- DRAWING INDEX -

SHEET NUMBER	SHEET NAME	INCLUDED IN 35% SD	INCLUDED IN 65% DD	INCLUDED IN 95% CD	ISSUED FOR CONSTRUCTION
GENERAL					
02G-000	COVER SHEET	Yes	Yes	Yes	Yes
02G-001	DRAWING INDEX	Yes	Yes	Yes	Yes
02G-010	GENERAL PROJECT NOTES	Yes	Yes	Yes	Yes
02G-012	GENERAL INDOOR AIR QUALITY NOTES	Yes	Yes	Yes	Yes
ICRA & LIFE SAFETY					
02ICRA-001	INFECTION CONTROL PLAN & INTERIM LIFE SAFETY - FIRST LEVEL	No	Yes	Yes	Yes
ARCHITECTURAL					
02A-001	ARCHITECTURAL SYMBOLS, & GENERAL NOTES	No	Yes	Yes	Yes
02A-400	ARCHITECTURAL ENLARGED VIEWS - FIRST LEVEL	No	Yes	Yes	Yes
ELECTRICAL					
02E-001	ELECTRICAL ABBREVIATIONS AND SYMBOLS	Yes	Yes	Yes	Yes
02E-100	ELECTRICAL PLAN - BASEMENT & GROUND LEVEL	No	Yes	Yes	Yes
02E-401	ELECTRICAL ENLARGED PLANS	No	Yes	Yes	Yes
02E-402	ELECTRICAL ENLARGED PLANS	No	Yes	Yes	Yes
02E-501	ELECTRICAL DETAILS	Yes	Yes	Yes	Yes
02E-601	ELECTRICAL ONE-LINE DIAGRAMS	Yes	Yes	Yes	Yes
02E-701	ELECTRICAL SCHEDULES	No	Yes	Yes	Yes
02E-901	ELECTRICAL CUTSHEETS & BASIS OF DESIGN	Yes	Yes	Yes	Yes
02E-902	ELECTRICAL CUTSHEETS & BASIS OF DESIGN	No	No	No	Yes
TELECOMMUNICATION					
02T-001	TELECOMMUNICATION ABBREVIATIONS AND SYMBOLS	Yes	Yes	Yes	Yes
02T-101	TELECOMMUNICATION PLAN - GROUND LEVEL	Yes	Yes	Yes	Yes
02T-401	TELECOMMUNICATION ENLARGED PLANS	No	Yes	Yes	Yes
02T-501	TELECOMMUNICATION DETAILS	Yes	Yes	Yes	Yes
02T-502	TELECOMMUNICATION ROOM OIT TEMPLATE DETAILS	No	Yes	Yes	Yes
02T-601	TELECOMMUNICATION RISER DIAGRAMS	Yes	Yes	Yes	Yes
02T-603	TELECOMMUNICATION FIBER RISER DIAGRAM - NEW	No	Yes	Yes	Yes
02T-604	TELECOMMUNICATION RACK ELEVATIONS	Yes	Yes	Yes	Yes
02T-901	TELECOMMUNICATION CUTSHEETS & BASIS OF DESIGN	Yes	Yes	Yes	Yes
REFERENCE					
02R-901	PHOTO REFERENCES	No	Yes	Yes	Yes
02R-902	PHOTO REFERENCES	No	Yes	Yes	Yes
Grand total: 27					

1 02G-011 REMOVED FROM CONSTRUCTION DOCUMENTS

1 02ICRA-001

1 02E-902

1	ADDENDUM #1	03/30/2026
	Revisions:	Date:

CONSULTANT

ARCHITECT/ENGINEER OF RECORD

A/E:
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201 E. Jefferson Street, Suite 200
Syracuse, NY 13202
MAT PERKINS
(315) 484-5958

TRIPLE C - THE A&E GROUP
A MULTI-DISCIPLINE A/E COMPANY

STAMP

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: DRAWING INDEX

Approved:

Phase: ISSUED FOR CONSTRUCTION

FULLY SPRINKLERED

Project Title: (EHRM) INFRASTRUCTURE UPGRADES

Location: 2094 Albany Post Road, Montrose, NY 10548

Issue Date: 06/27/2025

Checked: M. PERKINS

Drawn: K. McDermott

Project Number: 620-22-700

Building Number: 02

Drawing Number: 02G-001

Autodesk Docs://620-22-700 Montrose VAMC EHRM UI/620-22-700.Montrose EHRM.MEP B02.rvt
3/27/2026 11:27:44 PM
VA FORM 08 - 6231

F1 TYPICAL ICRA PRODUCTS
NTS

NOTE:

DEBRIS REMOVAL:
CONFIRM WITH COR FOR FINAL PLAN AND PROCEDURE OF MATERIAL REMOVAL WITH ANTEROOMS, HEPA FILTRATION, ICRA PROTOCOLS, AND ROUTE THRU OCCUPIED SPACES; PRIOR TO REMOVAL OF ANY MATERIALS.

SECURE STAIRWELLS FROM UNAUTHORIZED ENTRY DURING CONSTRUCTION.

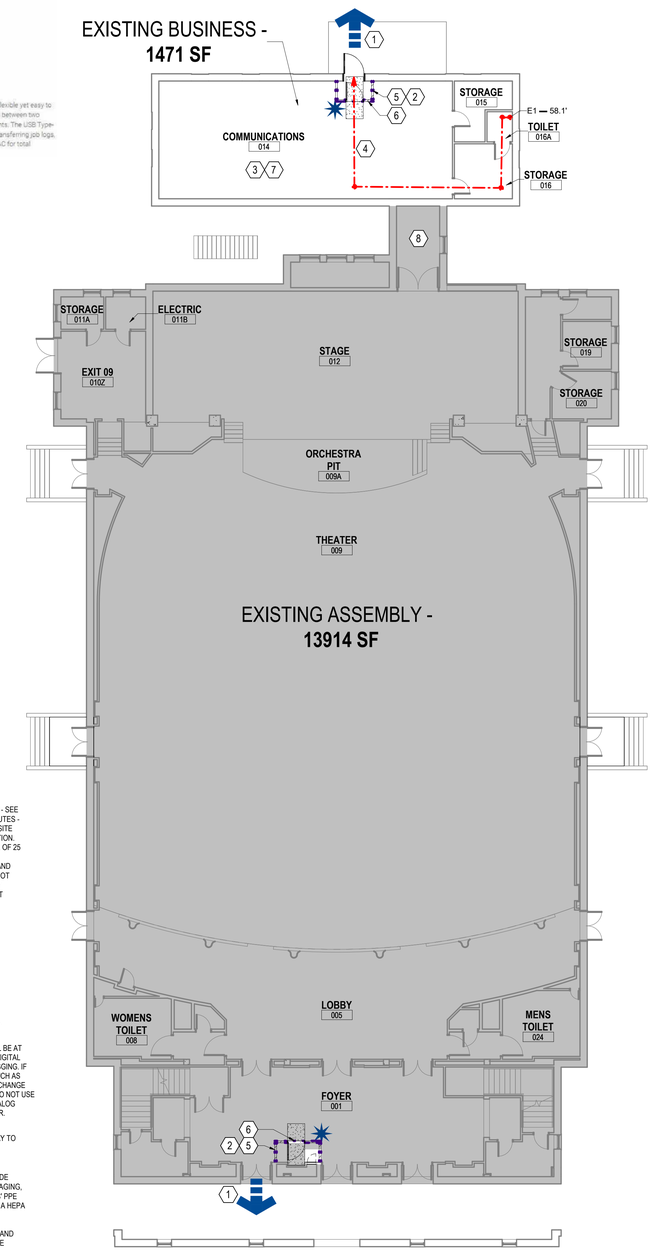
LIFE SAFETY:
NEW WORK DOES NOT CHANGE EXISTING SMOKE COMPARTMENTS, EXIT PATHWAYS, OR EXITS.

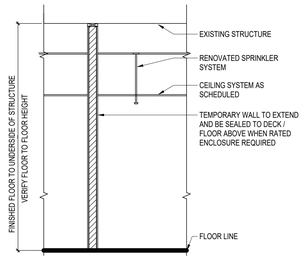
AREA OCCUPANCIES

LEVEL	Name	Area SF	Occupancy (IBC)	Occupancy (NFPA)	OLF	Fixed Seats	OL
			Occupancy Requirements				
FIRST LEVEL	EXISTING ASSEMBLY	13914 SF	A1	Assembly	15 SF	0	928
FIRST LEVEL	EXISTING BUSINESS	1471 SF	B	Business	150 SF	0	10

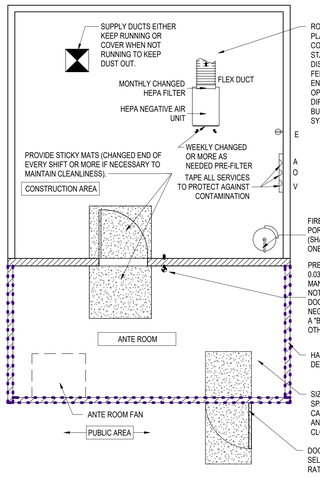
PATH OF TRAVEL SCHEDULE - GROUND FLOOR

Mark	From Room	To Room	Type of Travel Path	Length
GROUND FLOOR (P-o-T) Distance to Exits				
E1	TOILET 016A		(P-o-T) Distance to Exits	58' - 1"





D3 CROSS SECTION A'-A'- CLASS IV
1/2" = 1'-0"



F3 TYPICAL CONSTRUCTION LAYOUT- CLASS IV
1/4" = 1'-0"

F4 INFECTION CONTROL PLAN & INTERIM LIFE SAFETY - FIRST LEVEL
3/32" = 1'-0"

INFECTION CONTROL RISK ASSESSMENT:

TABLE 1: CONSTRUCTION, RENOVATION AND/OR MAINTENANCE ACTIVITY CATEGORY

IDENTIFY THE CATEGORY OF CONSTRUCTION PROJECT
CATEGORY A: INSPECTION AND/OR FACILITY UPKEEP
CATEGORY B: GENERAL MAINTENANCE AND REPAIR WORK
CATEGORY C: SMALL-SCALE CONSTRUCTION, RENOVATION, AND/OR MAINTENANCE
CATEGORY D: LARGE-SCALE CONSTRUCTION, RENOVATION, OR MAINTENANCE

THIS PROJECT: CATEGORY D

TABLE 2: AFFECTED AREA ASSESSMENT

Affected Area Assessment			
AREA	SVC TYPE	POC	POC CONTACT INFO
Activity Area	TR	Walter Hoffman	(914) 208-6275
Area Above	SEE PLAN	Walter Hoffman	(914) 208-6275
Area Below	SEE PLAN	Walter Hoffman	(914) 208-6275
Adjacent Area	SEE PLAN	Walter Hoffman	(914) 208-6275

TABLE 3: PATIENT RISK CATEGORY

IDENTIFY THE PATIENT RISK CATEGORY FOR EACH AREA LISTED IN TABLE 2. OF THE PATIENT RISK CATEGORIES IDENTIFIED, THE ONE WITH THE GREATEST RISK SHALL BE SELECTED AS THE OVERALL PATIENT RISK CATEGORY FOR THE ACTIVITY.
LOW RISK: NON-PATIENT CARE AREAS
MEDIUM RISK: PATIENT CARE SUPPORT AREAS
HIGH RISK: PATIENT CARE AREAS
HIGHEST RISK: PROCEDURAL, INVASIVE, STERILE SUPPORT AND HIGLY COMPROMISED PATIENT CARE AREAS

THIS PROJECT: LOW RISK

TABLE 4: LEVEL OF INFECTION PREVENTION AND CONTROL PRECAUTIONS

MATCH THE OVERALL PATIENT RISK CATEGORY WITH THE PLANNED CONSTRUCTION PROJECT CATEGORY ON THE FOLLOWING MATRIX, TO FIND THE CLASS OF PRECAUTIONS (I, II, III OR IV) OR LEVEL OF INFECTION CONTROL ACTIVITIES REQUIRED.

THIS PROJECT: CATEGORY III

Construction Activity Category				
RISK GROUP	A	B	C	D
LOW RISK	I	II	II	III
MEDIUM RISK	I	II	III	IV
HIGH RISK	I	II	IV	IV
HIGHEST RISK	II	III	IV	IV

TABLE 5: REQUIRED INFECTION PREVENTION AND CONTROL MEASURES BY LEVEL OF PRECAUTIONS
NOTE: LIST IS CUMULATIVE FROM CLASS I THROUGH CLASS IV)

CLASS I
1. Perform work activity in a manner that does not create dust
2. Immediately replace ceiling tile, close access panels, etc. upon completion
3. Any materials and equipment being brought into the facility must be free of contaminants and loose material

CLASS II
4. Provide active means to control airborne dust from dispersing into occupied areas and/or water mist surface to control dust (e.g., Mobile Dust Containment Cart or some other system)Ensure worker clothing is clean and free of visible dust before leaving the work area
5. Remove or isolate air diffusers (supply and return) to protect the HVAC system from dust and reduce air turbulence. Rebalance system to address diffuser isolation
6. When the work involves or impacts potable water systems including stagnation due to reduced usage, the piping shall be flushed twice a week or isolated from the main system
7. Seal doors to prevent dust migration
8. Contain all trash and debris in the work area. Perform daily cleaning and disposal of trash (covered) from work area using an identified exit route.
9. Any equipment, tools, or materials removed from the work area must be in sealed containers and/or cleaned of dust and debris prior to removal from the area
10. Nonporous/smooth and cleanable containers (with a hard lid) must be used to transport trash and debris from the construction areas. These containers must be damp-wiped cleaned and free of visible dust/debris before leaving the contained work area
11. Install a sticky (dust collection) mat at entrance of contained work area based on facility policy. Sticky mats just be changed routinely and when visibly soiled.
12. Maintain clean surroundings when area is not contained by damp mopping or HEPA vacuuming surfaces at least daily

CLASS III
13. Ensure availability of equipment for cleaning hands
14. Construct and complete critical barriers meeting NFPA 241 requirements. Barriers must extend to the ceiling or if ceiling tile is removed, to deck above
15. All (plastic or hard) barrier construction activities must be completed in a manner that prevents dust release. Plastic barriers must be effectively affixed to floor and ceiling (or floor/roof deck above) and secure from movement or damage.
16. Seal all penetrations in containment barriers, including floors and ceiling, using approved materials (UL schedule firestop if applicable for barrier type)
17. Maintain .01 inches /water gauge negative pressurization of the entire workspace by use of HEPA exhaust air systems directed outdoors, or comply with the alternative method outlined in Appendix A of this document These control measures must be maintained continuously 24/7 for the duration of the project. HEPA filtered exhaust if discharged directly to the outdoors must be at a istance of 25 feet or greater from entrances, air intakes and operable windows. Exhausting discharged air into shared or recirculating HVAC systems, or other shared exhaust systems (e.g., bathroom exhaust) is prohibited
18. Install a differential pressure sensing device (e.g., magnehelic, manometer or digital monitoring) on exterior of work containment to continually monitor and document negative pressurization. The "ball in the wall" or similar apparatus are not acceptable

CLASS IV
19. Barriers must be hard barriers unless temporary to install final barrier.
20. Containment must include an anteroom to ensure pressure control. Anteroom must be large enough for equipment staging, cart cleaning, workers' PPE and cleaning.
21. Worker clothing and/or PPE must be removed or clean and free of visible dust before leaving the work area anteroom. HEPA vacuuming of clothing or use of cover suits is acceptable
22. Workers must wear shoe covers or have a method to clean shoes in anteroom. Shoe covers must be removed prior to exiting the anteroom to the occupied space (non-work area). Damaged shoe covers must be changed immediately.

CLASS I & IV

TABLE 6: MINIMUM INFECTION PREVENTION AND CONTROL MEASURES REQUIRED UPON COMPLETION OF THE ACTIVITY

Construction areas must be inspected by an infection preventionist and engineering representative (and others as determined by the facility) for final activity/project close out and removal of infection prevention and control measures

Work Area Cleaning:
1. Clean work areas including all environmental surfaces, high horizontal surfaces and flooring materials
2. Check all supply and return air registers for dust accumulation on upper surfaces as well as air diffuser surfaces

Removal of Critical Barriers:
1. Critical barriers must remain in place during all work involving drywall removal, creation of dust and activities beyond simple touch-up work. The barrier may NOT be removed until a work area cleaning has been performed. Additional cleaning may be needed after removal of barrier
2. All (plastic or hard) barrier removal activities must be completed in a manner that prevents dust release. Use the following precautions when removing hard barriers:
   A. Carefully remove screws and painter tape.
   B. If dust will be generated during screw removal, use hand-held HEPA vacuum.
   C. Drywall cutting is prohibited during removal process
   D. Clean all stud tracks with HEPA vacuum before removing outer hard barrier
   E. Use a plastic barrier to enclose area if dust could be generated

Negative Air Requirements:
1. The use of negative air must be designated to remove contaminants from the work area
2. Negative air devices (fans, filters, monitoring and documentation equipment) must remain operational at all times and in place for a period after completion of dust creating activities to remove contaminants from the work area and before removal of critical barriers.

HVAC Systems:
1. Upon removal of critical barriers, remove isolation of HVAC system in areas where work is being performed
2. Verify that HVAC systems are clean and operational.
3. Verify and document through a TAB the HVAC systems meets original airflow and air exchange design specifications

Water Systems:
1. Until the potable water system is activated and in use, flushing shall continue at least twice per week in accordance with VHA directive 1061.

ICRA SYMBOL LEGEND

(#) KEYNOTES

1 DEBRIS REMOVAL PATH TO EXTERIOR - COORDINATE REMOVAL OF MATERIALS ON THIS FLOOR WITH VA COR. PROVIDE CONSTRUCTION DUMPSTER 35'-0" MIN. FROM ANY BUILDING. DUMPSTER AND ANY CONTRACTOR LAY-DOWN AREA IS TO BE SURROUNDED BY 6'-0" HIGH TEMPORARY FENCING. PROVIDE TRASH CART FOR REMOVAL OF WASTE FROM JOB SITE AREA DAILY.
2 PROVIDE TEMPORARY DUST TIGHT BARRIER AROUND WORK AREA DURING ANY ACTIVITIES WHICH PRODUCE DUST, TYPICAL.
3 EXISTING TELECOM ROOM TO REMAIN
4 EXIT PATHWAY
5 TEMPORARY CONSTRUCTION BARRIER - COORDINATE WITH COR TO PROVIDE BARRIER FOR 48 HRS MAX DURING REMOVAL AND REPLACEMENT OF DOOR. COORDINATE WORK WHEN BUILDING IS UNOCCUPIED TO ENSURE EXITING IS MAINTAINED AT ALL OTHER TIMES.
6 TEMPORARY CONSTRUCTION BARRIER DOOR WITH CLOSER AND LATCH AND WALK OFF MATS
7 MAINTAIN EXIT PATHWAYS AT ALL TIMES
8 SOLID GRAY HATCH DENOTES LIMITED WORK AREA - SEE MEP AND TELECOM DRAWINGS FOR CABLING SCOPE, TYP.

ICRA NOTES:

A. IMPLEMENT INFECTION CONTROL RISK ASSESSMENT (ICRA) PROCEDURES AS PER THE MONTROSE VA ICRA PLAN AND AS DIRECTED BY THE CONTRACTING OFFICER REPRESENTATIVE (COR).
B. COORDINATE ALL DEMOLITION/ CONSTRUCTION DEBRIS PATH OF TRAVEL AND INTERIM LIFE SAFETY MEASURES (ILSM) WITH THE COR. ALL INTERIOR DOORS THAT LEAD TO THE CONSTRUCTION SITE SHALL BE POSTED AS PER THE ILSM PLAN.
C. OBTAIN INFECTION CONTROL PERMIT PRIOR TO BEGINNING WORK.
D. THE ONE HOUR FIRE RATED CONSTRUCTION BARRIERS SHALL BE CONSTRUCTED PRIOR TO BEGINNING OTHER WORK.
E. CONSTRUCT ANTEROOM AT ENTRANCES TO CONSTRUCTION AREAS AND REQUIRE ALL CONSTRUCTION PERSONNEL TO PASS THROUGH THIS ROOM TO BE VACUUMED WITH HEPA VACUUM CLEANER PRIOR TO LEAVING THE SITE.
F. FIRE PROTECTION SYSTEMS SHALL REMAIN FUNCTIONAL FOR OCCUPIED AREAS ON THE FLOOR.
G. PROVIDE FIRE EXTINGUISHERS IN CONSTRUCTION AREAS; REVIEW WITH COR AND VA SAFETY GROUP.
H. MAINTAIN EXIT LIGHTS IN CONSTRUCTION AREA.
I. MAINTAIN NEGATIVE AIR PRESSURE IN CONSTRUCTION AREA AT ALL TIMES (24/7), WHETHER OCCUPIED OR NOT, THROUGHOUT DURATION OF PROJECT USING HEPA EQUIPPED AIR FILTRATION UNITS.
J. CONSTRUCTION AREA SHALL REMAIN ISOLATED FROM THE OTHER AREAS OF THE MEDICAL CENTER; NO RETURN AIR OR EXHAUST SHALL PASS INTO THE AREAS OUTSIDE THE CONSTRUCTION AREA. ISOLATE HVAC SYSTEM WITHIN CONSTRUCTION AREA TO PREVENT CONTAMINATION OF EXISTING DUCT SYSTEM.
K. REDIRECT ALL MEDICAL CENTER PERSONNEL, PATIENTS AND VISITORS SO THEY DO NOT EXIT THROUGH THE CONSTRUCTION AREA. PROVIDE SIGNS ON DOORS INTO THE CONSTRUCTION AREA THAT READS: "CONSTRUCTION AREA-DO NOT ENTER".
L. GENERAL CONTRACTOR SHALL MAINTAIN DAILY LOGS AND KEEP A CURRENT HOT WORK PERMIT ON SITE.
M. TACKY MATS SHALL BE PLACED AT ALL DOORS INTO THE CONSTRUCTION AREA AND SHALL BE MONITORED TO MAKE SURE THEY REMAIN EFFECTIVE.
N. MAINTAIN A CLEAN AND ORDERLY CONSTRUCTION AREA. ALL DEBRIS REMOVAL SHALL BE IN COVERED CARTS AND/OR CONTAINERS.
O. SEAL ALL HOLES, PUNCTURES, AND PENETRATIONS FROM PIPES AND CONDUITS APPROPRIATELY AND IMMEDIATELY TO MAINTAIN DUST PROTECTION AND NEGATIVE AIR PRESSURE.
P. MAINTAIN STAFFING AND EQUIPMENT INCLUDING DUST MOPS, WET MOPS, BROOMS, BUCKETS AND CLEAN WIPING RAGS FOR CLEANING FINE DUST FROM FLOORS AND ADJACENT OCCUPIED AREAS. ANY DUST TRACKED OUTSIDE OF CONSTRUCTION AREA SHALL BE CLEANED IMMEDIATELY.
Q. AFTER COMPLETION OF WORK: VACUUM CONSTRUCTION AREA WITH HEPA FILTERED VACUUMS, WET MOP WITH DISINFECTANT, REMOVE CONSTRUCTION BARRIERS (UPON APPROVAL). PATCH OR REPAIR ANY DAMAGE FROM CONSTRUCTION BARRIER REMOVAL AND REMOVE ISOLATION OF HVAC SYSTEM.
R. CONSTRUCTION BARRIERS SHALL NOT BE REMOVE UNTIL PROJECT IS COMPLETED AND INSPECTED BY VA SAFETY PERSONNEL, INFECTION CONTROL GROUP, AND COR.

MINOR INTERIOR RENOVATION IN EXISTING BUSINESS

STEP 1: OCCUPANCY AREAS - SEE PLAN
IDENTIFY SPECIFIC SITE OF ACTIVITY, FOR EXAMPLE, PATIENT ROOMS, MEDICATION ROOM, AND SO ON.

TECHNOLOGY AND ELECTRICAL FOCUSED WORK -

STEP 2: MINIMAL PLUMBING OR MECHANICAL IMPACT
IDENTIFY ISSUES RELATED TO: VENTILATION, PLUMBING, AND ELECTRICAL IN TERMS OF THE OCCURRENCE OF PROBABLE OUTAGES.

TEMPORARY WALLS TO BE 1-HR RATED - PREFABRICATED

STEP 3: WALLS / DOOR PREFERRED
IDENTIFY CONTAINMENT MEASURES, USING PRIOR ASSESSMENT. WHAT TYPES OF BARRIERS (FOR EXAMPLE, SOLIDS WALLS)? WILL HEPA FILTRATION BE REQUIRED?
NOTE: *RENOVATION/CONSTRUCTION AREA SHALL BE ISOLATED FROM THE OCCUPIED AREAS DURING CONSTRUCTION AND SHALL BE NEGATIVE WITH RESPECT TO SURROUNDING AREAS.*

STEP 4: COORDINATE WITH VA COR ON PATIENT CARE FLOORS. CONSIDER POTENTIAL RISK OF WATER DAMAGE. IS THERE A RISK DUE TO COMPROMISING STRUCTURAL INTEGRITY (FOR EXAMPLE, WALL, CEILING, ROOF)?

STEP 5: AFTER-HOURS WORK TO BE COORDINATED WITH VA COR
WORK HOURS: CAN OR WILL THE WORK BE DONE DURING NON-PATIENT-CARE HOURS?

STEP 6: N/A
DO PLANS ALLOW FOR ADEQUATE NUMBER OF ISOLATION/NEGATIVE AIRFLOW ROOMS?

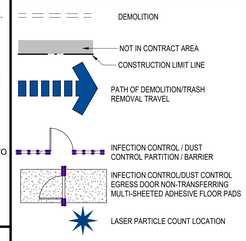
STEP 7: N/A
DO THE PLANS ALLOW FOR THE REQUIRED NUMBER AND TYPE OF HAND-WASHING SINKS?

STEP 8: N/A
DOES THE INFECTION PREVENTION AND CONTROL STAFF AGREE WITH THE MINIMUM NUMBER OF SINKS FOR THIS PROJECT? (VERIFY AGAINST FACILITY GUIDELINES INSTITUTE (FGI) DESIGN AND CONSTRUCTION GUIDELINES FOR TYPES AND AREA.)

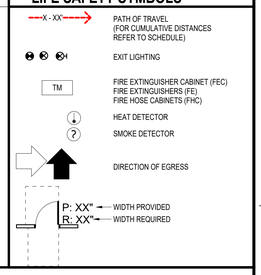
STEP 9: N/A
DOES THE INFECTION PREVENTION AND CONTROL STAFF AGREE WITH THE PLANS RELATIVE TO CLEAN AND SOILED UTILITY ROOMS?

STEP 10: YES
PLAN TO DISCUSS THE FOLLOWING CONTAINMENT ISSUES WITH THE PROJECT TEAM. FOR EXAMPLE, TRAFFIC FLOW, HOUSEKEEPING, DEBRIS REMOVAL (HOW AND WHEN).

ICRA SYMBOLS



LIFE SAFETY SYMBOLS



BUILDING CODE:

BUILDING OCCUPANCY TYPE:
EXISTING - BUSINESS OCCUPANCY
6.1.14.1.3 Where incidental to another occupant, areas used as follows shall be permitted to be considered part of the predominant occupancy and shall be subject to the provisions of the Code that apply to the predominant occupancy:
(1) Mercantile, BUSINESS, industrial, or storage use
6.1.14.3 Mixed Occupancies
6.1.14.3.2 The building shall comply with the most restrictive requirements of the occupancies involved, unless separate safeguards are approved.
Table 6.1.14.4.1 (a) - separation of occupancies - 2 Hr between Health Care and Business

6.2 Hazard of Contents.
6.2.1.3 For the purpose of this Code, where difference degrees of hazard of contents exist in different parts of a building or structure, the most hazardous shall govern the classification, unless hazardous areas are separated or protected as specified in Section 6.7 and the applicable sections of Chapters 11 through 43.

EXIT ACCESS TRAVEL DISTANCE:
39.2.6.2 The travel distance between any point in a room and an exit shall not exceed 200 ft.
39.2.6.3 The maximum travel distance...shall not exceed 300 ft in buildings protected throughout by an approved automatic sprinkler system in accordance with Section 9.7.
BUSINESS OCCUPANCY; PROTECTED = 300'-0"

OCCUPANT LOAD:
39.1.7 Occupant Load. The occupant load, in number of persons for whom means of egress and other provisions are required, shall be determined on the basis of the occupant load factors of Table 7.3.1.2 that are characteristic of the use of the space, or shall be determined as the maximum probable population of the space under consideration, whichever is greater.

MEANS OF EGRESS:
39.2.3 Capacity of Means of Egress.
39.2.3.1 The capacity of any required means of egress shall be determined in accordance with the provisions Section 7.3.
39.2.3.2 The clear width of any corridor or passageway serving an occupant load of 50 or more shall not be less than 44 in. (1120 mm).

39.2.4 Number of Means of Egress.
39.2.4.1 Means of egress shall comply with all of the following: except as permitted by 39.2.4.2-6
1) the number of means of egress shall be in accordance with section 7.4
2) not less than two separate exits shall be provided on every story.
3) Not less than two separate exits shall be accessible from every part of every story.

39.2.5.3 In building protected throughout by and approved supervised automatic sprinkler system, Dead-end corridors shall not exceed 50 ft.

PROTECTION FROM HAZARDS:
39.3.2 Protection from Hazards.
39.3.2.1 Hazardous Areas - Any hazardous areas shall be protected in accordance with Section 8.7
39.3.2.2 The following areas shall be considered hazardous areas and shall be protected by fire barriers having a minimum 1-hour fire resistance rating in accordance with Section 8.3:
(1) Boilder and fuel-fired heater rooms
(2) Central/bulk laundries larger than 100 ft2
(3) Paint Shops
(4) Physical plant maintenance shops
(5) Rooms with soiled linen in volume exceeding 64 gal
(6) Rooms with collected trashed in volume exceeding 64 gal.
(7) Storage rooms larger than 100 ft2 and storing combustible material
The following areas shall be considered hazardous areas and shall be protected by smoke partitions in accordance with Section 8.4:
(1) Laboratories employing flammable or combustible materials in quantities less than those that would be considered a severe hazard.
(2) Storage rooms larger than 50 ft2 but not exceeding 100 ft2 and storing combustible material.
39.3.2.5 Medical Gas. Medical gas storage shall be in accordance with Section 8.7 and the provisions of NFPA 99, Health Care Facilities Code, applicable to operation, maintenance, and testing.
39.3.5 Portable fire extinguishers shall be provided in all health care occupancies facilities in accordance with Section 9.9.

PARKING SUMMARY:
NO ADDITIONAL PARKING ADDED

APPLICABLE BUILDING CODES
- 2024 NFPA 101 LIFE SAFETY CODE & 2025 NFPA 72 NATIONAL FIRE ALARM AND SIGNALING CODE & 2025 NFPA 13 STANDARD FOR INSTALLATION OF SPRINKLER SYSTEMS. EXCEPTION OF NFPA 5000 AND NFPA 900
- 2024 INTERNATIONAL MECHANICAL CODE (IPC)
- OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS.
- VA SEISMIC DESIGN REQUIREMENTS, H-18-8
- 2026 NATIONAL ELECTRICAL CODE (NEC)
- 2024 INTERNATIONAL PLUMBING CODE (IPC)
- ASME BOILER AND PRESSURE VESSEL CODE
- ASME CODE FOR PRESSURE PIPING
- ARCHITECTURAL BARRIERS ACT ACCESSIBILITY STANDARDS (ABAAS) INCLUDING VA SUPPLEMENT, BARRIER FREE DESIGN GUIDE (PG-18-13)
- BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, AMERICAN CONCRETE INSTITUTE AND COMMENTARY (ACI 318)
- MANUAL OF STEEL CONSTRUCTION, LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)
- ENERGY POLICY ACT OF 2005 (EPACT)
- DOE INTERIM FINAL RULE: ENERGY CONSERVATION STANDARDS FOR NEW FEDERAL, COMMERCIAL AND MULTI-FAMILY HIGH-RISE RESIDENTIAL BUILDINGS AND NEW LOW-RISE RESIDENTIAL BUILDINGS, 10 CFR PARTS 433, 434 AND 435
- FEDERAL LEADERSHIP IN HIGH PERFORMANCE AND SUSTAINABLE BUILDINGS: MEMORANDUM OF UNDERSTANDING (MOU)
- EXECUTIVE ORDER 13423: STRENGTHENING FEDERAL ENVIRONMENTAL, ENERGY, AND TRANSPORTATION MANAGEMENT
- THE PROVISIONS FOR CONSTRUCTION AND SAFETY SIGNS. STATED IN THE GENERAL REQUIREMENTS SECTION 01 00 00 AND 01 35 26 OF THE VA MASTER CONSTRUCTION SPECIFICATION.
- VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY – ASHRAE STANDARD 62.1-2025, MEDICAL SPACES - ASHRAE 170-2025, NON-MEDICAL SPACES - ASHRAE 62.1-2025
- SAFETY STANDARD FOR REFRIGERATION SYSTEMS – ASHRAE STANDARD 15
- 2024 INTERNATIONAL BUILDING CODE (IBC) WHERE DIRECTED BY VA STANDARDS

UNLESS NOTED OTHERWISE, CURRENT EDITION OF APPLICABLE STANDARD OR CODE SHALL BE USED

APPLICABLE BUILDING GUIDES
- VA FIRE PROTECTION DESIGN GUIDE, 9TH EDITION (2023)

CONSTRUCTION TYPE:
TYPE II **(222)** PER NFPA 220, Chapter 4
TYPE OF BUILDING REHABILITATION: **MODIFICATION**, CHAPTER 43.

FIRE RESISTIVE CONSTRUCTION (NFPA 220 Table 4.1.1)
FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS:

STRUCTURAL FRAME	2 HOURS
NON-BEARING WALLS	0 HOURS
BEARING WALLS	2 HOURS
FLOORS	2 HOURS
ROOFS/ CEILINGS	1 HOURS

FIRE RESISTIVE CONSTRUCTION FOR OCCUPANCY (VA & NFPA 101)
FIRE RESISTANCE RATING REQUIREMENTS FOR SPACES BY FUNCTION:

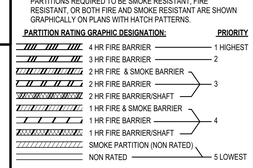
ELECTRICAL CLOSETS	(DEPENDENT ON EQUIPMENT SIZE)
SMOKE COMPARTMENTS	1/2 HOUR
SOILED UTILITY ROOMS	1 HOUR
VERTICAL SHAFTS / STAIRS	2 HOURS
MEDICAL GAS / HAZARDOUS STORAGE	1 HOUR

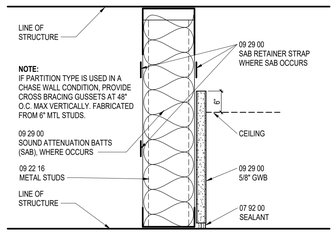
CLASSIFICATION OF OCCUPANCY:
EXISTING: **BUSINESS** Occupancy per Chapter 39
39.1.1.6 Where construction, alteration, or demolition operations are conducted, the provisions of 4.6.10.2 shall apply
39.1.2 Business occupancies shall include all buildings and structures or parts thereof with occupancy defined in 6.1.11

PROTECTION OF VERTICAL OPENINGS:
39.3.1 Protection of Vertical Openings.
39.3.1.1 Any vertical opening shall be enclosed or protected in accordance with Section 8.6, unless otherwise permitted.

PARTITION RATING GRAPHICS:

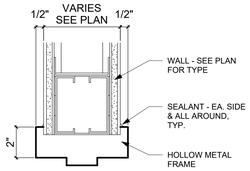
PARTITIONS REQUIRED TO BE SMOKE RESISTANT, FIRE RESISTANT, OR BOTH FIRE AND SMOKE RESISTANT ARE SHOWN GRAPHICALLY ON PLANS WITH HATCH PATTERNS.



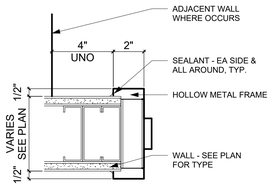


(TYPE J) NON-RATED PARTITION

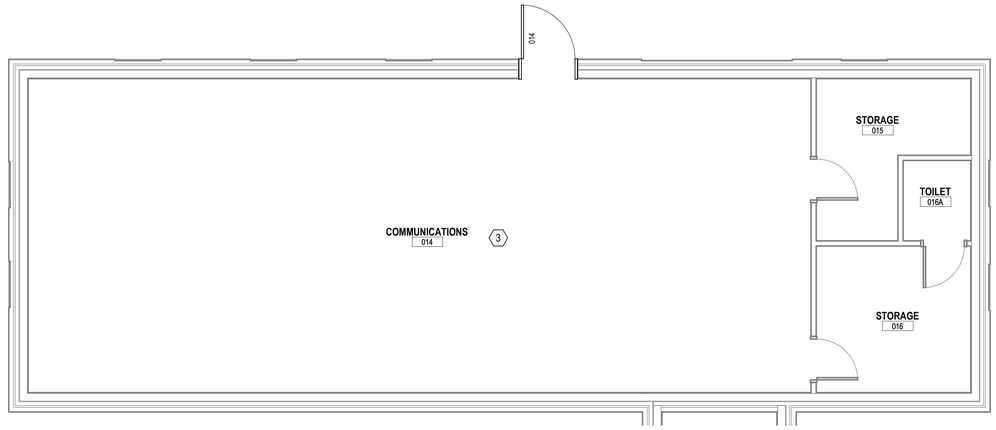
MARK	STUD WIDTH	PRTN WIDTH	DESIGN STC



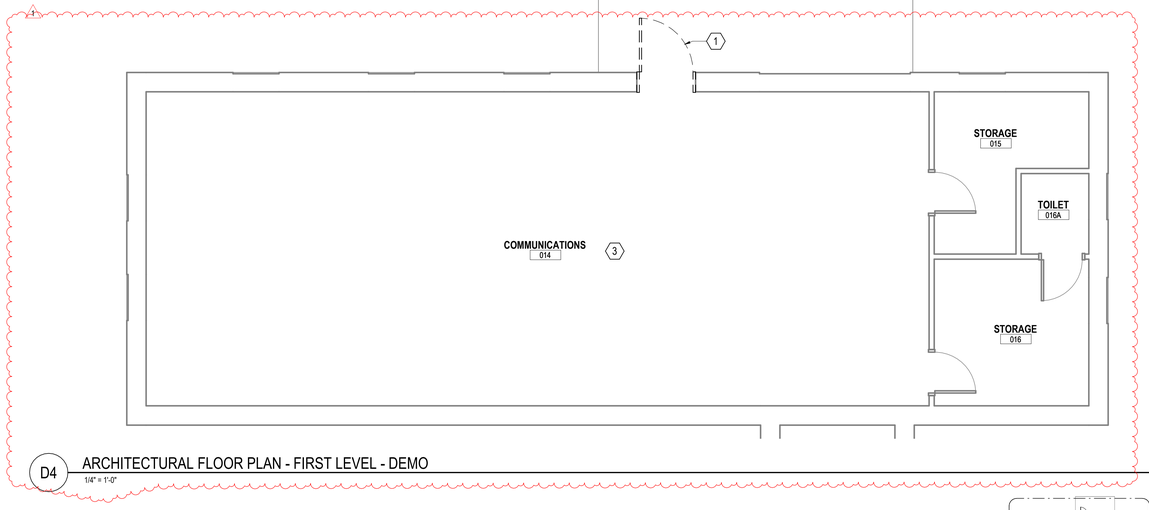
C1 HOLLOW METAL HEAD DETAIL
3" = 1'-0"



D1 HOLLOW METAL JAMB DETAIL
3" = 1'-0"



B4 ARCHITECTURAL FLOOR PLAN - FIRST LEVEL - NEW
1/4" = 1'-0"



D4 ARCHITECTURAL FLOOR PLAN - FIRST LEVEL - DEMO
1/4" = 1'-0"

DOOR AND FRAME SCHEDULE

IDENTIFICATION				DIMENSIONS			FRAME					PANEL				DETAIL			FIRE RATING	HARDWARE		NOTES
LEVEL	ROOM NO.	ROOM NAME	DOOR NO.	W1	H	T	TYPE	MATERIAL	FINISH	GLAZING	UNDERCUT	TYPE	MATERIAL	FINISH	HEAD	JAMB	SILL			GROUP	ELECTRICAL	
GROUND FLOOR	014	COMMUNICATIONS	014	3' - 0"	8' - 0"	1 3/4"	F	HM	PTD	NONE	3/8"	1	HM	PTD	C1/ 02A-400	D1/ 02A-400	-		-	HW-SH-3F	SEE SPEC	1

1. SEE SPECIFICATION 08 71 00 FOR DOOR HARDWARE REQUIREMENTS. COORDINATE WITH ELECTRICAL.

DOOR HARDWARE LEGEND

HW-SH-3F	**Secured Access Door -** Storeroom Locking (F07 Lockset) with Closer, Overhead Stop, Alarm Contact, Card Reader

ACCESS DOOR SCHEDULE

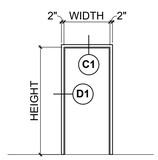
LEVEL	ROOM NAME	ROOM NUMBER	DESCRIPTION	TYPE
GROUND FLOOR	FOYER	001	Drywall Access Door	Removable Door - Screwdriver Cam Latch 1'. 24"X24" SIZE

DOOR TYPE ELEVATIONS

E

FLUSH

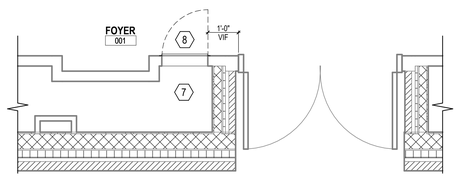
FRAME TYPE ELEVATIONS



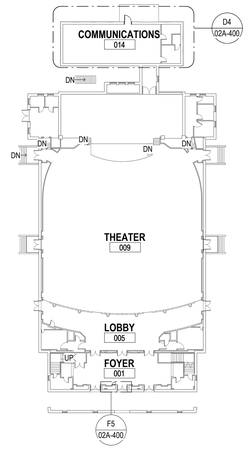
1

TYPICAL FRAME

F1 DOOR AND FRAME TYPES ELEVATIONS
1/4" = 1'-0"



F5 FIRST LEVEL CHASE - FOYER - ROOM 001
1/2" = 1'-0"



F7 FIRST LEVEL REFERENCE PLAN
1/32" = 1'-0"

SHEET SYMBOL LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE DEMOLISHED
- NEW CONSTRUCTION, WITH PARTITION TYPE (A1)
- NO SCOPE

GENERAL NOTES

A. SEE GENERAL NOTES AND PLANS FOR TYPICAL GENERAL PROJECT REQUIREMENTS AND PROJECT LOCATION DRAWINGS.
B. SEE INTERIOR FINISH DRAWINGS FOR ADDITIONAL FINISHES INFORMATION.
C. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL SYSTEMS INFORMATION.
D. NEW TELECOM ROOMS SHALL COMPLY WITH THE LATEST VA PHYSICAL SECURITY STANDARDS, AND CAMPUS STANDARDS.
E. SEE TYPICAL WALL FRAMING DETAILS ON SHEET A-511.
F. SEE TYPICAL HEAD OF WALL DETAIL ON SHEET A-512.
G. SEE TYPICAL CEILING DETAILS ON SHEET A-531
H. PROVIDE TEMPORARY AIR TIGHT BARRIER AROUND WORK AREA DURING ANY ACTIVITIES WHICH PRODUCE DUST, TYPICAL.

KEYNOTES

1 REMOVE EXISTING DOOR AND FRAME
3 EXISTING TELECOM ROOM TO REMAIN
7 IF EXISTING CHASE DOES NOT HAVE CAPACITY, NEW CHASE TO BE BUILT. COR TO DETERMINE WHERE NEW CHASE SHALL BE BUILT.
8 ACCESS DOOR PER SPECIFICATION, COR TO CONFIRM LOCATION AND MOUNTING HEIGHT.

PARTITION RATING GRAPHICS:

PARTITIONS REQUIRED TO BE SMOKE RESISTANT, FIRE RESISTANT, OR BOTH FIRE AND SMOKE RESISTANT ARE SHOWN GRAPHICALLY ON PLANS WITH HATCH PATTERNS.

PARTITION RATING GRAPHIC DESIGNATION:	PRIORITY
4 HR FIRE BARRIER	1 HIGHEST
3 HR FIRE BARRIER	2
2 HR FIRE & SMOKE BARRIER	3
2 HR FIRE BARRIER	
2 HR FIRE BARRIER/SHAFT	
1 HR FIRE & SMOKE BARRIER	4
1 HR FIRE BARRIER	
1 HR FIRE BARRIER/SHAFT	
SMOKE PARTITION (NON RATED)	
NON RATED	5 LOWEST

1	ADDENDUM #1	03/30/2026
#	Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ARCHITECTURAL ENLARGED VIEWS - FIRST LEVEL

Approved:

Phase: ISSUED FOR CONSTRUCTION

FULLY SPRINKLERED

Project Title: (EHRM) INFRASTRUCTURE UPGRADES

Location: 2094 Albany Post Road, Montrose, NY 10548

Issue Date: 06/27/2025 | Checked: M. Perkins | Drawn: K. McDermott

Project Number: 620-22-700

Building Number: 02

Drawing Number: 02A-400

VA FORM 08 - 6231

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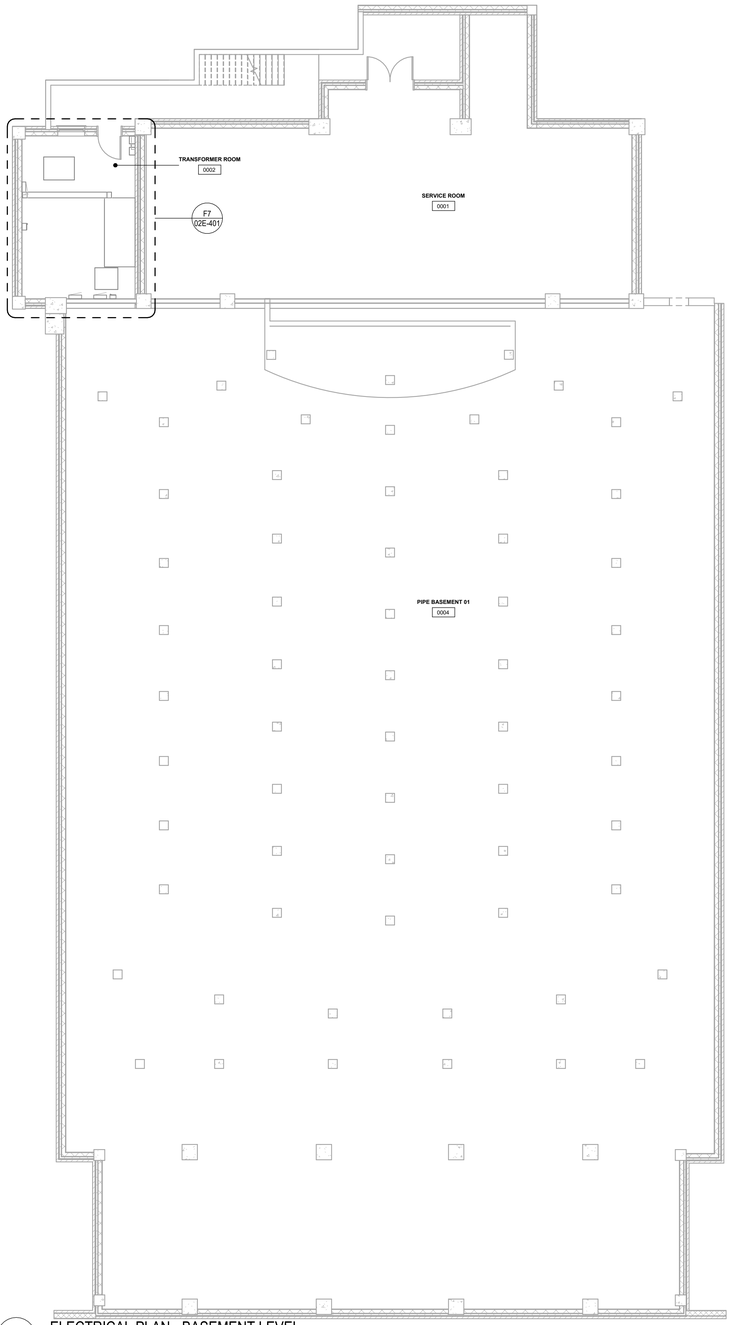
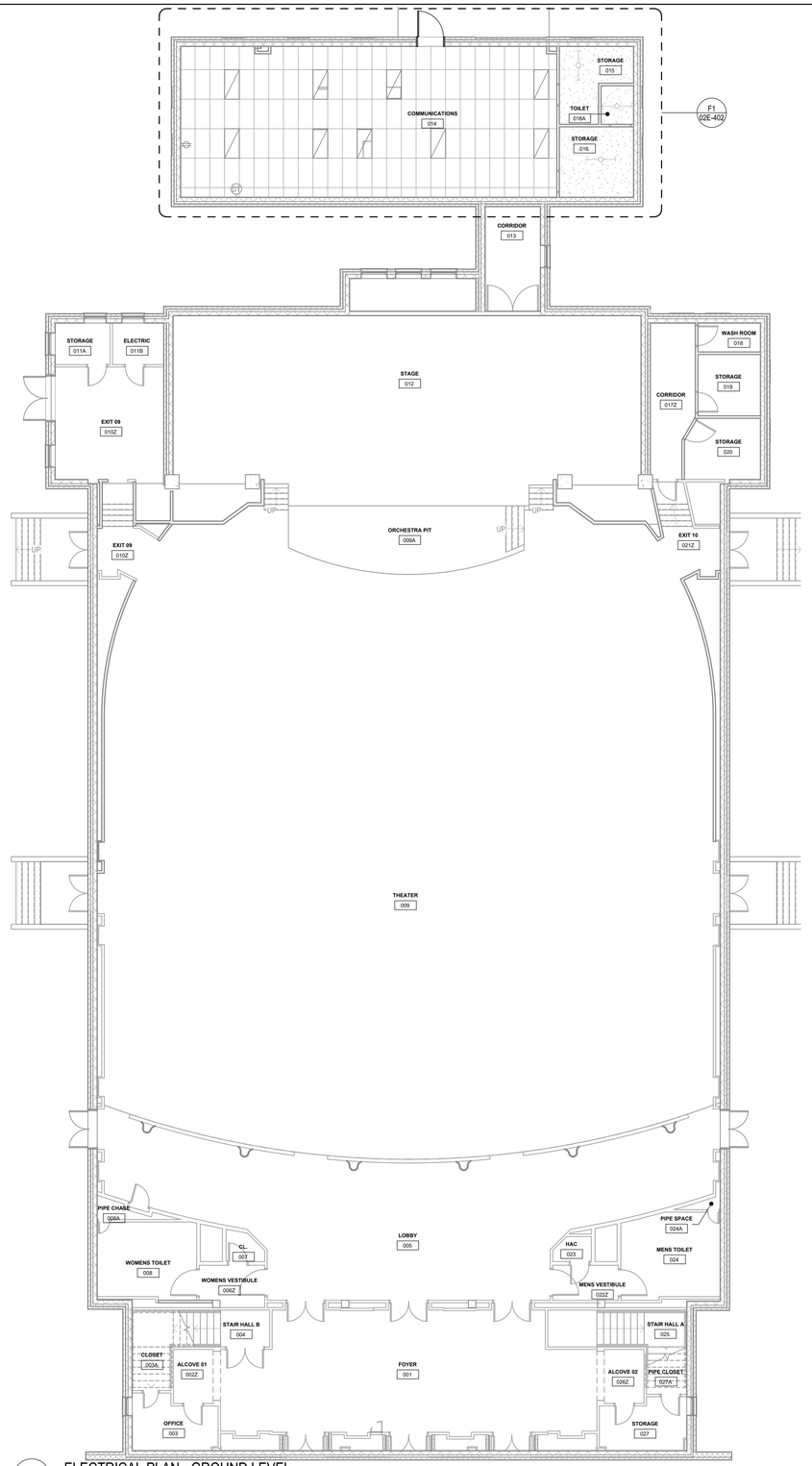


F2 ELECTRICAL PLAN - BASEMENT LEVEL
1/8" = 1'-0"



F6 ELECTRICAL PLAN - GROUND LEVEL
1/8" = 1'-0"

GENERAL NOTES

A. CONTRACTOR SHALL COORDINATE ALL EQUIPMENT, DUCTWORK AND PIPING WITH STRUCTURAL, MECHANICAL, AND ELECTRICAL SYSTEMS AND SHALL PROVIDE NECESSARY OFFSETS TO AVOID CONFLICTS AND TO MAINTAIN REQUIRED EQUIPMENT ACCESS AND SERVICEABILITY.
B. EXISTING CONDITIONS ARE BASED ON EXISTING PLANS AND FIELD VERIFICATION WHERE FEASIBLE. CONSTRUCTION AREA CONDITIONS MAY DIFFER FROM THOSE INDICATED.
C. MINIMUM BRANCH CIRCUIT SIZE SHALL BE 2#12, 1#12G., 3/4"C.
D. CONTRACTOR SHALL COORDINATE FINAL POINT OF CONNECTIONS WITH VA COR PRIOR TO ROUGH-IN.
E. PROVIDE NEMA 3R ENCLOSURES FOR EQUIPMENT INSTALLED OUTDOORS.
F. SIZE BRANCH CIRCUITS AND FEEDERS TO EQUIPMENT PER PANEL SCHEDULE AND FEEDER AND BRANCH CIRCUIT SIZING TABLE ON E-701.
G. COORDINATE FINAL EQUIPMENT CONNECTIONS AT EQUIPMENT WITH EQUIPMENT SUPPLIER, PRIOR TO ROUGH-IN.
H. LABEL DEVICE PLATES WITH A PERMANENT ADHESIVE LABEL LISTING PANEL AND CIRCUIT FEEDING THE WIRING DEVICE.
I. UPDATE PANEL SCHEDULES AFFECTED BY RENOVATION.
J. NEW CIRCUIT BREAKERS PROVIDED SHALL MATCH THE EXISTING TYPE OF CIRCUIT BREAKERS IN PANEL BEING RENOVATED.
K. CONTRACTOR SHALL FIELD COORDINATE CABLE TRAY LAYOUT WITH EXISTING UTILITIES ROUTED THROUGH THE RENOVATED SPACE.
L. CONTRACTOR SHALL COMPLY WITH NEC 300.22 FOR CONDUIT ROUTED IN PLENUM SPACES.
M. REFER TO E-901 FOR CUTSHEETS.
N. COMPLY WITH NEC 220.87 FOR ALL 30-DAY LOAD MEASUREMENTS OF PANELBOARDS.
O. LOCATE DISCONNECT SWITCHES TO MAINTAIN WORKING CLEARANCES PER NEC 110.26.
P. CONTRACTOR SHALL LABEL ALL JUNCTION BOX COVERS WITH THE CIRCUITS CONTAINED AND SOURCE PANEL IDENTIFIED.

KEYNOTES

NOTE: NOT ALL KEYNOTES ARE USED ON EACH SHEET

1. PROVIDE NEW 16" x 4" BONDING BAR, SET OF INSULATORS STAND-OFF BRACKETS, AND STAINLESS STEEL SCREWS. PROVIDE ALL GROUNDING CABLE AND CONNECTORS AND INSTALL PER TYPICAL DETAIL ON T-500 SERIES SHEETS.
2. PROVIDE ONE NEW EMERGENCY AND ONE NEW NORMAL POWER BRANCH 120/208 TPST CIRCUIT BREAKER FED FROM ABOVE FOR EACH RACK UPS CIRCUIT. PROVIDE NEW CONDUIT, CONDUCTORS, AND DEVICES TO SUPPLY EACH NEW RECEPTACLE. SEE T-500 SERIES SHEETS FOR MORE DETAILS.
3. NEW NORMAL POWER RECEPTACLE, SEE PANEL SCHEDULE FOR ADDITIONAL INFORMATION.
4. NEW EMERGENCY POWER RECEPTACLE, SEE PANEL SCHEDULE FOR ADDITIONAL INFORMATION.
5. NEW GFCI WET LOCATION RATED SERVICE RECEPTACLE. PROVIDE WITH A WEATHERPROOF, EXTRA-DUTY, IN-USE COVER PER NFPA 70E.
6. PROVIDE AND INSTALL NEW JOHNSON CONTROLS iSTAR EDGE G2 IP-BASED ACCESS CONTROL PANEL. PROVIDE LIFESAFETY POWER (LSP) PSX UNIFIED ENCLOSURE WITH INTEGRATED BACKUP BATTERIES PROVIDING A MINIMUM OF 4 HOURS OF STANDBY POWER. PROVIDE A DEDICATED 20A, 120VAC CIRCUIT IN ACCORDANCE WITH NEC AND MANUFACTURER'S RECOMMENDATIONS. COORDINATE FINAL PROGRAMMING AND INTEGRATION WITH THE C-CURE 9000 EVENT MANAGEMENT SYSTEMS.
7. PROVIDE NEW ACCESS CONTROL PER SPECIFICATIONS. FIPS, FICAM AND HSPD12 COMPLIANT. CARD READER WITH PINPAD CARD, PIV READY.
8. PROVIDE 30-DAY LOAD MEASUREMENT OF PANELBOARD CIRCUITS AND SUBMIT THE REPORT TO THE COR AND AE PRIOR TO COMMENCEMENT OF PANELBOARD RENOVATION.
9. UNLESS OTHERWISE NOTED, REMOVE ALL EXISTING ELECTRICAL DEVICES ASSOCIATED WITH THE AREA OF WORK FROM ENDPOINT DEVICE TO ASSOCIATED SOURCE PANEL TO PREPARE THE SPACE FOR RENOVATION. ALL DEVICES / CIRCUITS NOT ASSOCIATED WITH THE LOCAL DEMOLITION SHALL BE PROTECTED AND ENSURE THAT CIRCUITS REMAIN IN SERVICE AS PER CONDITIONS PRIOR TO DEMOLITION. ALL DEMOLITION / PHASING SHALL BE COORDINATED WITH THE VA COR.
10. EXISTING PANELBOARD TO REMAIN. PROTECT IN PLACE.
11. EXISTING LIGHT FIXTURE TO REMAIN. PROTECT IN PLACE.
12. EXISTING RECEPTACLE TO REMAIN. PROTECT IN PLACE.
13. EXISTING EQUIPMENT TO REMAIN. PROTECT IN PLACE
14. PROVIDE NEW WALL MOUNTED TELECOMMUNICATION ENCLOSURE CABINET, WITH LOCKABLE FRONT DOOR AND SWING-OUT REAR ACCESS TO EQUIPMENT.
15. PROVIDE NEW CIRCUIT BREAKERS AND FEEDERS SERVICING NEW TELECOM EQUIPMENT. REFER TO SHEETS E-601 & E-701 FOR SIZING.
16. NEW A/B REDUNDANT L5-20 20A OUTLETS WITH INTEGRATED TYPE 3 SPD DEVICES.
17. EXISTING LIGHT SWITCH TO REMAIN. PROTECT IN PLACE.
18. VERTICAL ROUTE FOR TELECOM RISER. SEE ALL FLOOR PENETRATIONS TO MAINTAIN FIRE RATING.

PN TN

#	Revisions:	Date:
1	ADDENDUM #1	03/30/2026

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ELECTRICAL PLAN - BASEMENT & GROUND LEVEL

Approved:

Phase: ISSUED FOR CONSTRUCTION

FULLY SPRINKLERED

Project Title: (EHRM) INFRASTRUCTURE UPGRADES

Location: 2094 Albany Post Road, Montrose, NY 10548

Issue Date: 06/27/2025 | Checked: M. Perkins | Drawn: J. Castenir

Project Number: 620-22-700

Building Number: 02

Drawing Number: 02E-100

Autodesk Docs://620-22-700 Montrose VAMC EHRM IU/620-22-700 Montrose EHRM MEP_B02.rvt
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GENERAL NOTES

A. CONTRACTOR SHALL COORDINATE ALL EQUIPMENT, DUCTWORK AND PIPING WITH STRUCTURAL, MECHANICAL, AND ELECTRICAL SYSTEMS AND SHALL PROVIDE NECESSARY OFFSETS TO AVOID CONFLICTS AND TO MAINTAIN REQUIRED EQUIPMENT ACCESS AND SERVICEABILITY.
B. EXISTING CONDITIONS ARE BASED ON EXISTING PLANS AND FIELD VERIFICATION WHERE FEASIBLE. CONSTRUCTION AREA CONDITIONS MAY DIFFER FROM THOSE INDICATED.
C. MINIMUM BRANCH CIRCUIT SIZE SHALL BE 2#12, 1#12G., 3/4"C.
D. CONTRACTOR SHALL COORDINATE FINAL POINT OF CONNECTIONS WITH VA COR PRIOR TO ROUGH-IN.
E. PROVIDE NEMA 3R ENCLOSURES FOR EQUIPMENT INSTALLED OUTDOORS.
F. SIZE BRANCH CIRCUITS AND FEEDERS TO EQUIPMENT PER PANEL SCHEDULE AND FEEDER AND BRANCH CIRCUIT SIZING TABLE ON E-701.
G. COORDINATE FINAL EQUIPMENT CONNECTIONS AT EQUIPMENT WITH EQUIPMENT SUPPLIER, PRIOR TO ROUGH-IN.
H. LABEL DEVICE PLATES WITH A PERMANENT ADHESIVE LABEL LISTING PANEL AND CIRCUIT FEEDING THE WIRING DEVICE.
I. UPDATE PANEL SCHEDULES AFFECTED BY RENOVATION.
J. NEW CIRCUIT BREAKERS PROVIDED SHALL MATCH THE EXISTING TYPE OF CIRCUIT BREAKERS IN PANEL BEING RENOVATED.
K. CONTRACTOR SHALL FIELD COORDINATE CABLE TRAY LAYOUT WITH EXISTING UTILITIES ROUTED THROUGH THE RENOVATED SPACE.
L. CONTRACTOR SHALL COMPLY WITH NEC 300.22 FOR CONDUIT ROUTED IN PLENUM SPACES.
M. REFER TO E-901 FOR CUTSHEETS.
N. COMPLY WITH NEC 220.87 FOR ALL 30-DAY LOAD MEASUREMENTS OF PANELBOARDS.
O. LOCATE DISCONNECT SWITCHES TO MAINTAIN WORKING CLEARANCES PER NEC 110.26.
P. CONTRACTOR SHALL LABEL ALL JUNCTION BOX COVERS WITH THE CIRCUITS CONTAINED AND SOURCE PANEL IDENTIFIED.

KEYNOTES

NOTE: NOT ALL KEYNOTES ARE USED ON EACH SHEET

1. PROVIDE NEW 16" x 4" BONDING BAR, SET OF INSULATORS STAND-OFF BRACKETS, AND STAINLESS STEEL SCREWS. PROVIDE ALL GROUNDING CABLE AND CONNECTORS AND INSTALL PER TYPICAL DETAIL ON T-500 SERIES SHEETS.
2. PROVIDE ONE NEW EMERGENCY AND ONE NEW NORMAL POWER BRANCH 120/208 TPST CIRCUIT BREAKER FED FROM ABOVE FOR EACH RACK UPS CIRCUIT. PROVIDE NEW CONDUIT, CONDUCTORS, AND DEVICES TO SUPPLY EACH NEW RECEPTACLE. SEE T-500 SERIES SHEETS FOR MORE DETAILS.
3. NEW NORMAL POWER RECEPTACLE, SEE PANEL SCHEDULE FOR ADDITIONAL INFORMATION.
4. NEW EMERGENCY POWER RECEPTACLE, SEE PANEL SCHEDULE FOR ADDITIONAL INFORMATION.
5. NEW GFCI WET LOCATION RATED SERVICE RECEPTACLE. PROVIDE WITH A WEATHERPROOF, EXTRA-DUTY, IN-USE COVER PER NFPA 70E.
6. PROVIDE AND INSTALL NEW JOHNSON CONTROLS iSTAR EDGE G2 IP-BASED ACCESS CONTROL PANEL. PROVIDE LIFESAFETY POWER (LSP) PSX UNIFIED ENCLOSURE WITH INTEGRATED BACKUP BATTERIES PROVIDING A MINIMUM OF 4 HOURS OF STANDBY POWER. PROVIDE A DEDICATED 20A, 120VAC CIRCUIT IN ACCORDANCE WITH NEC AND MANUFACTURER'S RECOMMENDATIONS. COORDINATE FINAL PROGRAMMING AND INTEGRATION WITH THE C-CURE 9000 EVENT MANAGEMENT SYSTEMS.
7. PROVIDE NEW ACCESS CONTROL PER SPECIFICATIONS. FIPS, FICAM AND HSPD12 COMPLIANT. CARD READER WITH PINPAD CARD, PIV READY.
8. PROVIDE SOURCE CONFIRMATION OF PROTECTION FOR CIRCUITS AND THE REPORT TO THE COR AND AE PRIOR TO COMMENCEMENT OF PANELBOARD RENOVATION.
9. UNLESS OTHERWISE NOTED, REMOVE ALL EXISTING ELECTRICAL DEVICES ASSOCIATED WITH THE AREA OF WORK FROM ENDPOINT DEVICE TO ASSOCIATED SOURCE PANEL TO PREPARE THE SPACE FOR RENOVATION. ALL DEVICES / CIRCUITS NOT ASSOCIATED WITH THE LOCAL DEMOLITION SHALL BE PROTECTED AND ENSURE THAT CIRCUITS REMAIN IN SERVICE AS PER CONDITIONS PRIOR TO DEMOLITION. ALL DEMOLITION / PHASING SHALL BE COORDINATED WITH THE VA COR.
10. EXISTING PANELBOARD TO REMAIN. PROTECT IN PLACE.
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14. PROVIDE NEW WALL MOUNTED TELECOMMUNICATION ENCLOSURE CABINET, WITH LOCKABLE FRONT DOOR AND SWING-OUT REAR ACCESS TO EQUIPMENT.
15. PROVIDE NEW CIRCUIT BREAKERS AND FEEDERS SERVICING NEW TELECOM EQUIPMENT. REFER TO SHEETS E-401 & E-701 FOR SIZING.
16. NEW A/B REDUNDANT L5-20 20A OUTLETS WITH INTEGRATED TYPE 3 SPD DEVICES.
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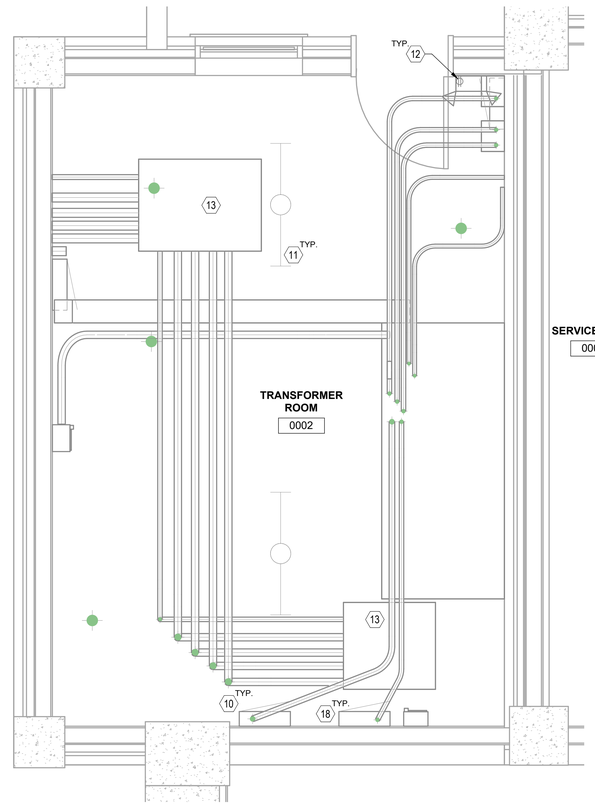
18. VERTICAL ROUTE FOR TELECOM RISER. SEE ALL FLOOR PENETRATIONS TO MAINTAIN FIRE RATING.



F7 ELECRICAL ENLARGED PLAN - BASEMENT LEVEL - RM002 - EXISTING
SCALE: 1/2" = 1'-0"

PN TN

1	ADDENDUM #1	03/30/2026
	Revisions:	Date:

CONSULTANT

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ELECTRICAL ENLARGED PLANS

Approved:

Phase: ISSUED FOR CONSTRUCTION

FULLY SPRINKLERED

Project Title: (EHRM) INFRASTRUCTURE UPGRADES

Location: 2094 Albany Post Road, Montrose, NY 10548

Issue Date: 06/27/2025

Checked: M. Perkins

Drawn: J. Castenir

Project Number: 620-22-700

Building Number: 02

Drawing Number: 02E-401

Autodesk Docs://620-22-700 Montrose VAMC EHRM IU/620-22-700 Montrose EHRM MEP B02.rvt
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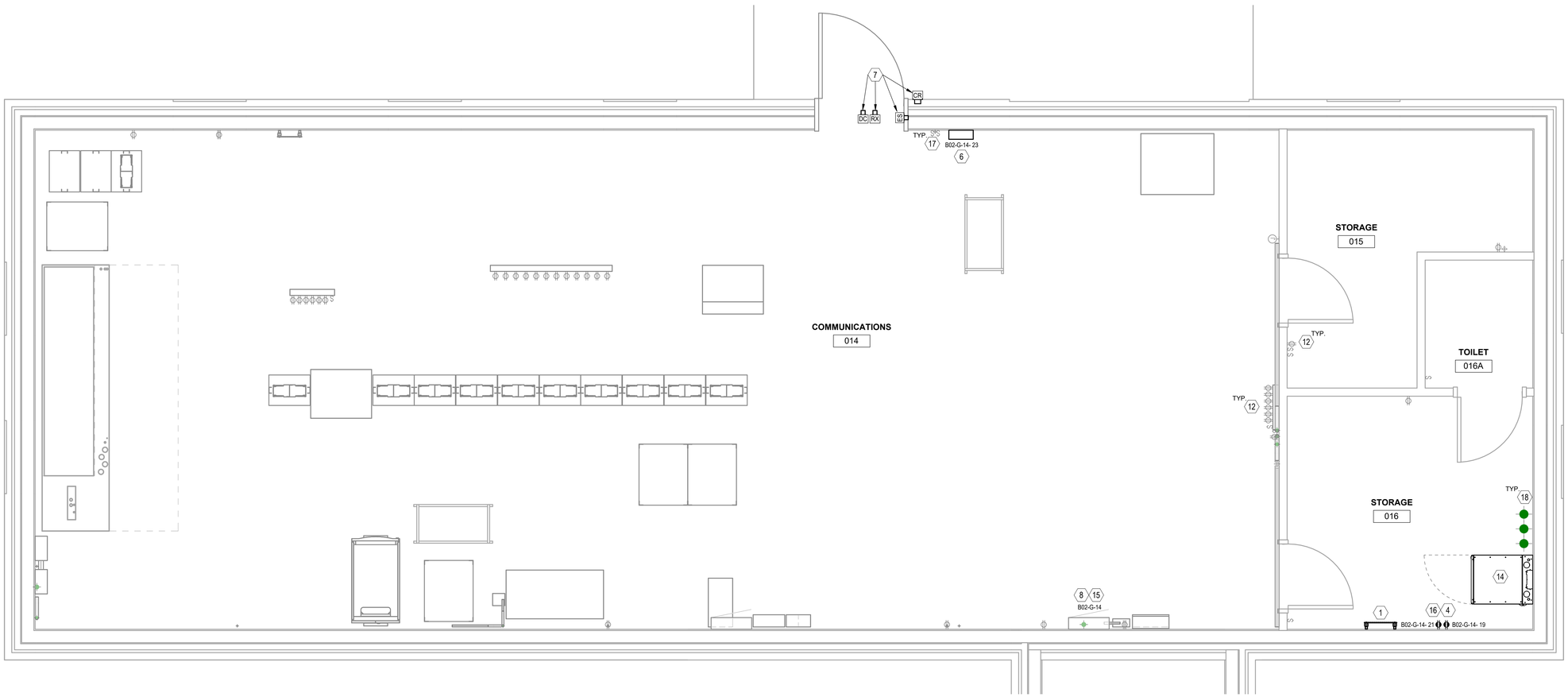

F1 ELECRICAL ENLARGED PLAN - GROUND LEVEL - RM014 - EXISTING

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

GENERAL NOTES

A. CONTRACTOR SHALL COORDINATE ALL EQUIPMENT, DUCTWORK AND PIPING WITH STRUCTURAL, MECHANICAL, AND ELECTRICAL SYSTEMS AND SHALL PROVIDE NECESSARY OFFSETS TO AVOID CONFLICTS AND TO MAINTAIN REQUIRED EQUIPMENT ACCESS AND SERVICEABILITY.
B. EXISTING CONDITIONS ARE BASED ON EXISTING PLANS AND FIELD VERIFICATION WHERE FEASIBLE. CONSTRUCTION AREA CONDITIONS MAY DIFFER FROM THOSE INDICATED.
C. MINIMUM BRANCH CIRCUIT SIZE SHALL BE 2#12, 1#12G., 3/4"C.
D. CONTRACTOR SHALL COORDINATE FINAL POINT OF CONNECTIONS WITH VA COR PRIOR TO ROUGH-IN.
E. PROVIDE NEMA 3R ENCLOSURES FOR EQUIPMENT INSTALLED OUTDOORS.
F. SIZE BRANCH CIRCUITS AND FEEDERS TO EQUIPMENT PER PANEL SCHEDULE AND FEEDER AND BRANCH CIRCUIT SIZING TABLE ON E-701.
G. COORDINATE FINAL EQUIPMENT CONNECTIONS AT EQUIPMENT WITH EQUIPMENT SUPPLIER, PRIOR TO ROUGH-IN.
H. LABEL DEVICE PLATES WITH A PERMANENT ADHESIVE LABEL LISTING PANEL AND CIRCUIT FEEDING THE WIRING DEVICE.
I. UPDATE PANEL SCHEDULES AFFECTED BY RENOVATION.
J. NEW CIRCUIT BREAKERS PROVIDED SHALL MATCH THE EXISTING TYPE OF CIRCUIT BREAKERS IN PANEL BEING RENOVATED.
K. CONTRACTOR SHALL FIELD COORDINATE CABLE TRAY LAYOUT WITH EXISTING UTILITIES ROUTED THROUGH THE RENOVATED SPACE.
L. CONTRACTOR SHALL COMPLY WITH NEC 300.22 FOR CONDUIT ROUTED IN PLENUM SPACES.
M. REFER TO E-901 FOR CUTSHEETS.
N. COMPLY WITH NEC 220.87 FOR ALL 30-DAY LOAD MEASUREMENTS OF PANELBOARDS.
O. LOCATE DISCONNECT SWITCHES TO MAINTAIN WORKING CLEARANCES PER NEC 110.26.
P. CONTRACTOR SHALL LABEL ALL JUNCTION BOX COVERS WITH THE CIRCUITS CONTAINED AND SOURCE PANEL IDENTIFIED.

KEYNOTES

NOTE: NOT ALL KEYNOTES ARE USED ON EACH SHEET

1. PROVIDE NEW 16" x 4" BONDING BAR, SET OF INSULATORS STAND-OFF BRACKETS, AND STAINLESS STEEL SCREWS. PROVIDE ALL GROUNDING CABLE AND CONNECTORS AND INSTALL PER TYPICAL DETAIL ON T-500 SERIES SHEETS.
2. PROVIDE ONE NEW EMERGENCY AND ONE NEW NORMAL POWER BRANCH 120/208 TPST CIRCUIT BREAKER FED FROM ABOVE FOR EACH RACK UPS CIRCUIT. PROVIDE NEW CONDUIT, CONDUCTORS, AND DEVICES TO SUPPLY EACH NEW RECEPTACLE. SEE T-500 SERIES SHEETS FOR MORE DETAILS.
3. NEW NORMAL POWER RECEPTACLE, SEE PANEL SCHEDULE FOR ADDITIONAL INFORMATION.
4. NEW EMERGENCY POWER RECEPTACLE, SEE PANEL SCHEDULE FOR ADDITIONAL INFORMATION.
5. NEW GFCI WET LOCATION RATED SERVICE RECEPTACLE. PROVIDE WITH A WEATHERPROOF, EXTRA DUTY, IN USE COVER PER NFPA 70E.
6. PROVIDE AND INSTALL NEW JOHNSON CONTROLS iSTAR EDGE G2 IP-BASED ACCESS CONTROL PANEL. PROVIDE LIFESAFETY POWER (LSP) PSX UNIFIED ENCLOSURE WITH INTEGRATED BACKUP BATTERIES PROVIDING A MINIMUM OF 4 HOURS OF STANDBY POWER. PROVIDE A DEDICATED 20A, 120VAC CIRCUIT IN ACCORDANCE WITH NEC AND MANUFACTURER'S RECOMMENDATIONS. COORDINATE FINAL PROGRAMMING AND INTEGRATION WITH THE C-CURE 9000 EVENT MANAGEMENT SYSTEMS.
7. PROVIDE NEW ACCESS CONTROL PER SPECIFICATIONS. FIPS, FICAM AND HSPD12 COMPLIANT. CARD READER WITH PINPAD CARD, PIV READY.
8. PROVIDE 30-DAY LOAD MEASUREMENT OF PANELBOARD AND SUBMIT THE REPORT TO THE COR AND AE PRIOR TO COMMENCEMENT OF PANELBOARD RENOVATION.
9. UNLESS OTHERWISE NOTED, REMOVE ALL EXISTING ELECTRICAL DEVICES ASSOCIATED WITH THE AREA OF WORK FROM ENDPOINT DEVICE TO ASSOCIATED SOURCE PANEL TO PREPARE THE SPACE FOR RENOVATION. ALL DEVICES / CIRCUITS NOT ASSOCIATED WITH THE LOCAL DEMOLITION SHALL BE PROTECTED AND ENSURE THAT CIRCUITS REMAIN IN SERVICE AS PER CONDITIONS PRIOR TO DEMOLITION. ALL DEMOLITION / PHASING SHALL BE COORDINATED WITH THE VA COR.
10. EXISTING PANELBOARD TO REMAIN. PROTECT IN PLACE.
11. EXISTING LIGHT FIXTURE TO REMAIN. PROTECT IN PLACE.
12. EXISTING RECEPTACLE TO REMAIN. PROTECT IN PLACE.
13. EXISTING EQUIPMENT TO REMAIN. PROTECT IN PLACE
14. PROVIDE NEW WALL MOUNTED TELECOMMUNICATION ENCLOSURE CABINET, WITH LOCKABLE FRONT DOOR AND SWING-OUT REAR ACCESS TO EQUIPMENT.
15. PROVIDE NEW CIRCUIT BREAKERS AND FEEDERS SERVICING NEW TELECOM EQUIPMENT. REFER TO SHEETS E-601 & E-701 FOR SIZING.
16. NEW A/B REDUNDANT L5-20 20A OUTLETS WITH INTEGRATED TYPE 3 SPD DEVICES.
17. EXISTING LIGHT SWITCH TO REMAIN. PROTECT IN PLACE.
18. VERTICAL ROUTE FOR TELECOM RISER. SEE ALL FLOOR PENETRATIONS TO MAINTAIN FIRE RATING.

PN TN

#	Revisions:	Date:
1	ADDENDUM #1	03/30/2026

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ELECTRICAL ENLARGED PLANS

Approved:

Phase: ISSUED FOR CONSTRUCTION

FULLY SPRINKLERED

Project Title: (EHRM) INFRASTRUCTURE UPGRADES

Location: 2094 Albany Post Road, Montrose, NY 10548

Issue Date: 06/27/2025 | Checked: M. Perkins | Drawn: J. Castenir

Project Number: 620-22-700

Building Number: 02

Drawing Number: 02E-402

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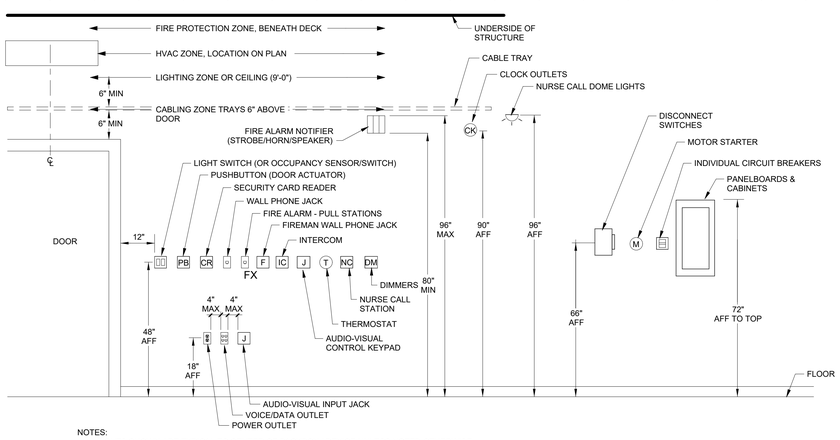


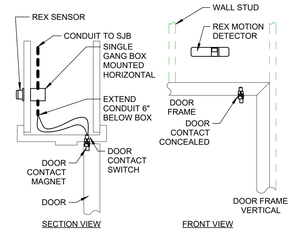
NOTES:

1. HEIGHTS SHOWN ARE TYPICAL TO CENTER OF BACKBOX / DEVICE UNLESS NOTED OTHERWISE.
2. DEVICES ABOVE DOORS SHALL BE CENTERED BETWEEN TOP OF DOOR TRIM AND CEILING LINE.
3. MOUNTING HEIGHTS SHOWN ON ARCHITECTURAL ELEVATIONS SHALL GOVERN OVER THOSE SHOWN ABOVE.
4. ALL ELEVATIONS ARE TO CENTER LINE OF DEVICE, UNLESS OTHERWISE NOTED.
5. REFER TO EQUIPMENT ELEVATION DRAWINGS FOR COORDINATION WITH CASEWORK.
6. MOUNT MANUAL MOTOR STARTER ADJACENT TO OR ON UNIT.

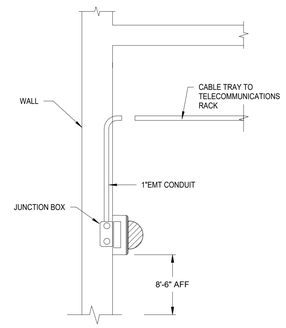
F3 ELECTRICAL COMPONENT MOUNTING HEIGHTS
NOT TO SCALE

NOTES:

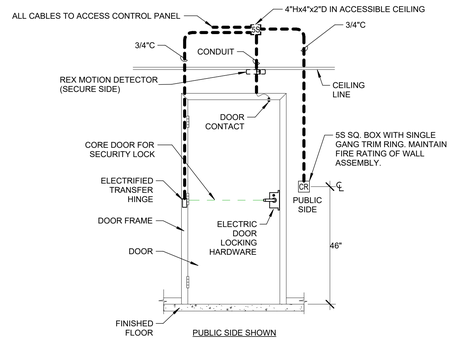
1. COORDINATE LOCKING HARDWARE PROVIDED UNDER OTHER SECTIONS WITH THE ELECTRONIC SECURITY DEVICES AND CONTROL PROVIDED HERE.
2. DETAILS ARE FOR REFERENCE ONLY. SEE FLOOR PLANS FOR LEFT OR RIGHT HAND PLACEMENT OF DEVICES.
3. FOR NEW DOORS, PREP THE FRAME AND DOOR FOR SECURITY DEVICES AT THE FACTORY BEFORE THE LABEL IS APPLIED. EXISTING DOORS SHALL BE RECERTIFIED AS REQUIRED.
4. SECURITY JUNCTION BOX SHALL BE TAMPERED, HINGED AND LOCKABLE.
5. REX MOUNTED ON THE SECURE SIDE OF THE DOOR.
6. EGRESS DOOR SHALL BE READILY OPENABLE FROM THE EGRESS SIDE



REX AND DOOR CONTACT ENLARGED DETAIL



F7 CAMERA INTERIOR WALL MOUNTING
NOT TO SCALE



F8 CARD READER - ELECTRIC LOCK
NOT TO SCALE

1	ADDENDUM #1	03/30/2026
#	Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ELECTRICAL DETAILS	Phase: ISSUED FOR CONSTRUCTION	Project Title: (EHRM) INFRASTRUCTURE UPGRADES	Project Number: 620-22-700
			Building Number: 02
Approved:	FULLY SPRINKLERED	Location: 2094 Albany Post Road, Montrose, NY 10548	Drawing Number: 02E-501
		Issue Date: 06/27/2025 · Checked: M. Perkins · Drawn: J. Castenir	

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SOFTWARE HOUSE
From Tyco Security Products

iSTAR Edge

One-, Two- or Four-Reader IP Edge Device

Features That Make a Difference:

- Controls and powers all access control devices at the door to minimize installation costs
- Optional Power over Ethernet (PoE) module features PoE Plus with enough power for two doors and associated devices
- Powerful iSTAR feature set including anti-passback and advanced peer-to-peer clustering
- Localized access control decision-making with storage for over 400,000 personnel records
- Jumper-selectable 12 or 24 VDC for lock power
- Dedicated input for fire alarm interlock releases door locks during fire conditions
- Local LCD and LEDs provide clear startup and troubleshooting information
- AES 256 network encryption; FIPS 197 listed
- Compatible with C•CURE 9000 and C•CURE 800/8000

iSTAR Edge is a powerful, IP edge access control device that provides a strong feature set to secure any door. Available in one-, two- or four-reader models to provide the right size controller for your specific application. Its optional Power over Ethernet (PoE) module provides ample power for two doors, and allows iSTAR Edge to leverage existing network infrastructure to reduce installation costs.

iSTAR Edge increases overall system reliability by providing localized decision-making at each door. The controller has a robust local cardholder database of over 400,000 personnel records and local alarm and event buffering in the event communication to the host is unavailable.

iSTAR Edge has been designed to drastically lower installation and startup costs. Embedded lock power management, including powered (wet) lock outputs with individual resettable fused protection, eliminates the need for additional power supplies and fused power distribution boards normally required for traditional installations. Combined with removable connectors, a local display for quick troubleshooting, and status LEDs, iSTAR Edge streamlines even the toughest installation. Furthermore, with remote web diagnostics, you can find and fix performance issues anywhere in your facility using a web browser.

The iSTAR Edge enclosure has expansion capability for up to two input/output modules[1], and is protected with a built-in tamper switch to ensure the controller is not accessed by unauthorized personnel. Security risks are significantly reduced with encrypted communications and denial-of-service protection against NJNS communications hijacking, making iSTAR Edge a highly secure network device.

[1] Not available on one-reader model

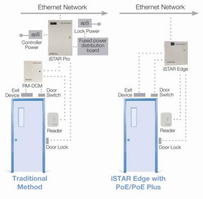
www.swhouse.com

Features

Lower Installation Costs

iSTAR Edge features both PoE and PoE Plus capabilities which allow you to use your existing network to power two doors. While PoE provides enough power for one door and one to two readers, PoE Plus allows for up to 25.5W of power, enough for two doors and associated readers, locks, local annunciators, and exit devices. Wiring and equipment costs are lowered dramatically with PoE technology, and since PoE is provided as an optional module, you only pay for PoE when you need it.

iSTAR Installation Comparison



By providing powered (wet) lock outputs that power locks and other devices directly, iSTAR Edge eliminates the need for additional interposing relays and distribution boards. Each output is protected with a resettable PTC fuse and can supply up to 0.75 A of current. When powered through PoE or PoE Plus, the output voltage level is selectable between 12 and 24 VDC, and when powered with a local DC source, the output voltage follows the input voltage (12 or 24 VDC). Each output can be switched between wet and dry for ultimate flexibility.

Easy to Setup

iSTAR Edge supports Dynamic Host Configuration Protocol (DHCP) to simplify installation. For easy setup, iSTAR Edge also support Domain Name System (DNS), which translates domain names into IP addresses, and WINS, a system that determines the IP address associated with a particular computer on the network.

Effective Communication with Clusters

iSTAR Edge features advanced peer-to-peer cluster communications so that controllers can communicate with each other without requiring host intervention. A single connection from the host supports multiple controllers through a TCP/IP subnet. User-defined groups of up to 16 controllers (clusters) can be created to enhance security by separating a widely dispersed facility into different controlled areas. A cluster is led by a master controller which manages the primary communication between the host computer and the remaining controllers within the cluster. The master controller communicates all event and cardholder data between the cluster and the C•CURE 9000 host.

Additionally, controllers within a cluster can communicate through the master to link events and control inputs and outputs in the area secured by the cluster. To ensure constant security, clusters also feature a secondary communication path in the event the master controller loses communication with the network.

Keypad Commands and Extended Card Numbers Enhance Security

Keypad commands provide a powerful way to activate events such as triggering a duress call, sounding an alarm, locking and unlocking doors - directly from an RM reader keypad. Commands can be configured to require a card presentation and/or a PIN to validate the command.

iSTAR Edge supports extended card numbers, which help with compliance with certain U.S. federal guidelines (such as FIPS 201) that require a Cardholder Unique Identifier (CHUID). In addition, iSTAR Edge supports card numbers of up to 256 bits, eliminating the need for multiple facility codes, site codes, or offset in order to avoid card duplication. Longer card numbers offer greater protection against card duplication and are especially valuable to customers who require card numbers that exceed ten digits.

Improves Life Safety

A dedicated input for a fire alarm tie-in automatically releases selected door lock outputs in the event of a fire condition. The fire input may be unsupervised or supervised, and the release circuit does not require software programming for operation. In addition, a second input for a manual keyswitch is provided, such that the door lock outputs will not re-energize unless authorized safety personnel confirm the safety of the building via the keyswitch. The keyswitch functionality is enabled via an onboard dip switch.

Take a closer look

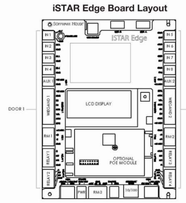
Flexible Card Management

iSTAR Edge allows you to assign up to five cards per cardholder record rather than having to create a separate record for each card. This simplifies the management and maintenance of personnel records. You can assign a PIN as one of the cards for a flexible and secure solution. iSTAR Edge can support up to 128 card formats systemwide and ten card formats per reader including smart cards, and PIV II and TWIC formats. This expanded ability to use multiple card types (such as 26-bit, 37-bit, or Corporate 1000) at a single reader frees you from having to consolidate or re-issue new cards.

Data Security is Critical

iSTAR Edge features strong 256-bit AES network encryption between the controller and host, and between controllers within a cluster. Multi-key and password authentication and built-in denial-of-service protection provide a barrier against intrusion. Additionally, iSTAR Edge addresses the needs of businesses to protect critical security data. With instant database backup and restore capabilities, iSTAR Edge provides a highly reliable security solution and ensures that important data is protected, even during communications failure.

iSTAR Edge Board Layout



Model Numbers	Description
ISTAR001	iSTAR Edge 1-reader, with enclosure
ISTAR001-POE1	iSTAR Edge 1-reader, with enclosure & PoE module
ISTAR001-MB	iSTAR Edge 1-reader, motherboard only
ISTAR001-MBP	iSTAR Edge 1-reader, motherboard with PoE module
ISTAR002	iSTAR Edge 2-reader, with enclosure
ISTAR002-POE1	iSTAR Edge 2-reader, with enclosure & PoE module
ISTAR002-MB	iSTAR Edge 2-reader, motherboard only
ISTAR004	iSTAR Edge 4-reader, with enclosure
ISTAR004-RM	iSTAR Edge 4-reader, with enclosure & two RM-4 modules pre-mounted
ISTAR004-MB	iSTAR Edge 4-reader, motherboard only

Easy Test and Troubleshoot

iSTAR Edge devices include a built-in suite of diagnostics to test and troubleshoot hardware components such as inputs, outputs, reader ports, last card read, and battery voltage. In addition, you can retrieve real-time status and diagnostics of:

- controller time/boot time
- total/available memory
- connection status
- firmware and OS versions
- hardware (MAC) and IP addresses
- downloaded clearances and cardholders

Plus, iSTAR Edge includes a local LCD and LEDs for easy installation and quick troubleshooting.

Choose an iSTAR Architecture That Makes Sense for Your Application

Providing a security solution that is unsurpassed in the industry for its versatility and security, iSTAR Edge devices can be used together in the same system with iSTAR Pro and iSTAR eX controllers. This provides an enterprise solution that recognizes that even the largest corporations have smaller branches and facilities that may need to use the same security standards without enormous overhead. iSTAR Edge and iSTAR eX controllers may also be part of the same cluster along with the iSTAR Pro when using C•CURE 9000.

The four-reader iSTAR Edge allows expansion to a third and fourth reader using RM-4, RM-4E, or RM readers connected using the RS-485 RM bus. (Note: The two-reader model is not upgradable to a four-reader model).

iSTAR Edge Feature Comparison			
	One-Reader	Two-Reader	Four-Reader
Wiegand Reader Ports	1	2	2
Supervised Inputs	4	8	8
Tamper, AC Fail, Low Battery Inputs	Yes	Yes	Yes
Outputs	2	4	4
RM Ports	0	3	3
Input/Output Expansion	No	4-IB, 4-RB	8-IB, 8-RB
RM-4, RM Reader Support	No	Yes, 2 max	Yes, 4 max
USB Ports	0	3	3
Fire Alarm Inputs (FAI)	Yes	Yes	Yes
Local Display (LCD)	Yes	Yes	Yes
Power over Ethernet (PoE)	Yes, optional	Yes, optional	Yes, optional
FIPS 197	Yes	Yes	Yes

SOFTWARE HOUSE
From Tyco Security Products

Specifications

Physical
Dimensions (H x W x D)
Enclosure ..... 305 x 305 x 101 mm (12 x 12 x 4 in)
Board ..... 190 x 146 x 25 mm (7.5 x 5.75 x 1 in)
Enclosure Material ..... 16g steel, with lock and tamper
Expansion ..... Includes mounting standoffs for two point expansion modules (8), (8-CB), (RB or RM-4)
Environmental ..... 0° to 50° C (32° to 122° F)
5 to 95% relative humidity, non-condensing
Weight with Enclosure ..... 4.2 kg (9.3 lbs)

Electrical
Power Requirements ..... 12 VDC (-15/+20%) or 24 VDC (-15/+25%), auto-sensing
Board only: 300 mA@12 VDC or 100 mA@24VDC; Max. of 3.8 A@12 VDC or 3.1A@24VDC for board plus all attached devices.

Optional PoE Plus Module
Standards Supported ..... PoE (802.3af), 12.95 W min;
PoE Plus (802.3at), 25.5 W min
Power negotiation uses two-state physical discovery (LLDP-MED not supported)
PoE Standard Selection ..... Jumper-selectable
Lock Power Voltage ..... Jumper-selectable between 12 and 24 VDC; applies to all four outputs
Power Available for Attached Devices[1] ..... PoE: 600 mA@12 V or 300 mA@24 V
PoE Plus: 1400 mA@12 V or 700 mA@24 V
Heat Dissipation ..... 90 BTU/HR typical
Memory and RTC Backup ..... Four standard AA alkaline batteries provide automatic database backup to flash memory
Battery Life ..... Five years (estimated – without power interruptions)

System Memory
Memory ..... 64 MB RAM, 128 MB flash EEPROM

Cardholder capacity
One clearance, one card/person, ten-digit cards 400,000
Ten clearances, one card/person, ten-digit cards 230,000
One clearance, five cards/person, ten-digit cards 130,000
Ten clearances, five cards/person, 40-digit cards 85,000
Note - Memory allocation is dynamic and shared between cardholders, event storage, and configuration information.

Network Communications
Ethernet Ports ..... One, 10/100Base-T
Network Encryption ..... AES 256-bit, FIPS 197

Readers
Number of Readers Supported ..... One, two, or four
Types of Readers Supported ..... Wiegand and RM (RM only for readers 3 and 4)
Reader Technologies Supported ..... Multi-Technology, Proximity, Smart Card (incl. PIV II & TWIC), Wiegand and Magnetic Stripe (RM only)
Maximum Distance to Door ..... RM: 1,219 m (4,000 ft); Wiegand: 150 m (500 ft)
Reader Power Available ..... 12 VDC, 1.5 A total (including aux power and RM port power)
RM Bus Communications ..... Three ports, RS-485 half duplex, two wire, plus optional two wires for device power (One-reader model does not have RS-485 ports)

Inputs
Supervised Inputs ..... Eight, single or double-resistor (One-reader model would have four)
Fire Alarm Interlock Inputs ..... Two, fire alarm input and manual keyswitch override (supervision supported)
Additional Inputs ..... Tamper switch, power fail, and low battery
Input Expansion ..... Up to 32 additional inputs using IB input modules on RM bus (64 additional with 4-reader model)
Auxiliary Power Available ..... 12 VDC; two (350mA each) (One-reader model has one port)

Outputs
Outputs ..... Four, individually configurable via jumper as power sourcing (wet), or dry contact relay (one-reader model has two)
Output Power, Wet ..... 12V or 24 VDC, 0.75A (If iSTAR Edge powered locally, output voltage follows input voltage. If using PoE/PoE Plus, jumper-selectable between 12 and 24 VDC)
Output Protection, Per Output ..... PTC resettable fuse, 0.75 A, snubber, transzorb
Output Rating, Dry ..... 30V AC/DC, 3 A
Output Expansion ..... Up to 32 additional Form C relay outputs using RB output modules on RM bus (up to 64 additional with 4-reader model)

Regulatory
Access & Burglar ..... UL 294, UL 1076, ULC/ORD C1076, CSA C22.2 No. 205
Fire ..... UL 2043 (for use in plenum air handling spaces)
Safety ..... EN 60950, IEC 60950 (2- or 4-reader only)
EMI/EMC ..... FCC Part 15 Class A (Class B with shielded Ethernet cable), EN 55022, EN 55024, EN 50130-4, AS/NZS CISPR 22, ICES-003
Physical ..... EN 50130-5, EN 50133-1
Encryption ..... FIPS 197
Environmental ..... RoHS
International ..... CE, cULus, C-Tick

[1] Please refer to iSTAR Edge Power Budget Calculator for details.

Related Products

Approvals

SECURITY
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CE

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3E Surge Protective Device (SPD)

Type PRL1X, PRL2X, PRL3E and PRL3X Panelboards
Package includes SPD unit connected to the panelboard bus.
Available for all enclosure types.
Sizing:
PRL1X, PRL2X, PRL3E: Add 7 inches (177.8 mm) to the standard box height.
PRL3X: Add 4X for 100-200 kA SPD units.

Type PRL4X and Elevator Control Panelboards
Package includes SPD unit and integral circuit breaker disconnect (30 A) connected to the panel bus.
Available for all enclosure types.
The SPD unit and integral circuit breaker disconnect will require 7X of chassis space. (Only available in 36-inches (914.4 mm) or 44-inches (1117.6 mm) wide enclosure.)

Modification 39

Description	kA/Phase								
Surge Current Rating	50	80	100	120	160	200	250	300	400
SPD Package Options									
Basic LEDs monitor L-N, L-G, L-L and N-G									
PRL1X, PRL2X, PRL3E, PRL3X	■	■	■	■	■	■	—	—	—
PRL4X, Elevator Control Panelboard	■	■	■	■	■	■	■	■	■
Standard Basic package plus: EMI/RFI filtering Audible alarm with disable switch Form C relay contact									
PRL1X, PRL2X, PRL3E, PRL3X	■	■	■	■	■	■	—	—	—
PRL4X, Elevator Control Panelboard	■	■	■	■	■	■	■	■	■
Standard w/Surge Counter Standard package plus: Six digit LCD display Counts surges in all modes Non-volatile memory (no battery backup) Reset button designed to prevent accidental resets									
PRL1X, PRL2X, PRL3E, PRL3X	■	■	■	■	■	■	—	—	—
PRL4X, Elevator Control Panelboard	■	■	■	■	■	■	■	■	■
Power Xpert EPD Standard w/Surge Counter package plus: Percentage protection status Surge categorization RJ45 communications Programmable settings									
PRL1X, PRL2X, PRL3E, PRL3X	■	■	■	■	■	■	—	—	—
PRL4X, Elevator Control Panelboard	■	■	■	■	■	■	■	■	■

3B Copper Wire Only Terminals for Molded Case Circuit Breakers
(To replace standard Al/Cu terminals.)

Modification 40

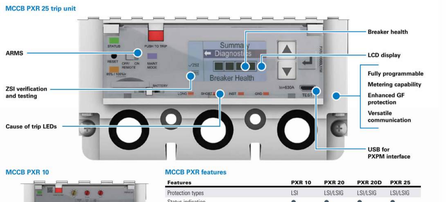
Breaker Frame	Maximum Breaker Ampere Rating	Terminal Material	Wire Range
PD2	225	Copper	#4–4/0
PD3	400	Copper	(1) 250–500, (2) 3/0–250
	600	Copper	(2) 250–500
PD4	600	Copper	(2) #10–500
	800	Copper	(3) #10–300
PD5	1000	Copper	(3) #10–500
	1200	Copper	(4) #10–400

Note
[1] Requires 15 A branch breaker for cable connection—three-pole (three-phase) or two-pole (single-phase). (Add breaker separately, not included in price.)

Molded case circuit breakers

Power Xpert Release (PXR) electronic trip units

MCCB PXR 25 trip unit



MCCB PXR 10

MCCB PXR 20

MCCB PXR 20D

MCCB PXR features

Features	PXR 10	PXR 20	PXR 20D	PXR 25
Protection types	LSI	LSI/LSIG	LSI/LSIG	LSI/LSIG
Status indication	●	●	●	●
USB secondary injection testing	●	●	●	●
Programmable by USB port (PXPM)	●	●	●	●
Independent instantaneous adjustment	●	●	●	●
Adjustable L, S, I, G pickup and time		●	●	●
Cause of trip indication	▲	●	●	●
Load alarm indication with 2 levels		●	●	●
Programmable load alarm levels			●	●
Ground fault protection and alarm		○	○	○
ArcFlash Reduction Maintenance System™ (ARMS) Available PD3, PD4, PD5, PD6 to meet NEC 240.87 requirements		○	○	○
Zone selective interlocking (ZSI) with indication		○	○	○
Programmable relays		○	●	●
Modbus RTU communication		○	●	●
CAM module communication		○	○	○
Rotatable LCD display			●	●
Breaker health and diagnostic monitoring		▲	●	●
Current metering accuracy		2.0%	0.5%	0.5%
Voltage metering accuracy				0.5%
Power and energy metering accuracy				1.0%

● Standard ○ Optional ▲ Available through USB port (PXPM)

MCCB PXR features

EATON
Powering Business Worldwide

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Printed in USA
Publication No. PA020240EN / Z24120
May 2020

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HID

PHYSICAL ACCESS SOLUTIONS

pivCLASS READERS FOR "CONTROLLED" AREAS ENABLE HIGH SECURITY, INTEROPERABILITY AND COMPLIANCE

- **Part of an integrated solution from a single, trusted provider** – Enables FIPS 201 compliance per NIST SP 800-116 guidelines and the TWIC Reader Specification
- **Reconfigurable in field** – can be upgraded in the field to achieve higher assurance levels with the addition of a contact or contact plus biometric "sidecar"
- **Transitional reader** – supports reading PIV, PIV-I, CAC, CIV, TWIC, FRAC, iCLASS[1] and HID Prox[2] cards for easy, phased transitions from legacy technology to new PKI-enabled smart cards
- **Contactless reader with keypad for "Uncontrolled" security areas** – enables "PIN to PACS" approach using both legacy and FIPS-201 cards

ADDITIONAL PRODUCT FEATURES:

- The RK40 and RPK40 utilize the pivCLASS Authentication Module (PAM) to perform cryptographic operations required to pass FICAM's E-PACS testing.
- Security critical operations are performed within the secure perimeter, rather than on the attack side of the door mitigating security and reader compromise.
- Maximum flexibility: is achieved through in-field sidecar expansion to add a contact interface, an LCD to display messages to the cardholder and a biometric sensor.
- Supports a phased approach to FICAM compliance. Can be used as a standalone reader to read legacy and FIPS 201 type smart cards. PAMs can be added later to achieve FICAM compliance by providing strong multi-factor authentication.
- Ideal for "uncontrolled" areas where access control is desired but strong authentication FICAM compliance is not required.

HID Global's pivCLASS Government Solutions enable facilities to upgrade their existing physical access control systems (PACS) to achieve FIPS 201/FICAM compliance without the need to rip-and-replace their existing system. The RK40 and RPK40 are designed to support multiple use cases leading to full FICAM compliance.

Transitional reader – in this approach the reader can be used standalone to read legacy iCLASS and HID prox cards as well as FIPS 201 type cards and pass the card identifier directly to the panel. The key pad can be used to send a user entered PIN directly to the PACS panel. When used with the pivCLASS Registration Engine and Certification Manager software this approach provides a solution for a smooth transition to full FICAM compliance as well as a cost effective solution for "Uncontrolled" doors where access control is desired but FICAM compliance is not required.

FICAM compliant reader – to be FICAM compliant requires the addition of the pivCLASS Authentication Module (PAM) to provide single factor strong authentication. This configuration supports the CHUID + VIS and card authentication key (CAK) authentication modes as described in NIST Special Publication 800-116.

Two-factor strong authentication can be achieved by adding the HID pivCLASS contact reader sidecar. This sidecar provides a contact card reading slot and an LCD that displays messages and instructions to the card holder. This configuration supports the CHUID + VIS, CAK authentication modes over both the contactless and contact reader interfaces. It also supports the PKI + PIN authentication mode on the contact interface with match-on-card of the PIN.

Three-factor strong authentication can be achieved by adding the HID pivCLASS contact plus biometric reader sidecar. In addition to a contact card reading slot this sidecar also provides a biometric sensor. This configuration supports CHUID + VIS and CAK over both the contactless and contact reader interfaces. The PKI + PIN with match-on-card of the PIN and PKI + PIN + BIO authentication modes use the contact interface.

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SPECIFICATIONS

	RK40-H	RPK40-H
Full duplex Base Part Number	921P4H	921PHH
Half duplex Base Part Number	921P4HP	921PHP
13.56 MHz Card Compatibility	PKI-Based FIPS-201 Credentials including PIV, PIV-I, CIV, CAC, TWIC and FRAC; Secure Identity Object (SIO) on iCLASS Seos, iCLASS SE, /SR, MIFARE DESFire EV1 and MIFARE Classic, standard iCLASS Access Control Application, ISO14443A (MIFARE) CSN	
125 kHz Card Compatibility	N/A	HID Prox, AWID, EM4002 Prox
System Requirements	These readers require HID pivCLASS Authentication Module (HID000) to support FICAM compliance	
Typical Contactless Read Range[1]	FIPS 201 type cards can be read using either the contact or contactless card interface	
	Contactless Interface PIV, PIV-I, CIV, CAC, TWIC and FRAG	
FIPS-201	2.0" (5 cm)	1.2" (3 cm)
	13.56 MHz Single Technology ID-1 Cards – SIO Data Model	
iCLASS Seos	2.0" (5 cm)	1.6" (4 cm)
iCLASS	5.5" (14 cm)	4.7" (12 cm)
MIFARE DESFire EV1	2.0" (5 cm)	1.6" (4cm)
MIFARE Classic	5.1" (13 cm)	4.3" (11 cm)
	125 kHz Single Technology ID-1 Cards	
HID Prox / AWID	N/A	2.8" (7 cm)
EM4002 Prox	N/A	3.1" (8 cm)
Mounting	Wall Switch Size; designed to mount on single gang switch box	
Color	Black	
Keypad	Yes (4x3)	
Dimensions	3.3" x 4.8" x 1.1" (8.5 cm x 12.2 cm x 2.8 cm)	
Product Weight (Pigtail)	9.0oz (256g)	9.1oz (258g)
Product Weight (Terminal Strip)	7.9oz (226g)	8.0oz (228g)
Operating Voltage Range	+12VDC	
Current Draw – Standby Average	85mA	95mA
Current Draw – Maximum Average[2]	125mA	125mA
Current Draw – Peak[3]	220mA	220mA
Operating Temperature	-30⁰F to 158⁰F (-35⁰C to 65⁰C)	
Operating Humidity	5% to 95% relative humidity non-condensing	
Storage Temperature	-40⁰F to 185⁰F (-40⁰C to 85⁰C)	
Environmental	Indoor / Outdoor; IP65, IP67 installed with optional gasket (PR65GKIT)	
Transmit Frequency	13.56 MHz	13.56 MHz & 125 kHz
Protocol	Full duplex supports HID pivCLASS Protocol; CoreStreet Reader Protocol HUF authentication supports OSDP	
Cable Distance[4]	RS485 for communication (500ft (152m), 22AWG), (300ft (91m), 24AWG); two wires for power (500ft (152m), 22AWG)	
Wiring Connection	Pigtail or Terminal Strip	
Certifications	FICAM tested[5], UL294 (US & Canada), FCC Certification (US), RoHS2	
Housing Material	UL94 Polycarbonate	
UL Ref Number	RK40E	RPK40E
Warranty	Warranted against defects in materials and workmanship for life. (See complete warranty policy for details.)	

1 Read range listed is statistical mean rounded to nearest whole centimeter. HID Global testing occurs in open air. Some environmental conditions, including metallic mounting surface, can significantly degrade read range performance (plastic or thinner spacers are recommended to improve performance on metallic mounting surfaces. Read ranges for FIPS 201 type cards will vary depending upon the card manufacturer.
2 Maximum Average - RMS current draw during continuous PIV card reads.
3 Peak - highest instantaneous current draw during RF communication.
4 For cable lengths when used in Wiegand mode see "pivCLASS Reader Installation Guide", PLT-01934 A.1
5 FICAM tested as part of complete physical access control systems.

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ASSA ABLOY

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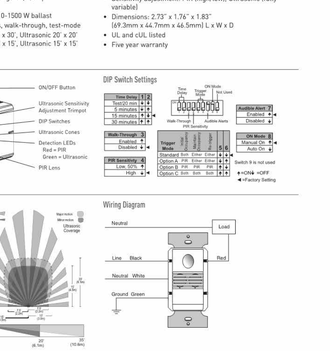
Columbia LIGHTING
LED
LCL
Lensed Spotlight / LED

Specifications

- DW-100: 120/277 VAC; 50/60 Hz
  @ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp
  @ 277 VAC, 0-1200 W ballast
- DW-100-347: 347 VAC; 50/60Hz, 0-1500 W ballast
- Time delays: 5, 15 or 30 minutes, walk-through, test-mode
- Coverage: Major motion, PIR 25' x 30', Ultrasonic 20' x 20'
  Minor motion, PIR 20' x 15', Ultrasonic 15' x 15'
- Ultrasonic Frequency: 40kHz
- Sensitivity adjustment: PIR (high/low), Ultrasonic (fully variable)
- Dimensions: 2.73" x 1.76" x 1.83"
  (69.3mm x 44.7mm x 46.5mm) L x W x D
- UL and cUL listed
- Five year warranty

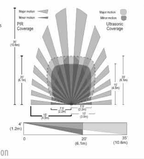
Controls & Settings

Product Controls



Coverage & Wiring

Coverage Pattern
For best performance, Wattstopper recommends using this sensor in spaces no larger than 18' x 15'.



Wiring Diagram

Ordering Information

Catalog #	Color	Voltage	Load Rating
DW-100-W	White	120/277 VAC; 50/60 Hz	@ 120 VAC, 0-800 W ballast or tungsten,1/6 hp @ 277 VAC, 0-1200 W ballast
DW-100-W-U			
DW-100-LA	Lt. Almond		
DW-100-I	Ivory		
DW-100-I-U			
DW-100-G	Grey		
DW-100-B	Black		
DW-100-347-W	White	347 VAC; 50/60 Hz	0-1500 W ballast
DW-100-347-LA	Lt. Almond		
DW-100-347-I	Ivory		
DW-100-347-G	Grey		
DW-100-347-B	Black		

Order wall plate separately. -U = BAA/TAA compliant; product is compliant with Buy American Act and Trade Agreement Act.

WWW.LEGRAND.US/WATTSTOPPER
Pub. No.2734A-1 Rev. 10/2017

LCL
Lensed Spotlight / LED

PROJECT INFORMATION	
IT Closet Upgrades	L1
Project Name	Type
	Date
Catalog No.	

createchange

FEATURES

- LED technology in a lensed cylinder
- Long life 50,000 hour L70 at L80 for reduced maintenance
- Up to 144 lumens per watt
- Choice of four LED color temperatures
- Superior color consistency within a 3-step MacAdam ellipse and greater than 80 CRI
- Choice of four lumen packages per size
- Available in 2', 4' or 8' lengths
- Optional integral emergency battery pack
- Heavy die-formed steel channel with 100% acrylic formed diffuser
- Fully assembled fixture for quick installation
- LED boards and driver accessible for fixture maintenance or upgrades
- Modular replaceable LED components
- Surface mount, wall mount or suspended
- Maximum temperature 25°C on all lumen packages
- DLC® (DesignLights Consortium) Qualified, with some Premium Qualified configurations - see www.designlights.org
- Five year warranty

CONSTRUCTION

Housing, wireway, and ends are formed from code-gauge steel. Housing components act as heat sink for LED heat dissipation. Knockouts are provided for electrical access and mounting. Shielded with 100% frosted prismatic acrylic lens.

FINISH

White painted parts are treated with a five-stage phosphate bonding process and finished with high reflectance baked enamel. For a post-painted housing finish select PAF option.

ELECTRICAL

Long-life LEDs are rated for 50,000 hours at L80 lumen maintenance. Driver options include fixed output for on/off function, step dimming (high/low/off) or continuous 0-10V dimming.

CERTIFICATION

All luminaires are built to UL 1598 and 2108 standards, and bear appropriate CSA c/US labels. Damp location labeling is standard. Emergency equipped fixtures labeled UL924. Adheres to LM79, LM80, and TM21 industry standards. DLC® (DesignLights Consortium) Qualified, with some Premium Qualified configurations. Please refer to the DLC website for specific product qualifications at www.designlights.org.

WARRANTY

Five year warranty (Terms and Conditions apply).

ORDERING INFORMATION

EXAMPLE: LCL4-40HL-EU-ELL14

LCL 4 - 35 HL - ED U - ELL14

MODEL	SIZE	COLOR TEMP	LUMEN OUTPUT	DRIVER	VOLTAGE	OPTIONS
LCL LED Lensight	2 2' 4 4' 8 8'	30 3000K 35 3500K 40 4000K 50 5000K	LW Low Watt ML Medium Lumen HL High Lumen VL Very High Lumen See Product Availability Table below.	E Fixed Output ESD Step Dimming[1] ED 0-10V Dimming ED1 0-10V 1% Dimming LUTH Hi-Lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology LUTS S-Series EcoSystem LED driver	0 120V 277V 347 347V (ELD,ED1 only) 480 480V[2]	ELL14 Emergency Battery Pack, 1400 Lumens[3] GLR Fast Blow Fuse PAF Paint After Fabrication

ACCESSORIES (ORDER SEPARATELY)
SSR 18" Stem, Canopy
SSSR 18" Swivel Stem—45° Swivel
CSHC Chain Hanger Assembly
LCLWG4 4' Wire Guard, 2 Required for 8' Fixture

[1] Available in HL lumen output only.
[2] For compatibility with Dual-Lite LiteSaver inverters in lieu of installed battery pack, contact Hubbell Lighting representative.
[3] Not available in 2 ft lam
[4] Only available in 4' HL, VL & VL packages.
[5] Consult factory for ELR lum

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Data Sheet

iSTAR Edge G2

Four-Reader IP Access Control Edge Device

Key features

- Stand-alone IP edge access controller with local database of up to 1,000,000 cardholders
- Controls and powers all access control devices at the door to minimize installation costs
- Power over Ethernet (PoE) module features PoE+, with enough power for two doors and associated devices
- Trusted Execution Environment (TEE) provides advanced hardware-based cybersecurity protection
- Advanced access control feature set including anti-passback, peer-to-peer clustering and local event logic
- Dual GigE Network ports with IPv6, DHCP and 802.1X support
- Supports OSDP Secure Channel for encrypted, two-way reader communications
- Supports embedded High Assurance FICAM operation without additional third-party hardware

Powerful, Stand-Alone Physical Access Control

iSTAR Edge G2 is a powerful, cyber-hardened IP edge access control device that provides reliable, stand-alone physical access control for up to four doors. Its optional Power over Ethernet (PoE) module provides ample power for two doors and allows iSTAR Edge G2 to leverage existing network infrastructure to reduce installation costs.

Overall system reliability is increased by the iSTAR Edge G2 by providing localized decision-making at each door. The controller has a robust local cardholder database of over 1,000,000 personnel records and local alarm and event buffering in the event communication to the host is unavailable.

iSTAR Edge G2 has been designed to drastically lower installation and startup costs. Embedded lock power management, including powered (wet) lock outputs with individual resettable fused protection, eliminates the need for additional power supplies and fused power distribution boards normally required for traditional installations. Combined with removable connectors, a local display for quick troubleshooting and status LEDs, iSTAR Edge G2 streamlines even the toughest installation. Furthermore, with remote web diagnostics, you can find and fix performance issues anywhere in your facility using a web browser.

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Advanced Cybersecurity using TEE

iSTAR Edge G2 utilizes a hardware-based Trusted Execution Environment (TEE), a secure, isolated environment within its CPU that runs in parallel to the main Linux operating system. TEE guarantees confidentiality and integrity of code and data loaded by using hardware and software as protection mechanisms. TEE provides reliable storage of keys and other cryptographic materials, and manages a secure boot process to guarantee authenticated sources for hardware and software.

Advanced Network Security

iSTAR Edge G2 features dual GigE Ethernet LAN ports, providing primary and secondary paths back to C•CURE 9000. IPv4 and IPv6 protocols are supported, along with DHCP, DNS, SNMP, TLS 1.3 and 802-1X port authentication protocol for added security. Security risks are further reduced with embedded denial-of-service protection, AES 256 symmetric encryption and unique controller-based certificates for network authentication. The iSTAR Edge G2's embedded web page features unique password management and TLS 1.3 authentication – and the web page feature is managed centrally by C-CURE 9000, which can be disabled if desired.

Advanced Access Control When You Need It

iSTAR Edge G2 is packed with the sophisticated access control features you have come to expect from Software House. Controller-to-controller communications, and event and I/O linking maintain system reliability even when the host is unavailable. Area controls such as cluster-based anti-passback, occupancy control, area pass-through and double-swipe ensure that your areas are controlled exactly to your specifications. In addition, embedded intrusion zone support, controller-based event logic, custom keypad commands and OSDP secure channel support enhance a feature set that is second to none in the access control industry.

iSTAR Edge G2 Reduces Installation and Service Costs

Services costs can add up quickly. A rechargeable coin cell battery for the real-time clock (RTC) and the use of super-caps to provide power for graceful shutdowns when power is lost help to minimize service needs, thereby reducing costs. Local startup and troubleshooting information is available through iSTAR Edge's local web page, including card read information, boot time and memory usage, connection status, network configuration and firmware/OS versions. And, the local LCD provides important controller information for quick and easy troubleshooting.

Flexible Reader Support, Expandable Inputs/Outputs

iSTAR Edge G2 supports a variety of access control readers including Wiegand, RM and OSDP Secure Channel readers. In addition, iSTAR Edge G2 has two RS485 full duplex ports that provide direct support for the TST-100 touchscreen terminal, which provides an enhanced user experience at the door.

When additional inputs and/or outputs are needed, you can easily expand iSTAR Edge G2 with up to eight I8 input expansion modules, and up to eight R8 relay output modules. You can also mount up to two modules inside the metal enclosure.

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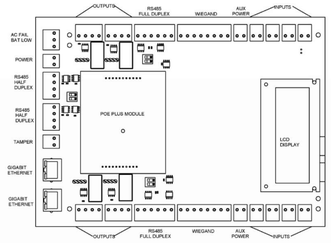
iSTAR Edge G2 Board Layout



Specifications

Physical	
Dimensions	18g Steel Enclosure: 305 x 305 x 101 mm (12 x 12 x 4 in) Board: 190 x 146 x 25 mm (7.5 x 5.75 x 1in) Shipping Box: 381 x 330 x 178 mm (15 x 13 x 7 in)
Weight with Enclosure	4.2 kg (9.3 lbs)
Enclosure Features	Includes lock and tamper switch, and mounting standoffs for two expansion modules (I8, I8-CS), R8 or RM-4)
Environmental	
Operating Temperature	0°C to 50°C (32°F to 122°F)
Humidity	5 to 95% RH

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Electrical	
Input Voltage	12VDC (-15/+20%) or 24VDC (-15/+20%)
Input Current	Board: 500mA@12VDC / 250mA@24VDC
Max Power (Boards and Attached Devices)	5A @ 12VDC and 24VDC for boards plus attached devices
Heat Dissipation	140 BTU/HR typical
Electrical - Optional PoE+ Module	
Standards Supported	PoE (802.3af), 12.95 W max; PoE Plus (802.3at), 25.5 W max. Power negotiation uses two-state physical discovery or LLDP-MED protocol
Power Available for Attached Devices	PoE: 550 mA@12V; PoE Plus: 1,600 mA@12V
Network Port for PoE	Port 1
Operational	
System Memory	16GB Flash eMMC; 2GB RAM
Cardholder Capacity	1,000,000; ten clearances, five cards/person, 40-digit cards
Processor	NXP iMX7
Operating System	Hardened Linux kernel, Yocto project (YP)
Network	Dual GigE LAN ports
Network Authentication	TLS 1.3 using AES256 symmetric encryption, unique certificates
Port Authentication	802.1X port authentication protocol
Readers/Cards	
Number of Readers	Four
Reader Types Supported	OSDP, RM, Wiegand, Touchscreen (Two touchscreens max; two Wiegand onboard)
Max. Distance to Reader	OSDP, RM: 1,200 m (4,000 ft) TouchScreen: RM Mode: 1,200 m (4,000 ft) – power varies according to application Smart Mode: 10 m (33 ft) Wiegand: 150 m (500 ft)
Reader Power Available	12VDC, 750mA (wiegand), 12V, 1.2A (RS485)
Inputs/Outputs	
Inputs	Eight supervised inputs; tamper, low battery, power fail
Auxiliary Input Power	12VDC, two (350 mA each)
Input Expansion	Up to 64 additional inputs using I8 expansion modules
Outputs	Four, individually configurable via jumper as power sourcing (wet) or dry contact relay
Output Expansion	Up to 64 additional Form C outputs using R8 expansion modules
Output Power, Wet	12 VDC or 24 VDC, 0.75A per port
Output Protection	Load switch, 0.75A, snubber, transzorb
Output Rating, Dry	30V AC/DC, 3A

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Regulatory	
Security	UL 294, UL 1076
Emissions	FCC Part 15 Class A
Immunity	EN 55022, EN 55024, EN 50130-4
Safety	EN 60950-1 EM/EMC; UL 2043, for use in plenums

Ordering Information

Model Number	Description
GSTAR004	iSTAR Edge G2 door controller with metal enclosure, supports four readers
GSTAR004-POE	iSTAR Edge G2 door controller with metal enclosure and PoE/PoE+ module, supports four readers
GSTAR004-RM	iSTAR Edge G2 door controller with metal enclosure and two RM-4 modules, supports four readers
GSTAR004-MB	iSTAR Edge G2 board only, supports four readers
GSTAR004-MBP	iSTAR Edge G2 board only and PoE/PoE+ module, supports four readers

About Johnson Controls

Johnson Controls is a global diversified technology and multi-industrial leader serving a wide range of customers in more than 150 countries. Our 120,000 employees create intelligent buildings, efficient energy solutions, integrated infrastructure and next generation transportation systems that work seamlessly together to deliver on the promise of smart cities and communities. Our commitment to sustainability dates back to our roots in 1885, with the invention of the first electric room thermostat.

For additional information, please visit **www.swhouse.com** or follow **Software House** on LinkedIn, Twitter, and Facebook.

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SH1272-DS-20200B-R01-HS-EN

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LifeSafety Power®

Software House
iSTAR EDGE G2 Power
Input voltage: PoE or AC
Output voltage: 12 and 24 VDC
Standard or Managed with Battery Backup

Overview

LSP iSTAR Edge G2 power systems combine a dual voltage power system alongside Software House iSTAR Edge G2 controllers within a single enclosure. Edge G2 power systems provide power for four-reader IP access control edge systems either at the door or from a central location.

All models are available as standard or network managed.

C4 or M8 control modules each provide 4/8 access control inputs capable of voltage or dry contact activation, and 4/8 outputs programmable for failsafe / failsecure operation at either 12 or 24 VDC and controlled by the power supply fire alarm interface. The D8 module provides eight auxiliary outputs. Each output is configurable for 12 or 24VDC operation.

LSP Software House power enclosures are painted steel with removable back-plate, lock, keys and and tamper switch and come 100% factory tested – ready for final panel installation and field wire termination.

E2S backplate has additional IO patterns - see page 2

Basic Features

- Integrated power & access
- 120VAC, 230VAC, or PoE input
- SLA or LiFePO4 battery charging
- Aux & lock power outputs

Managed Features

- **Monitor:** ac power, system faults, service due
- **Control:** device power cycle, remote battery test
- **Predict:** battery life, lock replacement
- **Report:** 1000 event log, fault analysis

Edge G2 Power Selector

120/230 VAC input, 12 and 24VDC output with local fire alarm disconnect and battery backup

Type	Model Number	Power Out	Outputs	20 x 16 Cabinet - VAC Layout
STANDARD	FPO75-B100C4D8E2S	75W	4 Control / 8 Auxiliary	
MANAGED	FPO75-B100M8NL4E2S	75W	8 Managed	

48VDC PoE input, 12 and 24VDC output with fire alarm disconnect over ethernet and battery backup

Type	Model Number	Power Out	Outputs	20 x 16 Cabinet - PoE Layout
STANDARD	BX75-C4D8E2S	75W	4 Control / 8 Auxiliary	
MANAGED	BX75-M8NL4E2S	75W	8 Managed	

Scan QR code for short video tutorial on LSP power distribution features

Power Distribution:
Standard systems use D8 auxiliary outputs and C4 control outputs
Managed systems use M8 managed control outputs

LSP POWER | **SWH EDGE G2**

Product Specifications

Power Supplies	**FPO75/B100**	2A@12V and 2A@24V DC, 75W maximum combined output power Input 120VAC 50/60Hz | Overload and short circuit protection | Over temperature protection
	BX75/B100	2A@12V and 2A@24V DC, 75W maximum combined output power Input PoE 90W Maximum | Overload and short circuit protection | Over temperature protection
Regulation	12 and 24VDC regulated output 120 mV output voltage ripple	
Efficiency / BTU	System Efficiency: 86% System BTU Rating: 33 BTU/Hr	
Battery Charging	Independent built-in charger for sealed lead-acid or Lithium Iron Phosphate battery sets Microprocessor dual rate charging of 12 and 24V battery sets Automatic switchover to standby battery when AC fails | Zero voltage drop when switched over to battery backup	
Supervision	AC Fault (form "C" contacts) | System Fault (form "C" contacts) System Fault conditions: Low or no battery | short to earth ground | power supply failure	

Power Distribution

	Standard: 8 auxiliary outputs: fused at 3A per output, 4 lock outputs fused at 3A per output
	Networked: 8 managed lock outputs fused at 3A per output

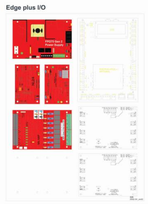
Mechanical

E2S Enclosure	Size: 20.00H x 16.00W x 4.50D in. (51.00 x 41.00 x 11 cm) | Weight: 18 lbs. (8 kg) Backplate mounting for Edge controller panels

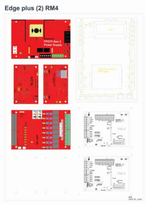
FPO Agency Listings		BX Agency Listings
US / Canada	UL294, UL1076 ULC S318, S319 | CSA C22.2 #107.1	UL294
International	CE | UKCA | BIS | NOM | RCB | RCHS |	CE

E2S Backplate Layout Pattern

Edge plus I/O



Edge plus (2) RM4



LifeSafety Power
Phoenix, AZ USA
PH 888-577-0998

LifeSafety Power warrants to the original purchaser only that all products will be free from defects in material or workmanship at time of shipment. This warranty is non-transferable. Our obligation under this warranty is limited to repair or replacement, at the sole discretion of LifeSafety Power, of products that are defective in material or workmanship at the time of shipment provided they were used within the specified ratings and installed in accordance with accepted engineering practices. Products in the Unified Wired Systems Classification will be wired to the LifeSafety Power description of operation unless otherwise stated. At the time of installation, the installer must verify that the unit is in good working order. LifeSafety Power's liability for any defective product will not exceed the sum paid for the product. In no event will LifeSafety Power be liable for any special, incidental or consequential damages even if LifeSafety Power has been advised of the possibility of such damages. Customer hereby agrees to indemnify LifeSafety Power for and hold LifeSafety Power harmless from and against any and all loss, cost or expense (including reasonable attorneys' fees) directly or indirectly related to any claim with respect to Unified Wired™ systems classification products except to the extent any such claim shall result from the gross negligence or willful misconduct of LifeSafety Power.

#	Revisions:	Date:
1	ADDENDUM #1	03/30/2026

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ARCHITECT/ENGINEER OF RECORD

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STAMP

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ELECTRICAL CUTSHEETS & BASIS OF DESIGN

Approved:

Phase: ISSUED FOR CONSTRUCTION

FULLY SPRINKLERED

Project Title: (EHRM) INFRASTRUCTURE UPGRADES

Location: 2094 Albany Post Road, Montrose, NY 10548

Issue Date: 06/27/2025

Checked: M. Perkins

Drawn: J. Castenir

Project Number: 620-22-700

Building Number: 01

Drawing Number: 02E-902

VA FORM 08 - 6231

26-03-2026 20:05:52

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