

G. APPENDIX – BASE STANDARD EQUIPMENT

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1. HVAC

1.1 Chiller

Type: Chiller

Mfr: Trane

Color: Standard

Finish: Standard

Model: CGAM

Other: Air Cooled Scroll , Contact 90 CONS for Train Chiller Sole Source Approval Letter.

UFGS: Section 63 24 10 Water Chillers Vapor Compression Type.

Standard refrigerant for on base is R410A.

Section 23 81 00 Part 2.2.2.3

1.2 Boiler

Type: Boiler

Mfr: Advanced Thermal Hydronics, Inc. – HYDROTHERM™

Color: Standard

Finish: Standard (Stainless)

Model: KN Series

Other: High efficiency, Cast Iron, Natural Gas, Condensing, Fully Modulating Burner

UFGS: Section 23 52 00

1.3 Boiler Primary Water Filter

Type: 4 in 1 Water Treatment System

Mfr: Skidmore X-Pot

Color: Stainless Steel

Finish: Stainless Steel

Model: X-Pot 6 / XP

Other: Requires: Slip Stream Filter, Magnetic Filter, Air Separator and Shot Feeder

UFGS: Section 22 52 Part 2.17 Boiler Water Treatment

1.4 Split System Air Conditioners

Type: Forced Air

Mfr: Varies (Based on Availability)

Color: Standard

Finish: Standard

Model: Varies (Individual Requirement)

Other: N/A

UFGS: Section 23 81 00 Decentralized Unitary HVAC Equipment

1.5 Ductless Split System Air Conditioners

Type: Mini Split A/C

Mfr: Fujitsu, Mitsubishi (Availability)

Color: White (Near White)

Finish: Standard

Model: Varies (Individual Requirement)

Other: N/A

UFGS: Section 23 81 00 Decentralized Unitary HVAC Equipment

2. EMCS

2.1 EMCS Controls

Base standard for EMCS controls is Automated Logic.

Type: Control Modules

Mfr: Automated Logic

Color: N/A

Finish: N/A

Model: Routers, Controllers, Expanders

Other: Electronic control, two-way

Type: VFD

Mfr: Toshiba

Color: N/A

Finish: N/A

Model: N/A

Other: The VFD shall be capable of automatic control by a remote 4-20 mA signal, by network command, or manually by the VFD control panel. The VFD must be able to provide actual real-time RPM readings through a hardwired connection.

Type: Lighting Controls

Mfr: Wattstopper

Color: N/A

Finish: N/A

Model: CI-24

Other: N/A

3. Structures

3.1 Lock / Door Hardware

Type: Door closer

Mfr: LCN
Color: N/A
Finish: Brushed Nickel (US26D)
Model: 4040XP "Super Smoothee"
Other: N/A

Type: Panic Hardware

Mfr: Von Duprin
Color: N/A
Finish: Brushed Nickel (US26D)
Model: 98
Other: Exit trim would depend on the function of the door.

Type: Cylindrical Lockset

Mfr: Schlage ND
Color: N/A
Finish: Brushed Nickel (US26D)
Model: Different model numbers for different functions. Consult with Structures shop.
Other: Must accept Schlage Large Format Interchangeable Cores

3.2 Ceiling Tile

Type: Square Edge 2-ft x 4-ft

Mfr: USG
Color: White
Finish: N/S
Model: R2310
Other: N/A

Type: Square Edge 24-inch x 24-inch

Mfr: USG
Color: White
Finish: N/S
Model: R2110
Other: N/A

Type: Shadowline Tapered Edge 2-ft x 4-ft

Mfr: USG
Color: White
Finish: N/S
Model: R2320
Other: N/A

Type: Shadowline Tapered Edge 24-inch x 24-inch

Mfr: USG
Color: White
Finish: N/S
Model: R2120
Other: N/A

3.3 Paint Colors

OFFICE INTERIOR	PAINT COLOR	SPEC INFO
Wall Finishes	SW 7006	Sherwin-Williams Extra White Semi-Gloss Latex
Trim Finishes	SW 6249	Sherwin-Williams Storm Cloud Semi-Gloss Latex
	SW 6073	Sherwin-Williams Perfect Greige Semi-Gloss Latex
	SW 6990	Sherwin-Williams Caviar Semi-Gloss Latex

DORMITORY INTERIOR	PAINT COLOR	SPEC INFO
Wall Finishes	SW 7006	Sherwin-Williams Extra White Semi-Gloss Latex
Wall Finishes	Custom Color Match	China White Semi-Gloss Latex

EXTERIOR COLORS	PAINT COLOR	SPEC INFO
Trim – Fired Brick	SW 3655	Semi-Gloss Latex
Trim – Brown	Federal Standard #30108	Base- Super Paint, Ultra deep base # A89T154, Satin finish
Trim – White	Federal Standard 27886	Base – Super Paint extra white base, #A89W2151, Satin Finish
Trim – Gray	Federal Standard #26329	Base – Super Deck, Deck and dock coating #6509-25720

4. Plumbing

4.1 Commode

Type: Tankless Toilet

Mfr: American Standard

Color: White

Finish: N/A

Model: 3043001.020

Note: Must be ADA compliant

Type: Tank Type Toilet

Mfr: Kohler

Color: White

Finish: N/A

Model: K-3531

Note: Must be ADA compliant

Type: Flushometers Toilet / Urinal

Mfr: Sloan

Color: Chrome

Finish: Chrome

Model: Royal 186-1 urinal / toilet regal 110 xl

4.2 Urinals

Type: Siphon Jet Urinal

Mfr: American Standard

Color: White

Finish: N/A

Model: 6561017.020

Type: Flushometers Toilet / Urinal

Mfr: Sloan

Color: Chrome

Finish: Chrome

Model: Royal 186-1 urinal/toilet regal 110 xl

4.3 Faucets

Type: Manuel Faucet

Mfr: Delta

Color: Chrome

Finish: Chrome

Model: 500 DST

Note: Must be ADA compliant. Automatic faucets are not standard equipment.

4.4 Shower Parts

Type: Shower Heads – Plastic

Mfr: Delta / Kohler / Moen

Color: Chrome

Finish: Chrome

Model: N/A

Type: Shower Valves – Shall be Brass

Mfr: Delta
Color: Chrome
Finish: Chrome
Model: Classic

4.5 Hot Water Heaters

Type: Natural Gas Water Heater / Electric

Mfr: RHEEM
Color: Tan / Gray
Finish: N/A
Model: Commercial / Residential

Type: Natural Gas / Electric

Mfr: Bradford White
Color: White
Finish: N/A
Model: Commercial / Residential

4.6 Water Distribution

Type: PVC C-900

Mfr: Any distributor
Color: Blue
Finish: N/A
Model: Schedule 40__ PVC
Other: Mains will be a minimum of 4-inches in diameter.

Interior Domestic Waterline

Type: PEX Type B

Mfr: Any distributor
Color: Cold Water – Blue / Hot Water - Red
Finish: N/A
Model: N/A
Other: Interior domestic water, minimum of ½ inch. Conforms to ASTM requirements.



Interior Domestic Waterline

Type: PEX Fittings

Mfr: Any distributor

Color: Brass

Finish: N/A

Model: All Fittings will be Brass Barbed

Other: Minimum of ½ inch



Interior Domestic Waterline

Type: PEX Connectors

Mfr: Any distributor

Color: N/A

Finish: N/A

Model: Solid Copper "Crimp Ring" Style connectors

Other: Minimum of ½ inch



4.7 Gas Distribution

Type: PE Polypipe

Mfr: Any distributor

Color: Yellow

Finish: N/A

Model: Schedule 40__ PVC

Other: Mains will be minimum of 1 ½-inches in diameter

4.8 Sewer Distribution

Type: PVC/ABS

Mfr: Charlotte Pipe / US Plastic

Color: Green

Finish: N/A

Model: Schedule 40__ PVC

4.9 Exterior Water Main Valves

Type: Steel

Mfr: Mueller

Color: Brown

Finish: N/A

Model: 350 W

4.10 Fire Suppression Pipe

Type: Carbon Steel

Mfr: US Steel

Color: Black

Finish: N/A

Model: Schedule 40 Minimum. Schedule 10 **NOT** authorized.

4.11 Water Fountains

Type: Wall mount / Free Standing / Bottle Fillers

Mfr: Elkay

Color: Tan

Finish: N/A

Model: LZS8WLK/EZSL8

Note: Must be compatible with Elkay Water Sentry Plus (3000 Gallons) (Model 51300C)

Type: Bottle Filler Filter / Water Fountain Filter

Color: N/A

Finish: N/A

Mfr: Elkay

Model: Water Sentry Plus (3000 Gallons) – 51300C

4.12 Mech Room and Backflow

Type: Recirculation Pump

Mfr: Bell and Gossett

Color: Red

Finish: N/A

Model: Series 100

Type: Backflow Preventers – DC / RPPD / RP

Mfr: Watts

Color: Brass

Finish: N/A

Model: 909/009/007/757/957/008

Type: Backflow Preventors – DC / RPPD / RP

Mfr: Febco

Color: Brass

Finish: N/A

Model: 850/880V/860/825/805/805Y/826/765

Type: Backflow Preventors – DC/RPPD/ RP

Mfr: Wilkins / Zurn

Color: Brass

Finish: N/A

Model: 950xl/975xl/357/350A/375A

4.13 Fire Hydrants

Type: Security Fire Hydrant

Mfr: Sigelock Systems, LLC (sigelock.com)

Color: Fired Brick (Sherwin-Williams 6335)

Finish: N/A

Model: Spartan 300 – 5 1/4 Dry Barrel Fire Hydrant



5. Electric

NOTE: All light fixtures / ballasts must meet the requirements of UFC 3-530-01.

5.1 Light Diffusers

Type: Polycarbonate – Smooth Pattern Light Diffusers

Mfr: Varies

Color: Clear/White

Finish: N/A

Model: 60URXX or similar

Other: Size 2-ft x 2-ft or 4-ft x 2-ft – fixture dependent

UFGS: N/A

Note: Due to constraints on availability of grid-style sizing, smooth pattern light diffusers are recommended based on recessed 2-ft x 2-ft or 4-ft x 2-ft fixtures.

5.2 Drop Ceiling LED Fixtures



1 Recessed Troffer Fixture 4-ft

4-ft Recessed LED Fixture

Type: Recessed troffer 4-ft x 2-ft

Mfr: LITHONIA LIGHTING

Color: White, 3500k

Finish: Unfinished

Model: 2GTL 4 30L EZ1 LP835

Other: 72,000 Rated Life, 120V to 277V, Dimmable

UFGS: N/A

2-ft Recessed LED Fixture

Type: Recessed troffer 2-ft x 2-ft LED

Mfr: LITHONIA LIGHTING

Color: White, 3500k

Finish: Matte, Powder Coated

Model: 2BLT2R 40L ADP EZ1 LP835

Other: 60,000 Rated Life, 120V to 277V, Dimmable

UFGS: N/A

Note: Currently only fluorescent grid-style recessed fixtures are available. Only LED fixtures shall be used using above data as reference. Both recessed fixtures are for reference and must be compatible with interchangeable 2-ft x 2-ft / 4-ft x 2-ft polycarbonate diffusers while still meeting lighting requirements **UFC 3-530-01**.

5.3 Ceiling Mounted LED Fixture



2 LED Wraparound Fixture 4-ft

4-ft LED Wraparound Fixture

Type: Surface Mounted 4-ft LED Fixture

Mfr: LITHONIA LIGHTING

Color: White

Finish: High Gloss

Model: SBL4 LP835

Other: 50,000 Rated Life, 120V to 277V, Dimmable

UFGS: **Light color and lumen intensity will conform to UFC 3-530-01**

- Standard is 32 Watt, CCT of 3500K and CRI of 80.
- Dimmable. 0-10 volts.
- Compatible with NEMA SSL 7A Dimmers and dimmer systems.
- Linear LED lamps with conversion kits are NOT ALLOWED.

5.4 Emergency Light & Exit Sign

Exit Sign

Type: 1 or 2 Faces, Nickel Cadmium battery

Mfr: Compass

Color: White, Red Letter

Finish: Plastic

Model: CERRC

Other: 120v/277v, Universal mounting, LED. Fixture must be compatible with emergency light battery.

Emergency Light

Type: 2 Lamp, Nickel Cadmium battery

Mfr: Fulham Firehorse

Color: White

Finish: Plastic

Model: FHEM10W

Other: 120v/277v, Ceiling/wall mounting, LED Fixture must be compatible with emergency light battery.

5.5 Electrical Boxes

Type: Electrical boxes, panelboards, and devices must meet requirements in UFC 3-520-01

Mfr: Square D

Color: No Preference

Finish: No Preference

Model: Model depends on application

Other:

1. Panel should be hinged.
2. Contractors will leave 20% free space/ capacity in electrical boxes to accommodate expansion and mission change.
3. Provide one spare ¾-inch conduit for every 3 spare breakers.
4. Must be bolt on type breakers.
5. Receptacles will be single gang or double gang with covers matching color scheme.

6. Generators

6.1 Generator

Type: Diesel Generator

Applies to: Group 1 Group 2 Group 3 Group 4 Other

Mfr: Onan

Make: Onan with Cummins Power Generation engine

Color: N/A

Finish: N/A

Model: There is no specific model or series that we require as long as the generator is a Cummins Onan generator designed for the environment it is being installed in, (indoors without shrouding, outdoors with shrouding). Filters and parts across Onan generators with Cummins engines are common across their models or series. Model or series is based on kW, amperage/single or 3 phase/voltage requirements of emergency circuit or facility being installed on, also whether is being installed indoors or outdoors. Shrouding is only difference. Prefer generators installed outdoors, but if installed indoors, have in exterior room of facility with double doors that open to the outside the building.

UFGS: Must meet requirements of AFMAN 32-1062 and UFC 3-540-01

Other: Fuel tank: Double walled belly tank. Minimum fuel capacity to run generator 24 hours at full facility load per UFC 3-540-01

Batteries: Interstate



3 Generator indoors sitting on double walled belly tank.



4 Generator outdoors shrouded sitting on double walled belly tank

6.2 Generator Transfer Switch

Type: Automatic Transfer Switch (ATS)/4-pole neutral transfers

Mfr: Onan

Color: N/A

Finish: N/A

Model: BTPC Bypass Isolation Transfer Switch meeting amperage/voltage requirements of facility being installed on.

Other: Have commercial service disconnect or emergency circuit disconnect going into ATS to be able to shut off commercial power to facility for generator testing. This type of ATS combines a draw out automatic transfer switch with isolation mechanism and a manual bypass switch, to provide redundant power transfer and re-transfer capability for critical-need applications requiring a reliable power supply to the load. Exterior ATS picture is this type of ATS.

UFGS: Must meet requirements of AFMAN 32-1062, and UFC 3-540-01



5 ATS indoors



6 ATS outdoors with bypass isolation transfer capability as required by UFC 3-540-01

7. Fire Alarms

Note: Base standard equipment for fire alarms is Monaco Systems. Contact 90 CES/CEOFE for Sole Source Letter to only install Monaco Systems fire alarm components.

Fire Alarm System

Type: Fire Alarm / Mass Notification Panel

Mfr: Monaco Enterprises, Inc.

Color: Red

Finish: N/A

Model: MAAP-X

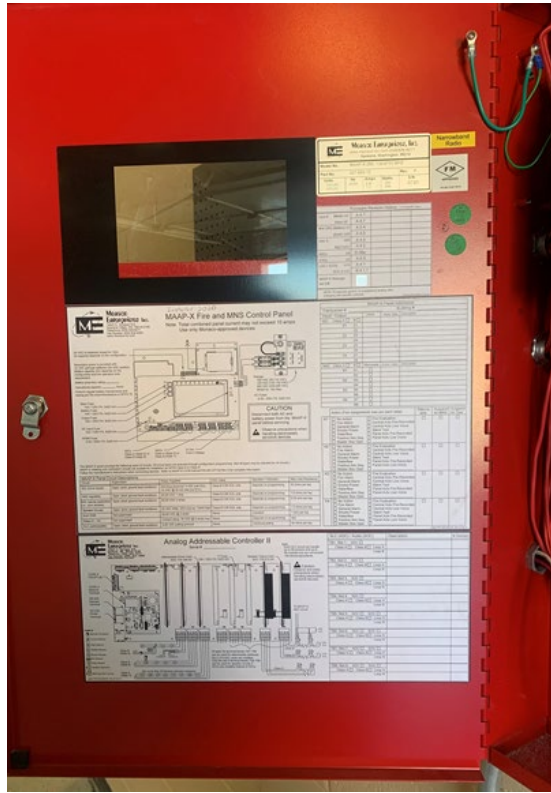
Other: 227-955-XX

UFGS: Specific frequency (*XX) when ordering. Contact 90 CES
Standard Notification Message Codes/Order:

Message	Description
1	Evacuate
2	Bomb Threat
3	Weather Warning
4	Intruder Alert
5	Shelter in Place
6	Alternate Exit
7	All Clear
8	Test
16	Fire Evacuation
99	Paging Microphone
100	Auxiliary Audio Input
101	Live Voice
102	T3 Temporal



7 Panel exterior



8 Panel Inside Door Cover



9 Inside FACP



10 Close up of touchscreen inside panel

Type: Fire Alarm / Mass Notification Sub-Panel

Mfr: Monaco Enterprises, Inc.

Color: Red

Finish: N/A

Model: MAAP-X

Other: 700-101-00, Catalog Version 5

Notes: For applications where copper wire is not authorized, the MAAP-X sub-panel with fiber optic wire shall be used (i.e. SCIFs). If a MAAP-X sub panel is used, the master panel shall be outfitted with the appropriate conversion components for the sub-panel fiber optic cables.

Type: Standard VHF Antenna

Mfr: Monaco Enterprises, Inc.

Color: Metallic Silver

Finish: N/A

Model: 190-400-00

Other: Length (51.5 inches), FEW Frequency (139.6750), DBI (5.13)

Type: Antenna Cable (runs < 100-ft)

Mfr: Monaco Enterprises, Inc.

Color: N/A

Finish: N/A

Model: Coaxial RG-8x Cable, 620-023-00

Other: Used for runs less than 100-ft in length. Run distance is the distance between the panel radio to the antenna outside.

Type: Antenna Cable (runs between 100-ft – 200-ft)

Mfr: Monaco Enterprises, Inc.

Color: N/A

Finish: N/A

Model: 620-026-00

Other: Used for cable runs between 100-ft to 200-ft in length. Run distance is the distance between the panel radio to the antenna outside.



11 Omnidirectional VHF Antenna

Type: Manual Pull Station
Mfr: Monaco Enterprises, Inc.
Color: Red
Finish: N/A
Model: 708-026-01
Other: Double Action



12 Pull Station

Type: Heat/Smoke Detector Base
Mfr: Monaco Enterprises, Inc.
Color: White
Finish: N/A
Model: 729-132-00
Other: Detector base, plug-in 6.1-inch



13 Detector base

Type: Addressable Heat Detector
Mfr: Monaco Enterprises, Inc.
Color: White
Finish: N/A
Model: 721-134-00
Other: 135F rate-of-rise detector



14 Heat Detector

Type: Addressable Smoke Detector

Mfr: Monaco Enterprises, Inc.

Color: White

Finish: N/A

Model: 723-601-00

Other: Plug-in, low profile



15 Smoke Detector

Type: Addressable Carbon Monoxide Detector

Mfr: Monaco Enterprises, Inc.

Color: White

Finish: N/A

Model: 725-603-00

Other: Rectangular 4-wire



16 Carbon Monoxide Detector

Mass Notification device

Type: Outdoor Wall-Mount Type 1

Mfr: Monaco Enterprises, Inc.

Color: Red

Finish: N/A

Model: 585-097-01



17 Alert Notification device outdoor style wall

Mass Notification Device

Type: Indoor Wall-Mount Type 1

Mfr: Monaco Enterprises, Inc.

Color: White

Finish: N/A

Model: 585-102-00

Other: Indoor horn/strobe type 1 – Wall mount



18 Alert Notification device indoor style - wall

Mass Notification device

Type: Indoor Ceiling-Mount Type 1

Mfr: Monaco Enterprises, Inc.

Color: White

Finish: N/A

Model: 585-105-00

Other: Indoor horn/strobe type 1 – Ceiling mount



19 Alert Notification device indoor style - ceiling

Type: Addressable Duct Detector

Mfr: Monaco Enterprises, Inc.

Color: Black

Finish: N/A

Model: 723-370-00



20 Duct Detector