D	DIMMER SWITCH	4'-0"	
	LOW VOLTAGE SWITCH	4'-0"	
S^K	KEYED SWITCH, SINGLE POLE	4'-0"	(15)
S^T	7-DAY TIMER SWITCH, SINGLE POLE	4'-0"	(15)
TC	TIME CLOCK	AS NOTED	
	LIGHTING CONTROL PANEL, SURFACE	6'-6" TO TOP	
	LIGHTING CONTROL PANEL, RECESSED	6'-6" TO TOP	

GENERAL NOTES

1. THE ELECTRICAL SYSTEMS DEFINED BY THESE PLANS AND SPECIFICATIONS ARE TO BE CONSTRUCTED AS COMPLETE AND OPERABLE SYSTEMS AND SHALL BE BID WITH THIS INTENT. THE CONTRACTOR SHALL VISIT THE SITE, READ ALL THE RELEVANT DOCUMENTS AND BECOME FAMILIAR WITH THE TYPE OF CONSTRUCTION AND WORK TO BE ACCOMPLISHED. SHOULD ANY ERROR, OMISSION OR CONFLICT EXIST IN EITHER THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING BEFORE SUBMITTING HIS BID PRICE SO A CHANGE CAN BE ISSUED IN A PRE-BID ADDENDUM. OTHERWISE, THE CONTRACTOR AND/OR EQUIPMENT SUPPLIER SHALL SUPPLY THE PROPER MATERIALS AND LABOR TO INSTALL COMPLETE AND OPERABLE SYSTEMS AT THEIR OWN EXPENSE. WHEN EACH ELECTRICAL SYSTEM IS COMPLETE, THE CONTRACTOR SHALL TEST AND CONFIRM IT'S PROPER OPERATION. ANY INCOMPLETE SYSTEM SHALL BE MADE COMPLETE AND OPERABLE.
2. THE ARCHITECTURAL AND MECHANICAL PLANS ARE CONSIDERED A PART OF THE ELECTRICAL DOCUMENTS SO FAR AS ANY ELECTRICAL ITEMS THEY MAY CONTAIN. THE ELECTRICAL CONTRACTOR SHALL REFER TO AND COORDINATE WITH THEM. NO EXTRA COST SHALL BE ALLOWED FOR FAILURE TO COORDINATE THE CONTRACT DOCUMENTS WITH OTHER TRADES AND/OR IF EQUIPMENT DIMENSIONS ARE GREATER THAN SPECIFIED AND/OR DIMENSIONED ON THE PLANS.
3. NO ADDITIONS TO THE CONTRACTOR BID WILL BE ALLOWED FOR CHANGES MADE NECESSARY BY INTERFERENCE WITH OTHER WORK.
4. THE ELECTRICAL CONTRACTOR SHALL PROVIDE EQUIPMENT, MATERIALS AND LABOR FOR THE CONNECTIONS OF ALL EQUIPMENT SHOWN ON THE PLANS - ARCHITECTURAL, MECHANICAL, ETC.
5. THIS PROJECT IS TO BE INSTALLED IN STRICT ACCORDANCE WITH LOCAL AND STATE CODES AND THE NEC. IF AT ANY TIME DURING CONSTRUCTION, OR AFTER, SOMETHING IS FOUND TO BE INSTALLED IN VIOLATION OF THE CODES LISTED ABOVE, IT SHALL BE CORRECTED AT THE CONTRACTORS EXPENSE.
6. ALL EQUIPMENT PROVIDED BY THE ELECTRICAL CONTRACTOR SHALL BE LISTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING AGENCY, ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION, AND BE PROPERLY INSTALLED FOR THE CONDITIONS AND SPACE THAT EQUIPMENT IS BEING INSTALLED WITHIN.
7. THE ELECTRICAL CONTRACTOR SHALL COORDINATE AND CONFIRM THE EXACT LOCATION OF THE POWER PANELS FROM WHICH NEW CIRCUITS ARE BEING FED FROM. VERIFY EXISTING BRANCH CIRCUIT BREAKERS AND PROVIDE NEW BREAKERS AS NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM.
8. THE ELECTRICAL CONTRACTOR SHALL INSTALL A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN EACH CONDUIT RUN. CONDUIT SHALL NOT BE USED AS AN EQUIPMENT GROUNDING CONDUCTOR. THE ELECTRICAL CONTRACTOR SHALL GROUND THE ELECTRICAL SYSTEM IN ACCORDANCE WITH LOCAL AND NATIONAL CODES.
9. THE ELECTRICAL CONTRACTOR SHALL CONFIRM MINIMUM CODE (NEC) WORKING CLEARANCE BEFORE INSTALLING ANY ELECTRICAL PANELS OR CABINETS AND SHALL MOVE THE PANELS AT HIS EXPENSE IF REJECTED BY AN INSPECTOR. IF CLEARANCE IS NOT POSSIBLE, THE DESIGNER SHALL BE NOTIFIED IMMEDIATELY IN WRITING.
10. CONDUIT LAYOUTS SHOWN ON THE PLANS ARE DIAGRAMATIC, NOT INDICATING THE ROUTING REQUIRED. THE EC SHALL ROUTE THE CONDUITS AS REQUIRED BY THE CONDITIONS OF THE INSTALLATION AND SHALL COORDINATE WITH DUCTWORK, PIPING, EQUIPMENT, BUILDING STRUCTURE AND OTHER POTENTIAL OBSTRUCTIONS.
11. THE CONTRACTOR SHALL ALLOW THE MOVEMENT, BEFORE ROUGH-IN, OF ANY ELECTRICAL PANEL, DEVICE, LUMINAIRE, ETC. A DISTANCE OF 10 FEET WITHOUT REQUIRING ADDITIONAL COST TO THE PROJECT.
12. THE ELECTRICAL CONTRACTOR SHALL SECURE ALL CONDUIT TO THE STRUCTURE AS IT IS SET IN PLACE USING INDUSTRY STANDARD METHODS AND PRACTICES.
13. MINIMUM SIZE CONDUIT SHALL BE 3/4". ABOVE GROUND CONDUIT SHALL BE EMT WITH STEEL SET SCREW FITTINGS. UNDERGROUND CONDUIT SHALL BE PVC (SCH40) WITH GRC ELBOWS AND RISERS WRAPPED IN CORROSION RESISTANT MATERIALS WHERE IN DIRECT CONTACT WITH THE SOIL.
14. FLEXIBLE CONDUIT SHALL BE LIMITED TO CONNECTIONS TO LIGHT FIXTURES AND FINAL CONNECTIONS TO MOTORS OR OTHER EQUIPMENT SUBJECT TO VIBRATION. LENGTHS OF FLEXIBLE OR SEALTITE CONDUIT SHALL NOT BE GREATER THAN 72" INCHES.
15. WIRING DEVICES SHALL MATCH EXISTING COLOR AND FACEPLATE TYPE.
16. TO ASSURE ALL DEVICES ARE RIGIDLY SET, THE ELECTRICAL CONTRACTOR SHALL SECURE ALL DEVICE BOXES WITH BRACKETS, HANGERS, ETC. DESIGNED FOR THE APPLICATION. ANY DEVICE BOXES NOT SECURED WILL BE MADE SECURE AT THE CONTRACTORS EXPENSE.
17. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL EMPTY CONDUITS WITH 200LB RATED NYLON PULL CORD.
18. BEFORE ANY ELECTRICAL CONDUIT, BOXES, ETC. ARE COVERED (FLOOR, CEILINGS, WALLS, ETC.), THEY SHALL BE APPROVED BY THE INSPECTING OFFICER (INSPECTOR). THE UNCOVERING AND REPLACEMENT OF ELECTRICAL WORK FOR THE INSPECTION PURPOSES WILL BE AT THE COST OF THE ELECTRICAL CONTRACTOR.
19. ALL BATTERY POWERED OR CONTINUOUS BURN LUMINAIRES SHOWN ON THE PLANS, SUCH AS EXIT LIGHTS, NIGHT LIGHTS, OR EMERGENCY LIGHTS, SHALL BE CONNECTED TO THE UN-SWITCHED LEG OF THE LIGHTING CIRCUIT FEEDING THAT AREA.
20. ALL LUMINAIRES SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE AND NOT SOLELY FROM THE CEILING GRID OR OTHER NONSTRUCTURAL MEMBER.
21. TO MAINTAIN CONSISTENT LIGHT QUALITY, FOR ANY ONE LAMP TYPE SUPPLIED, LAMPS SHALL BE OF THE SAME MANUFACTURE, SURFACE TEMPERATURE, COLOR RENDERING INDEX, LAMP EFFICACY, LUMEN OUTPUT AND STARTING CHARACTERISTICS FOR ALL INSTALLED.
22. WHERE WIRE SIZE IS NOT SHOWN ON THE DRAWINGS FOR 20A, 120/277VAC BRANCH CIRCUITS, THE CIRCUIT SHALL CONSIST OF 2# 12(CU.THHN/THWN-2)+1#12(CU.THHN/THWN-2)GND IN 3/4" EMT CONDUIT. THIS WIRE SIZE SHALL BE INCREASED TO #10(CU.THHN) FOR 120VAC BRANCH CIRCUITS WITH OVERALL LENGTHS EXCEEDING 125' TO ACCOMMODATE FOR VOLTAGE DROP. REFER TO EQUIPMENT SCHEDULES. FEEDER SCHEDULES AND NOTES ON DRAWINGS FOR ALL OTHER BRANCH CIRCUIT AND FEEDER WIRE/CONDUIT SIZING.
23. CONDUCTORS SHALL BE COPPER, 600VAC RATED, TYPE THHN/THWN-2 UNLESS OTHERWISE NOTED. CONDUCTORS SIZES UP TO # 1GAWG SHALL BE SOLID AND #8AWG AND LARGER SHALL BE STRANDED.
24. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH EQUIPMENT SUPPLIERS ON THE EXACT LOCATIONS OF ALL EQUIPMENT AND ELECTRICAL CONNECTIONS PRIOR TO ROUGH-IN. THE ELECTRICAL CONTRACTOR SHALL MAKE THE FINAL CONNECTION TO ALL EQUIPMENT UNLESS OTHERWISE DIRECTED BY THE EQUIPMENT SUPPLIER.
25. THE ELECTRICAL CONTRACTOR SHALL CLEAN THE ENTIRE ELECTRICAL SYSTEM AFTER COMPLETION OF THE INSTALLATION. REMOVE ALL FINGER PRINTS, FOREIGN MATTER, PAINT, DIRT, GREASE, UN-NEEDED LABELS OR STICKERS FROM FIXTURES AND EQUIPMENT. REMOVE ALL RUBBISH AND DEBRIS ACCUMULATED DURING INSTALLATION FROM THE PREMISIS.
26. OBTAIN FROM SUPPLIERS ALL WIRING DIAGRAMS FOR EQUIPMENT PRIOR TO ANY ROUGH-IN. TO ASSURE THAT PROPER CHARACTERISTICS ARE PROVIDED, ANY INCORRECT WIRING OR DEVICES INSTALLED BY THE ELECTRICAL CONTRACTOR WITHOUT THE WIRING DIAGRAM SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. PROVIDE COPIES OF WIRING DIAGRAMS WITHIN EACH PIECE OF EQUIPMENT AND ADDITIONAL COPIES WITH THE OPERATION AND MAINTENANCE MANUALS.
27. IT IS THE INTENT OF THE CONSTRUCTION DOCUMENTS FOR ALL DEVICES TO BE FLUSH MOUNTED AND CONDUIT/CABLING INSTALLED CONCEALED WITHIN WALLS/CEILINGS. IN AREAS WHERE CONDUIT MUST BE INSTALLED EXPOSED IT SHALL BE COORDINATED WITH THE ARCHITECT AND/OR ENGINEER. ALL EFFORTS SHALL BE MADE TO CONCEAL WIRING METHODS.
28. PROVIDE AN UPDATED, TYPED PANEL CIRCUIT DIRECTORY FOR ALL PANELS WHERE CIRCUITS HAVE BEEN MODIFIED, ADDED, OR REMOVED BY THE SCOPE OF THIS PROJECT. CIRCUIT DESCRIPTIONS ON THE DIRECTORY SHALL BE UNIQUE AND INDICATE THE ROOM AND EQUIPMENT/DEVICE IT IS FEEDING.

SHEET INDEX

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INTERMOUNTAIN SNOWBASIN CLINIC
3925 SNOW BASIN RD
HUNTSVILLE, UTAH 84317

PROJECT #: 19328

BID DOCUMENTS
07/31/2019

DATE	REVISION

LICENSED PROFESSIONAL ENGINEER
No. 15071
B. ELAINE FAWSON
07/31/2019
STATE OF UTAH

ELECTRICAL SYMBOLS AND NOTES

EE001

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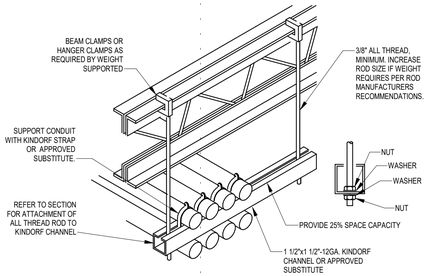
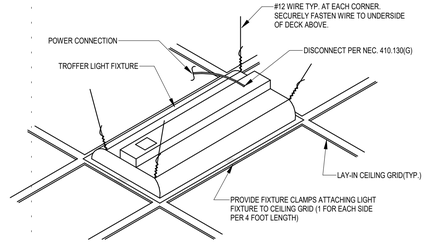
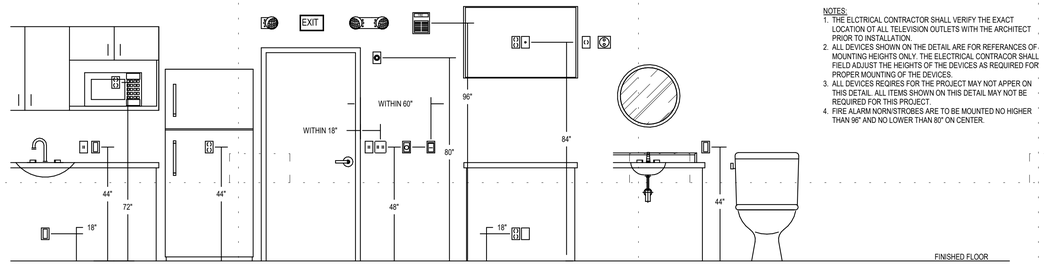


6 EE501 TRAPEZE SUPPORT DETAIL
NO SCALE

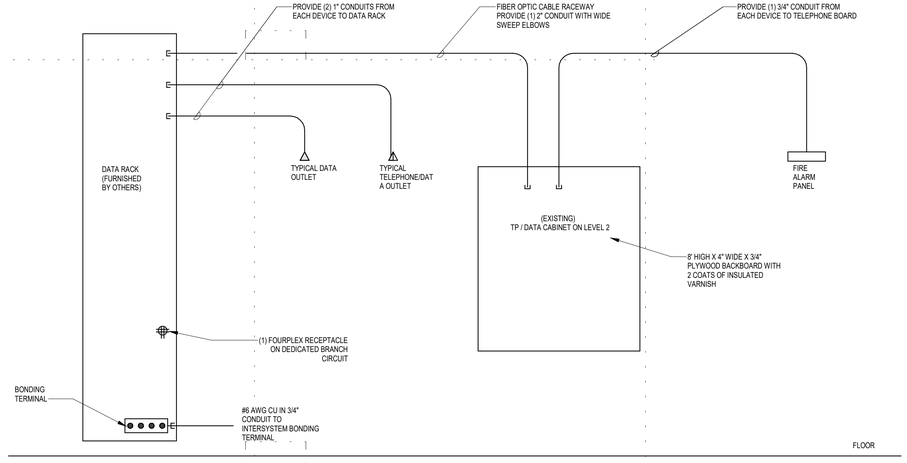


7 EE501 RECESSED FIXTURE MOUNTING DIAGRAM
NO SCALE



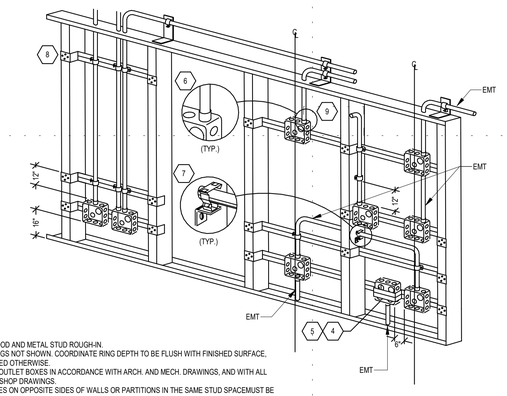
NOTES:
1. THE ELCTRICAL CONTRACTOR SHALL VERIFY THE EXACT LOCATION OT ALL TELEVISION OUTLETS WITH THE ARCHITECT PRIOR TO INSTALLATION.
2. ALL DEVICES SHOWN ON THE DETAIL ARE FOR REFERANCES OF MOUNTING HEIGHTS ONLY. THE ELECTRICAL CONTRACOR SHALL FIELD ADJUST THE HEIGHTS OF THE DEVICES AS REQUIRED FOR PROPER MOUNTING OF THE DEVICES.
3. ALL DEVICES REQIRES FOR THE PROJECT MAY NOT APPER ON THIS DETAIL. ALL ITEMS SHOWN ON THIS DETAIL MAY NOT BE REQUIRED FOR THIS PROJECT.
4. FIRE ALARM NORN/STROBES ARE TO BE MOUNTED NO HIGHER THAN 96" AND NO LOWER THAN 80" ON CENTER.

1 EE501 MOUNTING HEIGHT DETAIL
NO SCALE



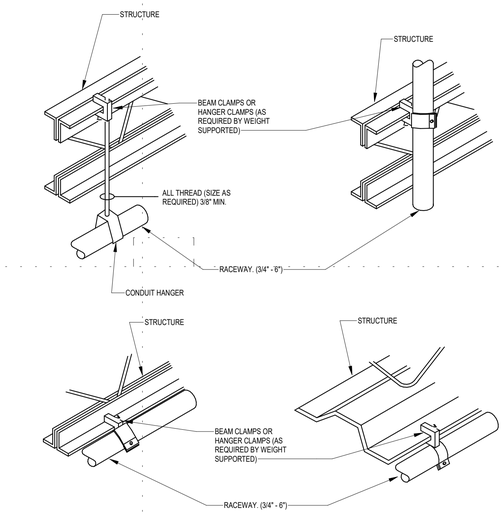
NOTES:
1. PROVIDE PULLCORD IN ALL EMPTY RACEWAYS.
2. BOND ALL RACEWAY AND METAL RACKS TO BONDING TERMINAL.
3. PROVIDE BLANK COVERPLATES ON ALL UNUSED BOXES.

2 EE501 TELEPHONE/DATA RACEWAY DIAGRAM
NO SCALE



NOTES:
1. TYP. FOR WOOD AND METAL STUD ROUGH-IN.
2. PLASTER RINGS NOT SHOWN. COORDINATE RING DEPTH TO BE FLUSH WITH FINISHED SURFACE, UNLESS NOTED OTHERWISE.
3. LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCH. AND MECH. DRAWINGS, AND WITH ALL APPLICABLE SHOP DRAWINGS.
4. OUTLET BOXES ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACEMUST BE SEPARATED BY A MIN. OF 6" HORIZONTAL DISTANCE.
5. ELECTRICAL BOXES INSTALLED IN FIRE RESISTANT WALLS OR PARTITIONS SHALL COMPLY WITH IBC 714.3.2.
6. INSULATED THOAT EMT CONNECTOR.
7. CADDY FASTENER, THROUGH STUD CABLE/CONDUIT SUPPORT 'FB12P'.
8. ADJUSTABLE BAR HANGER.
9. TYPICAL DEVICE JUNCTION BOX.

3 EE501 ROUGH-IN DETAIL
NO SCALE



NOTES:
1. WIRE SHALL NOT BE USED AS A COMPONENT OF ANY RACEWAY HANGER SYSTEM.
2. DO NOT NOT SUPPORT ANY RACEWAY THAN THAN 1" FROM BOTTOM CORD OF STEEL TRUSSES.

8 EE501 RACEWAY SUPPORT METHODS DIAGRAM
NO SCALE

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1	8/16/19	ADD. 1

LICENSED PROFESSIONAL ENGINEER
No. 15071
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07/31/2019
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ELECTRICAL DETAILS

EE501

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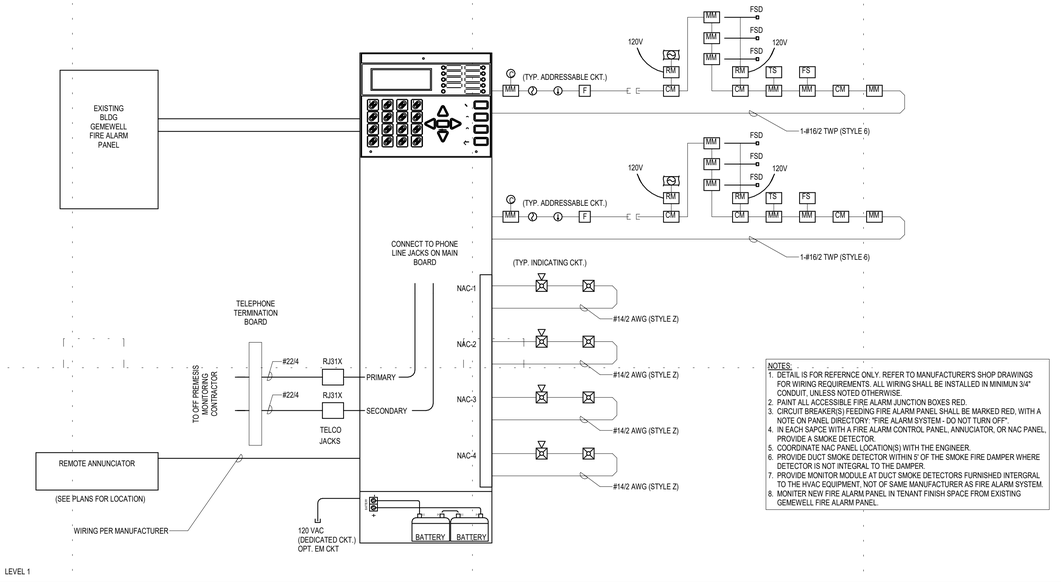

1 EE502 FIRE RISER DIAGRAM
NO SCALE

NOTES:
1. DETAIL IS FOR REFERNCE ONLY. REFER TO MANUFACTURER'S SHOP DRAWINGS FOR WIRING REQUIREMENTS. ALL WIRING SHALL BE INSTALLED IN MINIMUN 3/4" CONDUIT, UNLESS NOTED OTHERWISE.
2. PAINT ALL ACCESSIBLE FIRE ALARM JUNCTION BOXES RED.
3. CIRCUIT BREAKER(S) FEEDING FIRE ALARM PANEL SHALL BE MARKED RED, WITH A NOTE ON PANEL DIRECTORY: "FIRE ALARM SYSTEM - DO NOT TURN OFF."
4. IN EACH SAPCE WITH A FIRE ALARM CONTROL PANEL, ANNUCIATOR, OR NAC PANEL, PROVIDE A SMOKE DETECTOR.
5. COORDINATE NAC PANEL LOCATION(S) WITH THE ENGINEER.
6. PROVIDE DUCT SMOKE DETECTOR WITHIN 5' OF THE SMOKE FIRE DAMPER WHERE DETECTOR IS NOT INTEGRAL TO THE DAMPER.
7. PROVIDE MONITOR MODULE AT DUCT SMOKE DETECTORS FURNISHED INTERGRAL TO THE HVAC EQUIPMENT, NOT OF SAME MANUFACTURER AS FIRE ALARM SYSTEM.
8. MONITER NEW FIRE ALARM PANEL IN TENANT FINISH SPACE FROM EXISTING GEMEWELL FIRE ALARM PANEL.

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ELECTRICAL DETAILS

EE502

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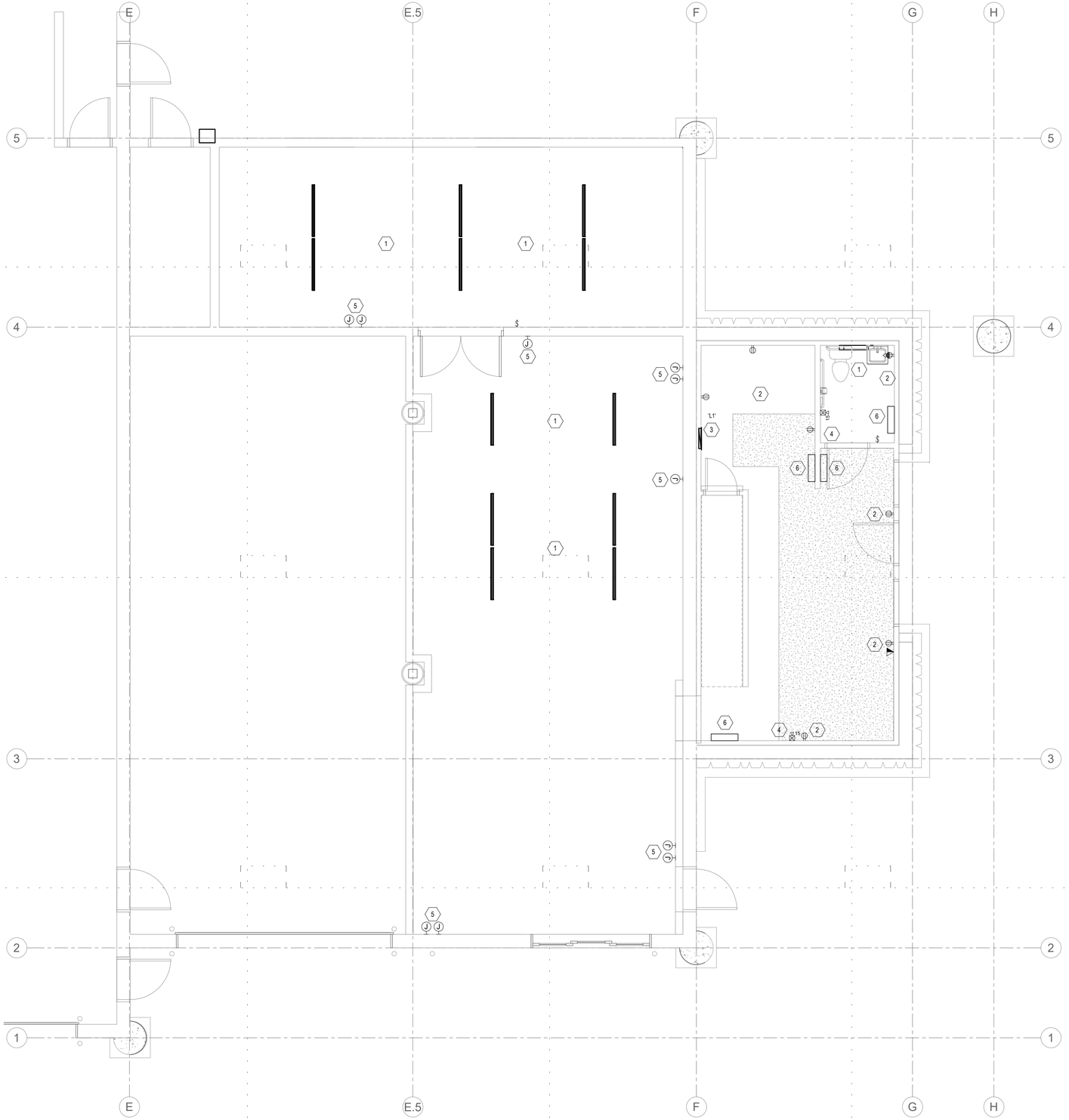

KEYED NOTES

1 REMOVE EXISTING LIGHT FIXTURES AND RETURN TO THE OWNER, OR PROPERLY DISPOSE OF. REMOVE EXISTING LIGHT SWITCHES. REMOVE EXISTING EXPOSED CONDUIT AND REMOVE WIRING BACK TO THE PANEL, OR TO THE FIRST ACTIVE LIGHT OUTSIDE THE REMODEL AREA THAT REMAINS IN SERVICE. PROVIDE ALL WORK REQUIRED TO MAINTAIN EXISTING LIGHTS ON OUTSIDE THE REMODEL AREA IN SERVICE.

2 REMOVE EXISTING RECEPTACLES AND REPLACE WITH NEW RECEPTACLES AND COVERPLATES. EXTEND WIRING TO EXISTING PANEL L1 AS REQUIRED.

3 EXISTING PANEL L1 TO REMAIN AT EXISTING LOCATION. MAINTAIN NEC CLEARANCES.

4 REMOVE EXISTING GAMEWELL FIRE ALARM HORN/STROBE. MAINTAIN EXISTING FIRE ALARM LOOP.

5 PROVIDE BLANK COVERPLATES OVER EXISTING JUNCTION BOXES WHICH REMAIN IN SERVICE.

6 REMOVE WIRING FROM EXISTING WALL HEATERS BACK TO THE PANEL

1 ED101 LEVEL 1 ELECTRICAL DEMOILITION PLAN
1/4" = 1'-0"

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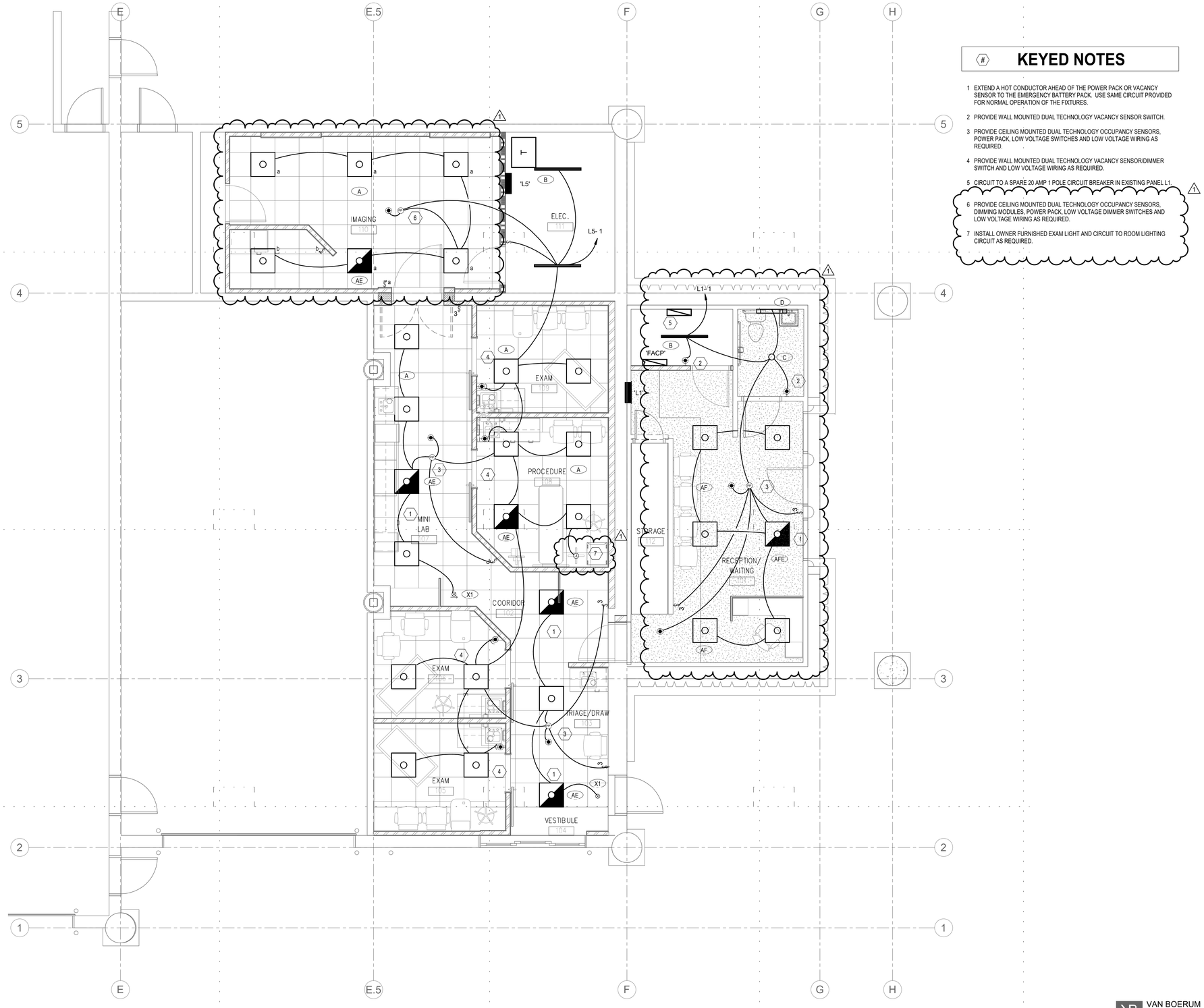
LEVEL 1 ELECTRICAL DEMOLITION PLANS

ED101



KEYED NOTES

1 EXTEND A HOT CONDUCTOR AHEAD OF THE POWER PACK OR VACANCY SENSOR TO THE EMERGENCY BATTERY PACK. USE SAME CIRCUIT PROVIDED FOR NORMAL OPERATION OF THE FIXTURES.

2 PROVIDE WALL MOUNTED DUAL TECHNOLOGY VACANCY SENSOR SWITCH.

3 PROVIDE CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSORS, POWER PACK, LOW VOLTAGE SWITCHES AND LOW VOLTAGE WIRING AS REQUIRED.

4 PROVIDE WALL MOUNTED DUAL TECHNOLOGY VACANCY SENSOR/DIMMER SWITCH AND LOW VOLTAGE WIRING AS REQUIRED.

5 CIRCUIT TO A SPARE 20 AMP 1 POLE CIRCUIT BREAKER IN EXISTING PANEL L1.

6 PROVIDE CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSORS, DIMMING MODULES, POWER PACK, LOW VOLTAGE DIMMER SWITCHES AND LOW VOLTAGE WIRING AS REQUIRED.

7 INSTALL OWNER FURNISHED EXAM LIGHT AND CIRCUIT TO ROOM LIGHTING CIRCUIT AS REQUIRED.

1 EL101 LEVEL 1 LIGHTING PLAN
1/4" = 1'-0"

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LICENSED PROFESSIONAL ENGINEER
No. 15071
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LIGHTING PLAN

EL101

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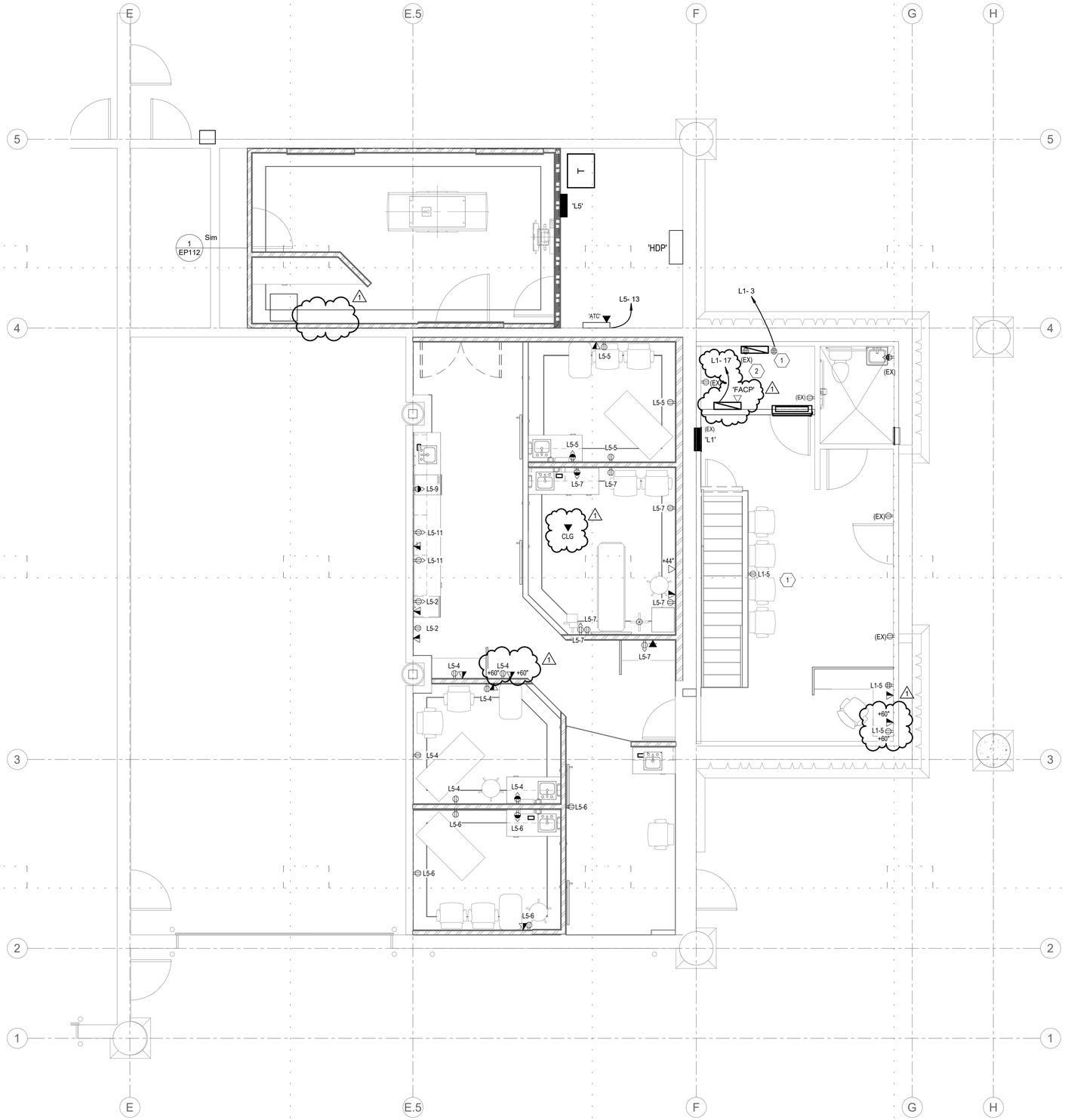

1 EP101 LEVEL 1 POWER PLAN
1/4" = 1'-0"

NORTH

KEYED NOTES

1 CIRCUIT TO A SPARE 20 AMP 1 POLE CIRCUIT BREAKER IN EXISTING PANEL L1.

2 NEW WALL MOUNTED DATA RACK FURNISHED AND INSTALLED BY THE OWNER. COORDINATE FOURPLEX RECEPTACLE LOCATION WITH THE CABINET. PROVIDE A 2" CONDUIT TO THE EXISTING DATA RACK ON LEVEL 2 WITH A PULL STRING.

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POWER PLAN

EP101

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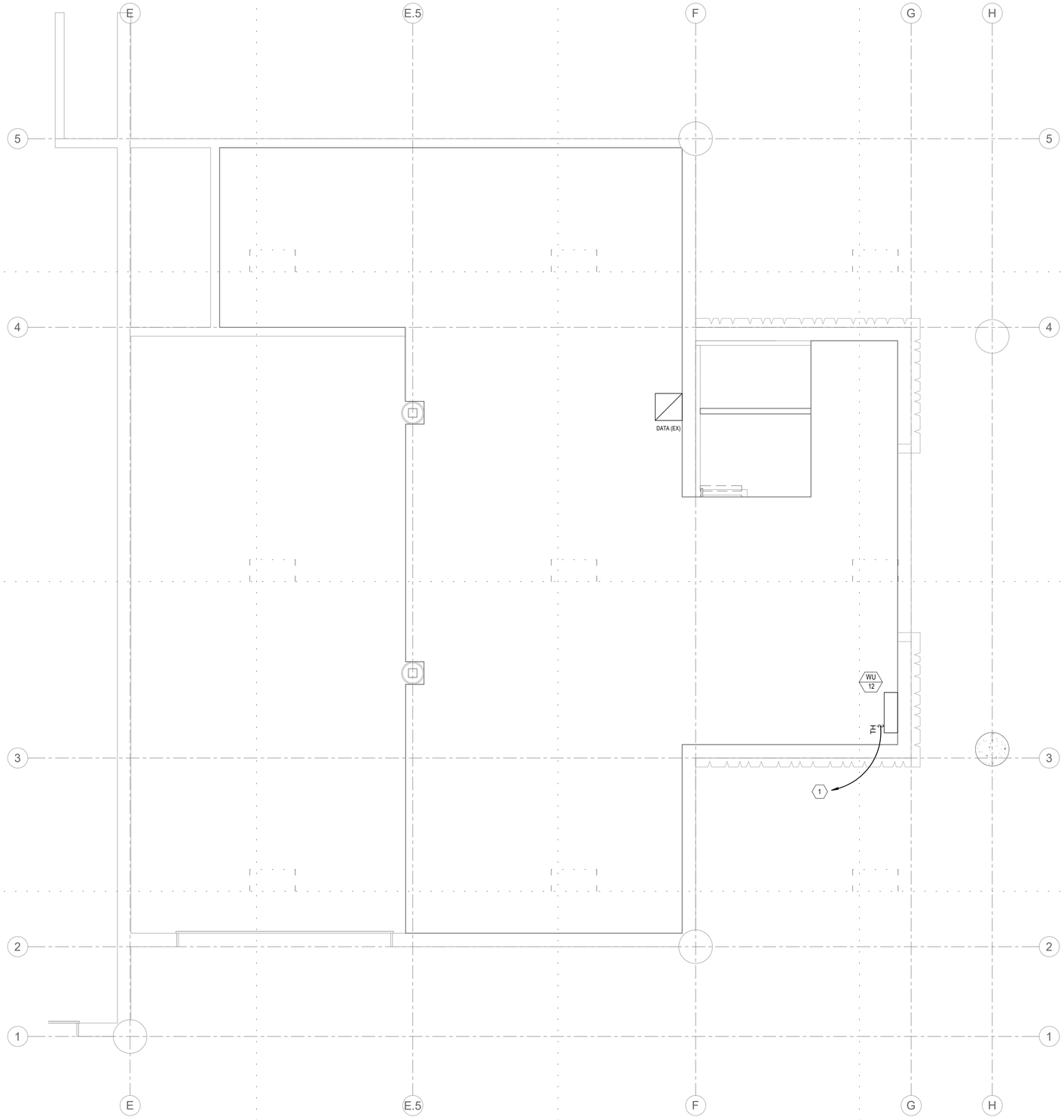

KEYED NOTES

1 CIRCUIT TO SAME CIRCUIT AS WU-1 BELOW.

1 EP102 LEVEL 2 POWER PLAN
1/4" = 1'-0"

NORTH

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INTERMOUNTAIN SNOWBASIN CLINIC
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STATE OF UTAH

POWER PLAN

EP102

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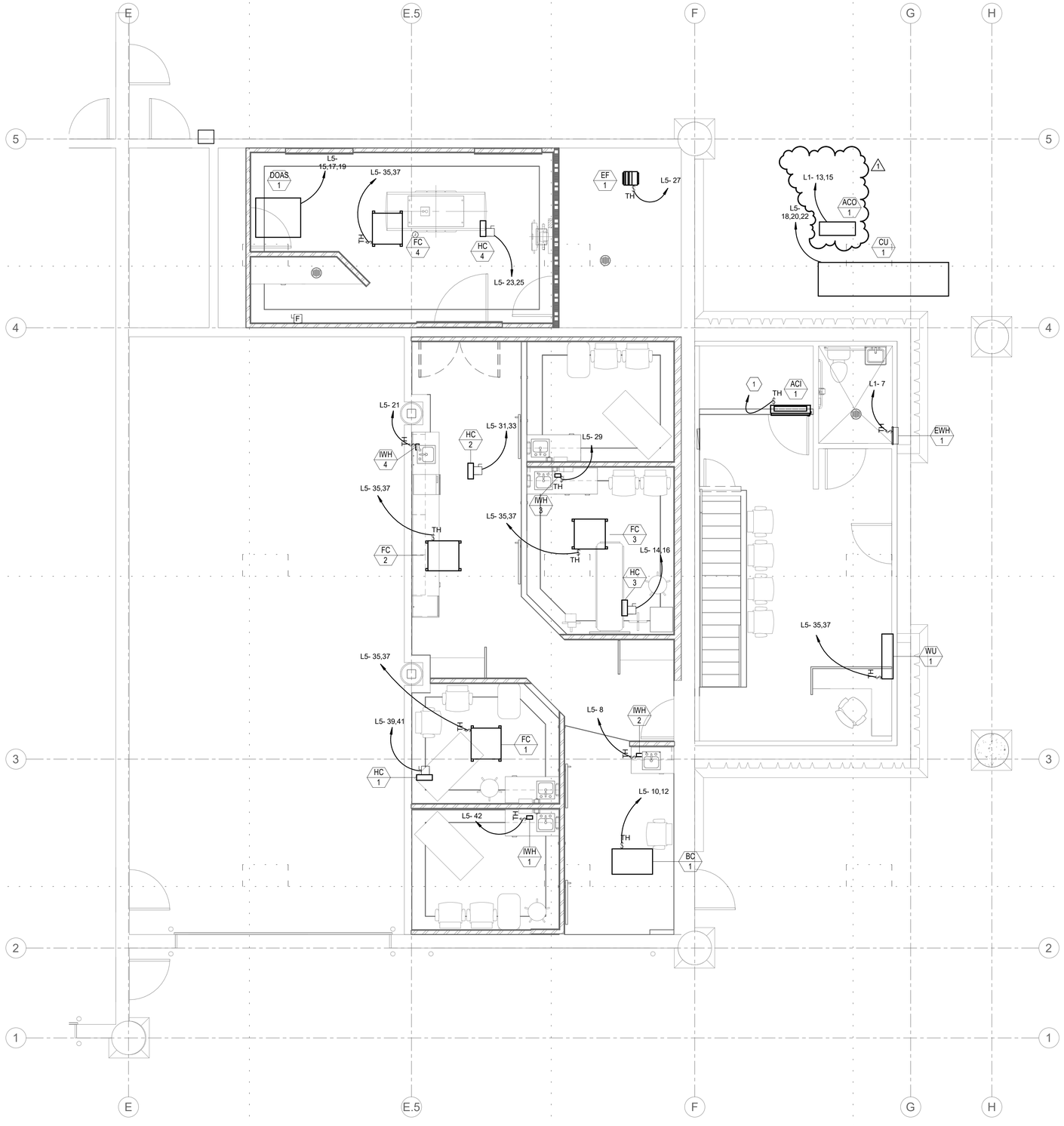

1 EP111 LEVEL 1 HVAC PLAN
1/4" = 1'-0"

KEYED NOTES

1 CIRCUIT INDOOR UNIT THROUGH OUT DOOR UNIT.

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HVAC POWER PLAN

EP111

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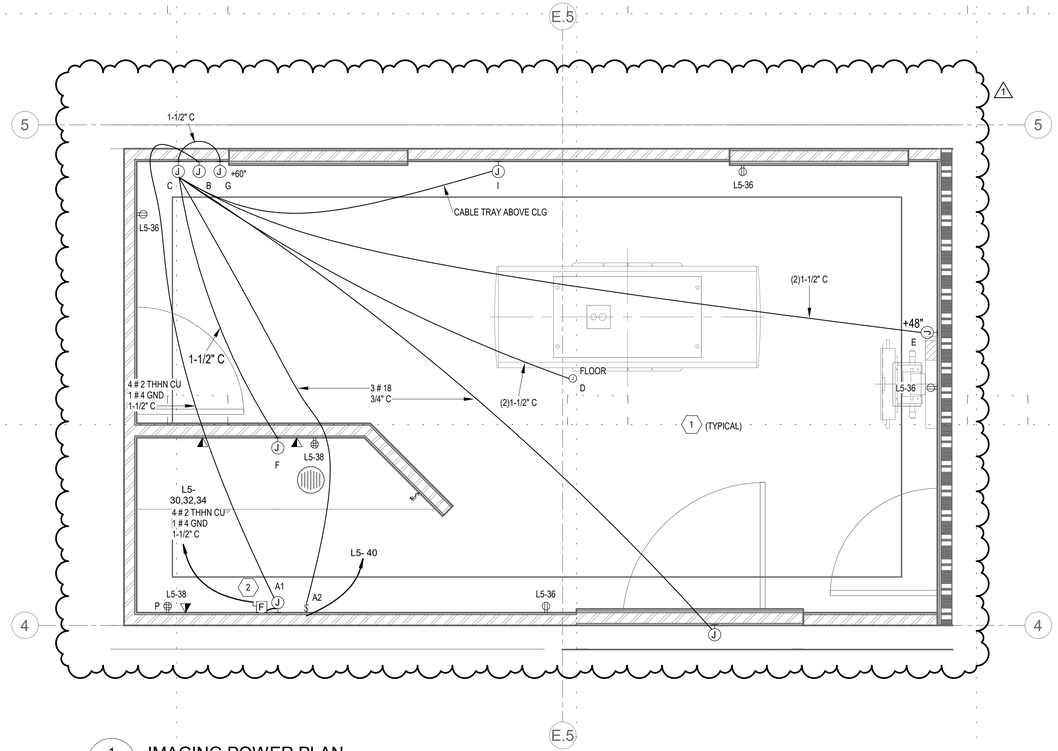
KEYED NOTES

1 DIVISION 26 INSTALLER SHALL PROVIDE JUNCTION BOXES, RACEWAY, CABLE TRAY, WIRING, AND ENCLOSED CIRCUIT BREAKER FOR X-RAY EQUIPMENT PER SIMONS X-RAY JUNCTION BOX SCHEDULE AND CONSTRUCTION NOTES, CONDUIT SCHEDULE, AND DIMENSIONED DRAWINGS. PROVIDE CUTTING AND PATCHING OF THE FLOOR AND WALLS AS RQUIRED FOR COMPLETE INSTALLATION.

2 PROVIDE 125 AMP 3 POLE 22,000 A.I.C ENCLOSED CIRCUIT BREAKER OR FUSED DISCONNET SWITCH FOR X-RAY EQUIPMENT AT THIS LOCATION.



1 EP112 IMAGING POWER PLAN
1/2" = 1'-0"

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LICENSED PROFESSIONAL ENGINEER
No. 15071
B. ELAINE FAWSON
07/31/2019
STATE OF UTAH

IMAGING ROOM POWER PLAN

EP112

VAN BOERUM & FRANK ASSOCIATES, INC.
CONSULTING ENGINEERS
WWW.VBFA.COM
Salt Lake City 801.530.3148 T
330 South 300 East 801.530.3150 F
Salt Lake City, UT 84111
VBFA Project Number: 19328

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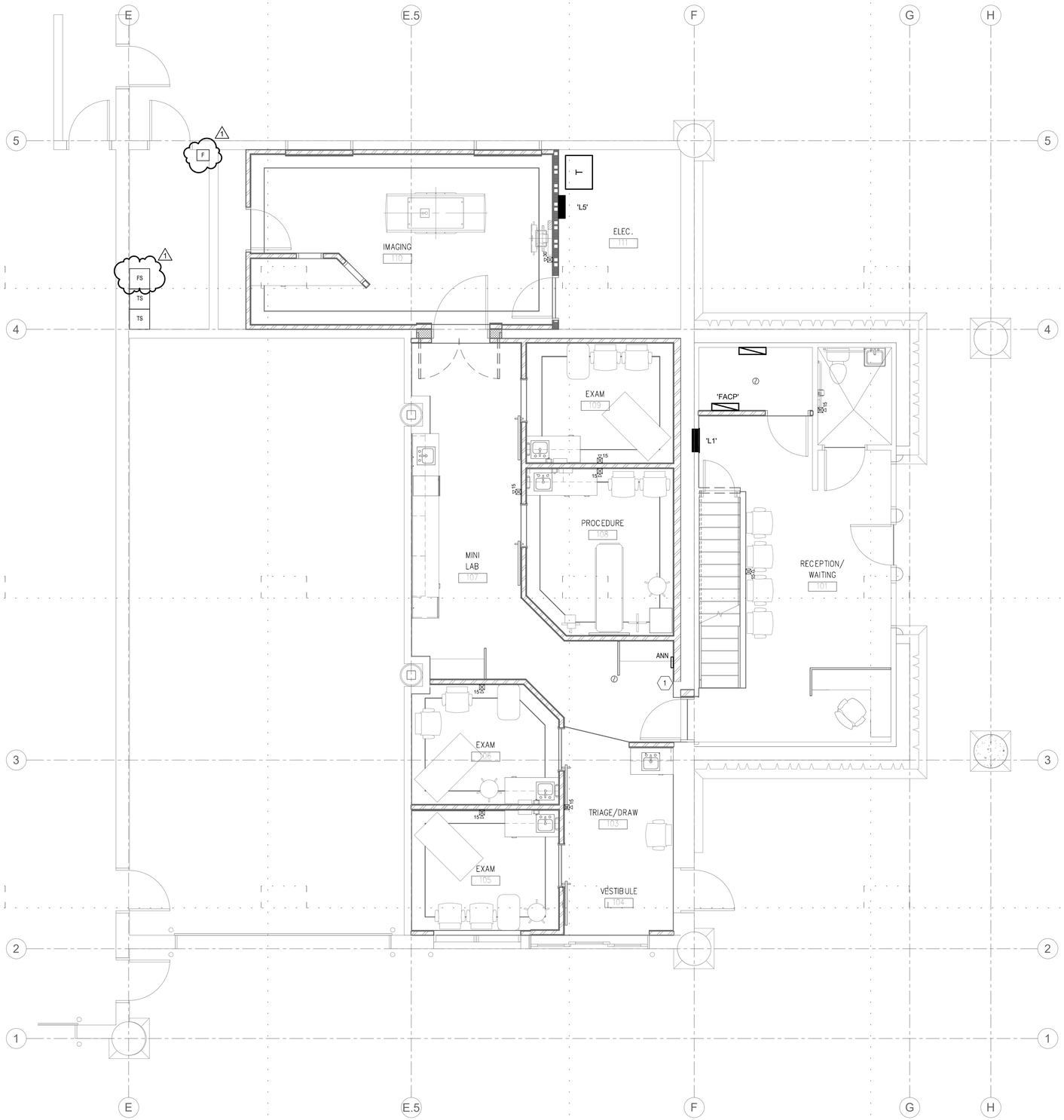

KEYED NOTES

1 PROVIDE FLUSH MOUNTED FIRE ALARM REMOTE ANNUNCIATOR PANEL.

1 / EY101 LEVEL 1 SYSTEMS PLAN
1/4" = 1'-0"

NORTH

JRCA ARCHITECTS
577 South 200 East
S L C, Utah 84111
ph: (801) 533-2100
jrcadesign.com

INTERMOUNTAIN SNOWBASIN CLINIC

3925 SNOW BASIN RD
HUNTSVILLE, UTAH 84317

PROJECT #: 19328

BID DOCUMENTS 07/31/2019		
△	DATE	REVISION
1	8/16/19	ADD. 1

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SYSTEMS PLAN

EY101

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CONDUCTOR & CONDUIT SCHEDULE - COPPER

TYPE	CONDUCTOR					CONDUIT	KEYED
	AMP	SETS	QTY	SIZE	EQ GND	SIZE	NOTES
40-4	40	1	4	8	10	3/4"	1
400-4	400	2	4	#3/O	3	2-1/2"	1

GENERAL NOTES:

- THHN/THWN/THWN-2 FOR 400 KCMIL AND BELOW, XHHW/XHHW-2 FOR 500 KCMIL AND ABOVE.
- GROUND CONDUCTOR SHALL BE DELETED ON SERVICE ENTRANCE CONDUCTORS.
- SIZE ALL CONDUITS IN ACCORDANCE WITH 2014 NEC CHAP 9, TABLE 1.

KEYED NOTES:

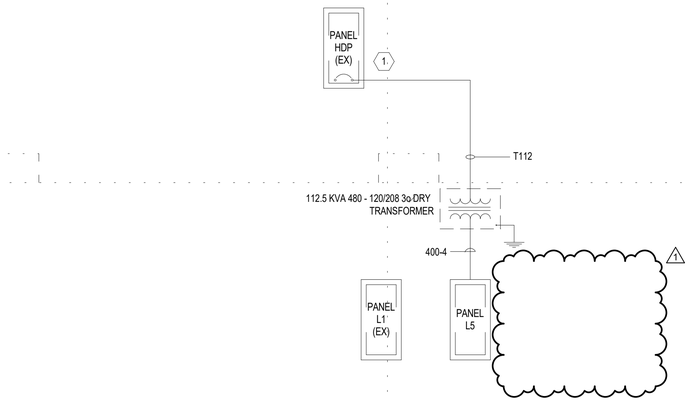
1. REFER TO 2014 NEC 310.16 FOR 75°C RATED COPPER AND 110.14(C)(1)(a) FOR 60°C COPPER.
2. 200% NEUTRAL (OR 2 NEUTRAL CONDUCTORS).
3. AMPACITY DERATED BY 80% DUE TO (4-6) CURRENT CARRYING CONDUCTORS AND IS BASED ON 2017 NEC 310.16 FOR 90°C RATED COPPER.

TRANSFORMER FEEDER SCHEDULE - COPPER

TYPE	KVA	AMPERES		PRIMARY FEEDER			CONDUIT	GND ELECTRODE	
		PRIM	SEC	QTY	SIZE	E.G.	SIZE	SIZE	CONDUIT
T112	112.5	136	312	3	#1/O	6	1-1/2"	#1/O	3/4"

GENERAL NOTES:

- REPRESENTATIVE OF STEP-DOWN DRY-TYPE TRANSFORMERS CONFIGURED TO 480V (DELTA PRIMARY) AND 208Y/120V (WYE SECONDARY), 3 PHASE.
- GROUNDING ELECTRODE CONDUCTOR SHALL BE OF TYPE THHN CU IN EMT CONDUIT.
- SIZE ALL CONDUITS IN ACCORDANCE WITH 2014 NEC CHAP 9, TABLE 1.
- COPPER THW FOR PRIMARY FEEDERS.



1 / EE601 ONE-LINE DIAGRAM

NO SCALE

KEYED NOTES

1 ADD NEW 175A 3P 35,000 A.I.C. CIRCUIT BREAKER IN EXISTING 277/480V 3 PHASE CUTLER HAMMER DISTRIBUTION PANEL.

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ONE-LINE DIAGRAM

EE601

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Branch Panel: L1

Location: Space 52 (EX)
Supply From:
Mounting: Recessed
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 100 A
MCB Rating: 1 A

CKT	Circuit Description	Code	BRK	P	Size	A (VA)		B (VA)		C (VA)		Size	P	BRK	Code	Circuit Description	CKT
1	Lighting Space 101		20 A	1		226	0						--	--		SPACE	2
3	DATA RACK		20 A	1				180	0				--	--		SPACE	4
5	Receptacle Space 101		20 A	1						540	0		--	--		SPACE	6
7	EWH-1		20 A	1		1500	0						--	--		SPACE	8
9	EXISTING LOAD		20 A	1				0	0				--	--		SPACE	10
11	EXISTING LOAD		20 A	1						0	0		--	--		SPACE	12
13	ACO-1		20 A	2		1000	0						--	--		SPACE	14
15								1000	0				--	--		SPACE	16
17	Receptacle		20 A	1						500	0		--	--		SPACE	18
						Total Load:	2726 VA		1180 VA		1040 VA						
						Total Amps:	23 A		10 A		9 A						

Code:

1 = See Drawings For Conduit & Conductor Sizes
2 = Shunt-Trip Breaker
3 = Subfeed Breaker
4 = Provide Lock Off Device
5= GFCI Breaker
6 = GFEP Breaker

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	3500 VA	114.29%	4000 VA		
Receptacle	1220 VA	100.00%	1220 VA	**Total Conn. Load:**	4946 VA
Lighting	226 VA	125.00%	283 VA	**Total Est. Demand:**	5503 VA
				Total Conn.:	14 A
				Total Est. Demand:	15 A

Notes:

Branch Panel: L5

Location: Space 43
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22,000
Mains Type: C/B
Mains Rating: 400 A
MCB Rating: 350 A

CKT	Circuit Description	Code	BRK	P	Size	A		B		C		Size	P	BRK	Code	Circuit Description	CKT
1	Lighting Space 58		20 A	1		990	360						1	20 A		Receptacle MINI LAB	2
3	SPARE		20 A	1				0	1080				1	20 A		Receptacle EXAM 106	4
5	Receptacle Exam 109		20 A	1						720	900		1	20 A		Receptacle EXAM 105	6
7	Receptacle Procedure 108		20 A	1		1440	3500						1	40 A		IWH-2	8
9	Receptacle ULTRACLAVE		20 A	1				180	0				2	20 A		BC-1	10
11	Receptacle MINI LAB		20 A	1						360	0						12
13	Receptacle Space 43		20 A	1		200	1000						2	20 A		HC-3	14
15								4227	1000								16
17	DOAS-1		60 A	3						4227	4227						18
19						4227	4227						3	60 A		CU-1	20
21	IWH-4		40 A	1				3500	4227								22
23	HC-4		20 A	2						1000	0		1	20 A		SPARE	24
25						1000	0						1	20 A		SPARE	26
27	EF-1		20 A	1				156	0				1	20 A		SPARE	28
29	IWH-3		40 A	1						3500	10207						30
31	HC-2		20 A	2		1000	10207						3	125 A		IMAGING JUNCTION BOXES	32
33								1000	10207								34
35	FC-1;2,3,4		20 A	2						494	720		1	20 A		Receptacle Space 58	36
37						494	360						1	20 A		Receptacle Space 58	38
39	HC-1		20 A	2				1000	200				1	20 A		X-RAY EQUIPMENT	40
41										1000	3500		1	40 A		IWH-1	42
						Total Load:	28964 VA		26777 VA		30855 VA						
						Total Amps:	244 A		223 A		260 A						

Code:

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Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	79127 VA	109.67%	86782 VA		
Receptacle	6140 VA	100.00%	6140 VA	**Total Conn. Load:**	86595 VA
Lighting	1183 VA	125.00%	1479 VA	**Total Est. Demand:**	94537 VA
N	180 VA	100.00%	180 VA	**Total Conn.:**	240 A
				Total Est. Demand:	262 A

Notes:

LUMINAIRE SCHEDULE

TYPE	FIXTURE DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLTS	LAMPS QTY	LAMPS TYPE	MOUNTING	DIMMING	VA	NOTES
A	2 X 2 LAY-IN LED FLAT PANEL; 3300 LUMENS; 4000K	METALUX COLUMBIA LITHONIA DAY-BRITE HUBBELL	22FP3240C	120		LED	LAY-IN	0-10V	29	
AE	2 X 2 LAY-IN LED FLAT PANEL; 3300 LUMENS; 4000K; 1400 LUMEN EMERGENCY BATTERY PACK	METALUX COLUMBIA LITHONIA DAY-BRITE HUBBELL	22FP3240C EL14W	120		LED	LAY-IN	0-10V	29	
AF	2 X 2 SURFACE MOUNT LED FLAT PANEL; 3300 LUMENS; 4000K; 2-1/8" MAX DEPTH	METALUX COLUMBIA LITHONIA DAY-BRITE HUBBELL	22FP3240C FPSURF22	120		LED	SURFACE	0-10V	29	
AFE	2 X 2 SURFACE MOUNT LED FLAT PANEL; 3300 LUMENS; 4000K; 1400 LUMEN EMERGENCY BATTERY PACK; 2-1/8" MAX DEPTH	METALUX COLUMBIA LITHONIA DAY-BRITE HUBBELL	22FP3240C EL14W FPSURF22	120		LED	SURFACE	0-10V	29	
B	4' LED LENSED STRIP LIGHT; 4400 LUMENS 4000K; CHAIN HUNG	METALUX COLUMBIA LITHONIA DAY-BRITE HUBBELL	4SLST 4040DD AYC-CHAINSET	120		LED	CHAIN	N/A	40	
C	6" SURFACE LED; 1200 LUMENS; WHITE FINISH; 4000K	HALO	SMD6 R12 940 WH	120		LED	SURFACE	N/A	15.3	
D	2' VANITY LED FIXTURE; 1900 LUMENS; 4000K	COLUMBIA	CWM 2 40 MW SM FR FA E U	120		LED	WALL	N/A	17	
X1	DIECAST LED SINGLE FACE EXIT SIGN; GREEN LETTERS, WHITE FACE, SELF DIAGNOSTICS	SURE-LITES	TPX-7-1-G-WH	120		LED	UNIVERSAL	N/A	1	

Luminaire Schedule General Notes:

1. Refer to Luminaire description for fixture requirements. Manufactures model numbers may not be specific or complete. The contractor is responsible to provide complete fixtures as described on this schedule with all mounting hardware and equipment for a complete installation.
2. Refer to the architectural reflected ceiling drawings for exact fixture locations and ceiling types. Verify exact ceiling types and bring to the attention of the architect and electrical engineer any discrepancies prior to bid. Fixtures shall match architectural ceiling types.
3. Provide all fixture support and seismic bracing to secure fixture to structure, walls and ceiling systems. Refer to mounting details for additional requirements. Provide all pole bases as shown on the details.
4. Prior approval shall be required for all manufactures who are not listed on this schedule. The prior approvals shall be submitted to the electrical engineer (7) working days prior to the bid. Prior approvals received after this time cut-off shall not be reviewed or approved.
5. Submittals for prior approval shall be equivalent to the specified fixtures and reviewed and signed by the principle of the organization that is submitting for approval. Provide complete fixture submittals as listed in the specification. All information that does not apply to the fixture being submitted shall be crossed out. The electrical engineer shall be the final determination if the fixture is equivalent or not.
6. Fixtures that have been reviewed and approved as equivalent to the specified fixtures shall be listed in and addendum prior to bid. Light fixtures without prior approval are rejected and contractor shall base their bid on the approved listed fixtures. A verbal approval will not be given or approved by VBFA at any time.
7. Any additional time required to verify if submitted fixture meets all photometric requirements shall be paid by the agency requesting approval. Photometric point-by-point plans may be required from the agency submitting for approval indicating equivalency.
8. Color temperature for all lamping shall be 4000K unless noted otherwise in the schedule.
9. Verify exact fixture finishes with the architect prior to submittal.
10. Provide minimum 5 year warranty on all light fixtures.
11. LED light fixtures shall meet LM79 and LM80 standards with +50,000 hour L70 lamp life
12. Luminaire shall be listed per NEC 410.6.
13. Lumens specified for fixtures with integral LEDs are total delivered fixture lumens
14. Fixtures identified as emergency on the plans shall be provided with an emergency battery pack or remote inverter with a 1400 lumen output minimum for each emergency fixture.
15. Fluorescent light fixtures shall have programmed start ballasts with less than 10% THD and .78 low ballast factor. Lamps shall be 3100 lumens with 40,000 hour life min.

EQUIPMENT SCHEDULE

TYPE	DESCRIPTION	ELECTRICAL V/PH	LOAD	FLA	WIRE SETS	WIRE QTY	WIRE SIZE	WIRE GND	COND SIZE	OVER CURRENT PROTECTION OCPD/ MOCP	TYPE	DISC SIZE/PL	FUSE SIZE	STR NEMA SIZE	REMARKS
ACI-12	SPLIT SYSTEM	208/1	1 MCA	0.8	1	2	12	12	3/4"	-	C1	-	-	-	4A
ACO-12	SPLIT SYSTEM	208/1	11 MCA	8.8	1	2	12	12	3/4"	20	C1	30/2	15	-	1B
BC-16	BRANCH CONTROLLER	208/1	1.65 MCA	1.3	1	2	12	12	3/4"	20	C1	30/2	3	-	1B
CU-96	CONDENSING UNIT	208/3	44 MCA	35.2	1	3	6	10	1"	60	C1	60/3	60	-	1B
DOAS-1	OUTSIDE AIR UNIT	208/3	44 MCA	35.2	1	3	6	10	1"	60	C1	60/3	60	-	1B
EC-2	ELECTRIC HEAT COIL	208/3	2 KW	5.6	1	3	12	12	3/4"	20	C1	30/3	-	-	2A
EF-1	EXHAUST FAN	120/1	1/6 HP	4.4	1	2	12	12	3/4"	20	C1	-	-	-	4A
EWH-1	ELECTRIC WALL HEATER	120/1	1.5 KW	12.5	1	2	12	12	3/4"	20	C1	-	-	-	4A
FC-6	VRF UNIT	208/1	1.05 MCA	0.8	1	2	12	12	3/4"	20	C1	-	-	-	4A
FC-8	VRF UNIT	208/1	1.05 MCA	0.8	1	2	12	12	3/4"	20	C1	-	-	-	4A
FC-12	VRF UNIT	208/1	1.2 MCA	1.0	1	2	12	12	3/4"	20	C1	-	-	-	4A
FC-15	VRF UNIT	208/1	1.45 MCA	1.2	1	2	12	12	3/4"	20	C1	-	-	-	4A
WH-M	WATER HEATER	120/1	3.5 KW	29.2	1	2	8	10	3/4"	40	C1	-	-	-	4A
WH-S	WATER HEATER	120/1	3.5 KW	29.2	1	2	8	10	3/4"	40	C1	-	-	-	4A
WU-8	VRF UNIT	208/1	0.38 MCA	0.3	1	2	12	12	3/4"	20	C1	-	-	-	4A
WU-12	VRF UNIT	208/1	0.38 MCA	0.3	1	2	12	12	3/4"	20	C1	-	-	-	4A
XR-1	X-RAY GENERATOR	208/3	85 FLA	85.0	1	3	2	6	1-1/4"	125	C1	100/3	100	-	1A

ABBREVIATIONS:

V/PH = VOLTAGE/PHASE
KW = KILOWATTS
W = WATTS
HP = HORSEPOWER
KVA = KILOVOLT AMPERES
VA = VOLT AMPERES
MCA = MINIMUM CIRCUIT AMPACITY
FLA = FULL LOAD AMPERES
GND = GROUND
DISC = DISCONNECT
STR = STARTER
MOCP = MAXIMUM OCPD (LISTED BY THE MANUFACTURER)
COND = CONDUIT
OCPD = OVERCURRENT PROTECTIVE DEVICE
PL = POLE

REMARKS:

1. NEMA 1 FUSED DISCONNECT SWITCH
2. NEMA 1 NON-FUSED DISCONNECT SWITCH
3. BREAKER IN ENCLOSURE
4. MANUAL STARTER WITH THERMAL OVERLOAD
5. MANUAL MOTOR CONTROLLER W/OUT THERMAL OVERLOAD
6. MAGNETIC STARTER
7. MAGNETIC STR/NON-FUSED DISCONNECT COMBINATION
8. MAGNETIC STR/FUSED DISCONNECT COMBINATION
9. NEMA 3R FUSED DISCONNECT SWITCH
10. NEMA 3R NON-FUSED DISCONNECT SWITCH
11. VARIABLE FREQUENCY DRIVE
12. RECEPTACLE/SPECIAL PURPOSE OUTLET/ETC.
13. DIRECT CONNECTION
14. DUCT DETECTOR IN RETURN AIR DUCT
15. CONTROLLED WITH LIGHTS
16. LM-EB DISCONNECT W/CNTRL WIRING TO VFD

REMARKS:

A. FURNISHED, INSTALLED AND CONNECTED UNDER DIVISION 26.
B. FURNISHED AND INSTALLED UNDER ANOTHER DIVISION REQUIRING CONNECTION UNDER DIV 26.
C. FURNISHED UNDER ANOTHER DIVISION BUT INSTALLED AND CONNECTED UNDER DIV 26.
D. FURNISHED, INSTALLED AND CONNECTED UNDER ANOTHER DIVISION.
E. FURNISHED AND INSTALLED UNDER DIV 26 REQUIRING CONNECTION UNDER ANOTHER DIVISION.

OCPD TYPES:

C1 = THERMAL MAGNETIC CIRCUIT BREAKER
C2 = MAGNETIC ONLY CIRCUIT BREAKER
F1 = INDUCTIVE FUSE (CLASS RK5)
F2 = NON-INDUCTIVE FUSE (CLASS RK1)

NOTES:

- THE DIVISION 26 CONTRACTOR MAY INCREASE THE CONDUIT SIZE BY ONE INCREMENTAL SIZE TO FACILITATE INSTALLATION OR TO HELP WITH MATERIAL AVAILABILITY/COST.

GENERAL NOTE: THE EC SHALL COORDINATE ALL REQUIREMENTS (IE: MOCP SIZE, UNIT THERMAL PROTECTION, ETC) WITH APPROVED MECHANICAL SHOP DRAWINGS/ SUBMITTALS AND BRING UP ANY DISCREPANCIES WITH THE ELECTRICAL ENGINEER OF RECORD IN WRITING PRIOR TO ROUGH-IN.

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PANEL SCHEDULES

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