

VA



# U.S. Department of Veterans Affairs

Office of Information and Technology

*IT Operations and Services*

*| Solution Delivery*

## *COMMUNITY BASED OUTPATIENT CLINIC (CBOC) INSIDE PLANT INFORMATION TRANSPORT SYSTEMS SPECIFICATIONS*

*DEVELOPED BY:  
DATA CENTER ENGINEERING  
DATA CENTER & CLOUD ENGINEERING*

Department of Veterans Affairs



*IT Operations and Services  
Solution Delivery*



### PROJECT:

*CBOC ITS  
SPECIFICATIONS*

### PROJECT No:

*N/A*

MARK	DATE	DESCRIPTION

### ISSUE:

### DRAWING No:

*FILE: CBOC INSIDE PLANT ITS SPEC V1.vsd*

*DRAWN BY: Kevin Grzelka*

*CHECKED BY: Michael Julian, RCDD*

*DOC VERSION No: 1.0*

*PRINT DATE: Oct 5, 2017*

*ISSUE DATE: Oct 5, 2017*

### SHEET TITLE

*COVER PAGE*

*COVER*

*SHEET: 1 OF 15*

Initials: \_\_\_\_\_ (Lessor) / \_\_\_\_\_ (Gov't)

FRONT MATTER

PURPOSE:

THIS DRAWING SET REPRESENTS THE COMPUTING AND PASSIVE INFRASTRUCTURE DESIGN AND RACK ELEVATIONS FOR A GENERIC HEALTHCARE FACILITY EQUIPMENT ROOM (ER) AND A GENERIC TELECOMMUNICATION ROOM (TR). UNLESS NOTED OTHERWISE, ACTIVE EQUIPMENT WILL BE FURNISHED AND INSTALLED BY VA OR VA CONTRACTORS. THE STRUCTURED CABLING PLANT INSTALLERS WILL FURNISH AND INSTALL PASSIVE CABLE PLANT INFRASTRUCTURE INCLUDING HORIZONTAL CABLE MANAGERS, UTP AND FO HORIZONTAL CABLE, PATCH PANELS, PATHWAY RACKS, FIBER DISTRIBUTION CABINETS AND FIBER CASSETTES.

DESIGN OBJECTIVES

1. MODULARITY: THIS DESIGN IS HIGHLY MODULAR.
2. FLEXIBLE: THIS DESIGN IS FLEXIBLE TO ACCOMMODATE CHANGES TO FLOOR PLANS.
- 3.CABLE PLANT: UTP CATEGORY 6A CABLE PLANT WILL SUPPORT 10 GIGABIT ETHERNET.  
FIBER PLANT WILL UTILIZE LASER ENHANCED OM4 40 GbE RATED 50/125 MULTIMODE.

THIS DRAWING IS SCALED TO 11X17 FORMAT.

DRAWING TYPE DEFINITIONS

- T0 - Campus or Site Plans - Exterior Pathways and Inter-Building Backbones
- T1 - Layout of complete building per floor - Serving Zone Boundaries, Backbone Systems, and Horizontal Pathways
- T2 - Serving Zones Drawings - Drop Locations and Cable ID's
- T3 - Communication Equipment Rooms - Plan Views - Tech and AMEP /Elevations - Racks and Walls Elevations
- T4 - Typical Detail Drawings - Faceplate Labeling, Firestopping, ADA, Safety, DOT, etc...
- T5 - Schedules (Cabling and Equipment Spreadsheets) for cutovers

Standard or Document Description

- ANSI/TIA-606-C, Administration Standard for Telecommunications Infrastructure
- ANSI/TIA-606-B-1, Administration Standard for Telecommunications Infrastructure Addendum 1- Automated Infrastructure Management Systems - Addendum to ANSI/TIA-606-B
- ANSI/TIA-607-C, Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises
- ANSI/TIA-607-C-1, Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises - Addendum to TIA-607-C
- ANSI/TIA-942-A, Telecommunications Infrastructure Standard for Data Centers
- ANSI/TIA-942-A-1, Telecommunications Infrastructure Standard for Data Centers Addendum 1- Cabling Guidelines for Data Center Fabrics - Addendum to TIA-942-A
- ANSI/TIA-1179, Healthcare Facility Telecommunications Infrastructure
- BICSI 002, Data Center Design and Implementation Best Practices
- BICSI ITSIMM, Information Technology Systems Installation Methods Manual (ITSIMM) - 7th Edition
- BICSI/NECA 568, Standard for Installing Commercial Building Telecommunications Cabling
- BICSI/NECA 607 Standard for Telecommunications Bonding and Grounding Planning and Installation Methods for Commercial Buildings 2011
- CSI MASTERFORMAT™ 2004 EDITION NUMBERS & TITLES Construction Specifications Institute (CSI)
- NFPA 70, National Electrical Code
- NFPA 75, Standard for the Fire Protection of Information Technology Equipment



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SHEET TITLE

FRONT MATTER

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SHEET: 2 OF 15

## CBOC ITS SPECIFICATIONS

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SHEET: 3 OF 15

MD MOTION DETECTOR

TELECOMMUNICATIONS  
OUTLET

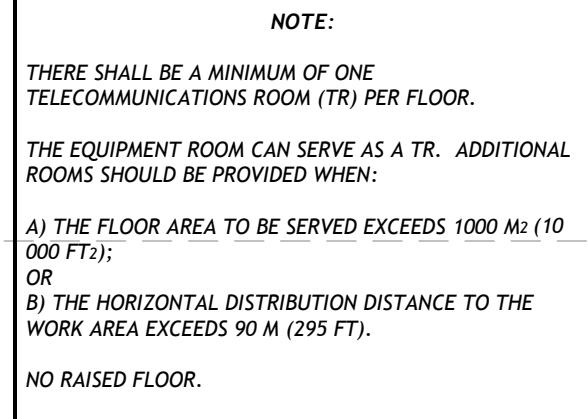
IFC 320-C14

OR-MM20730-W.  
30" DEEP CHANNEL  
7'H. 45RU.  
ORTRONICS MM20  
CHANNEL RACK

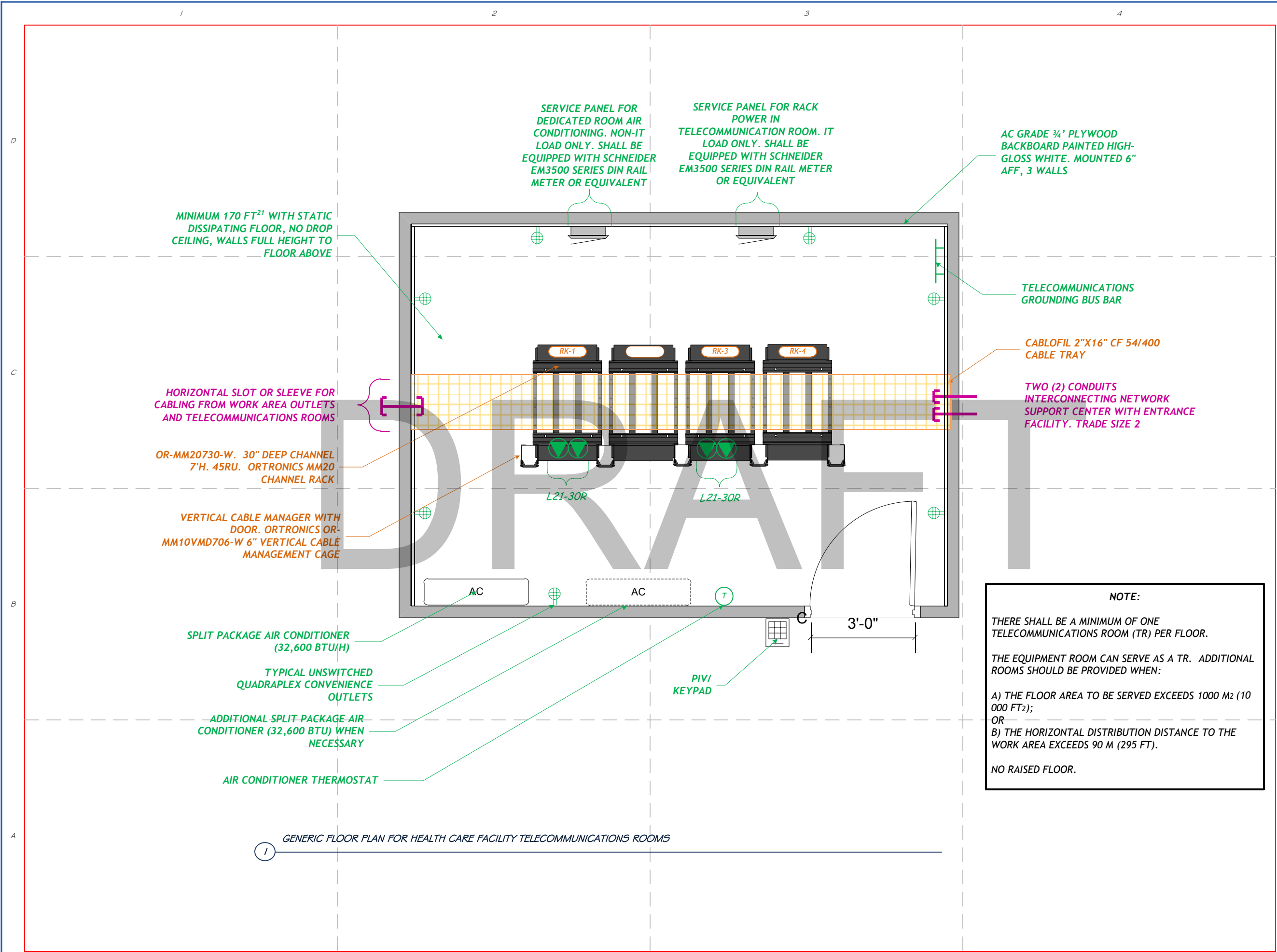
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SHEET: 4 OF 15







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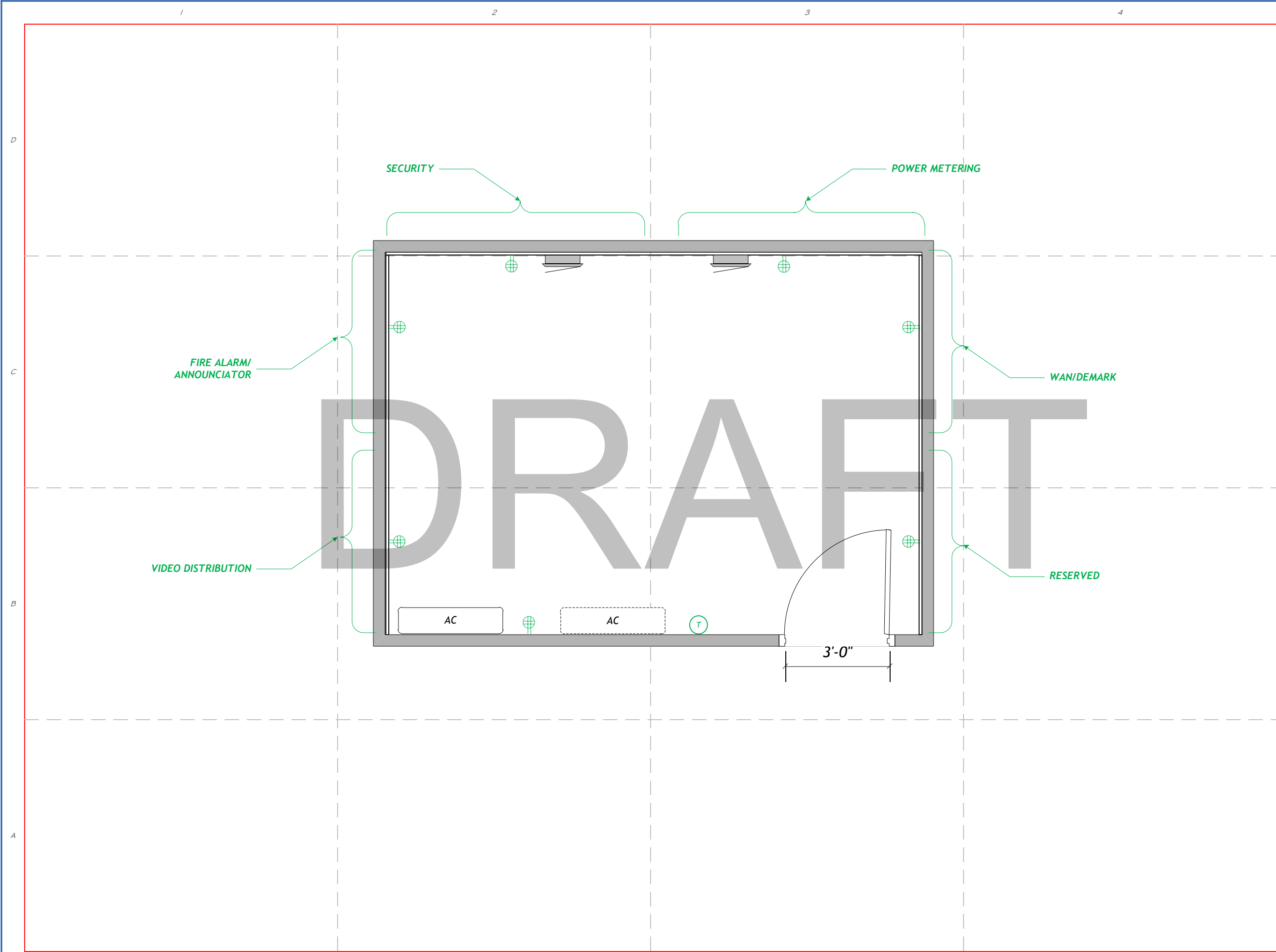
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SHEET TITLE

TELECOMMUNICATIONS  
ROOM

T3-GENERIC HEALTH CARE  
FACILITY TR

SHEET: 5 OF 15



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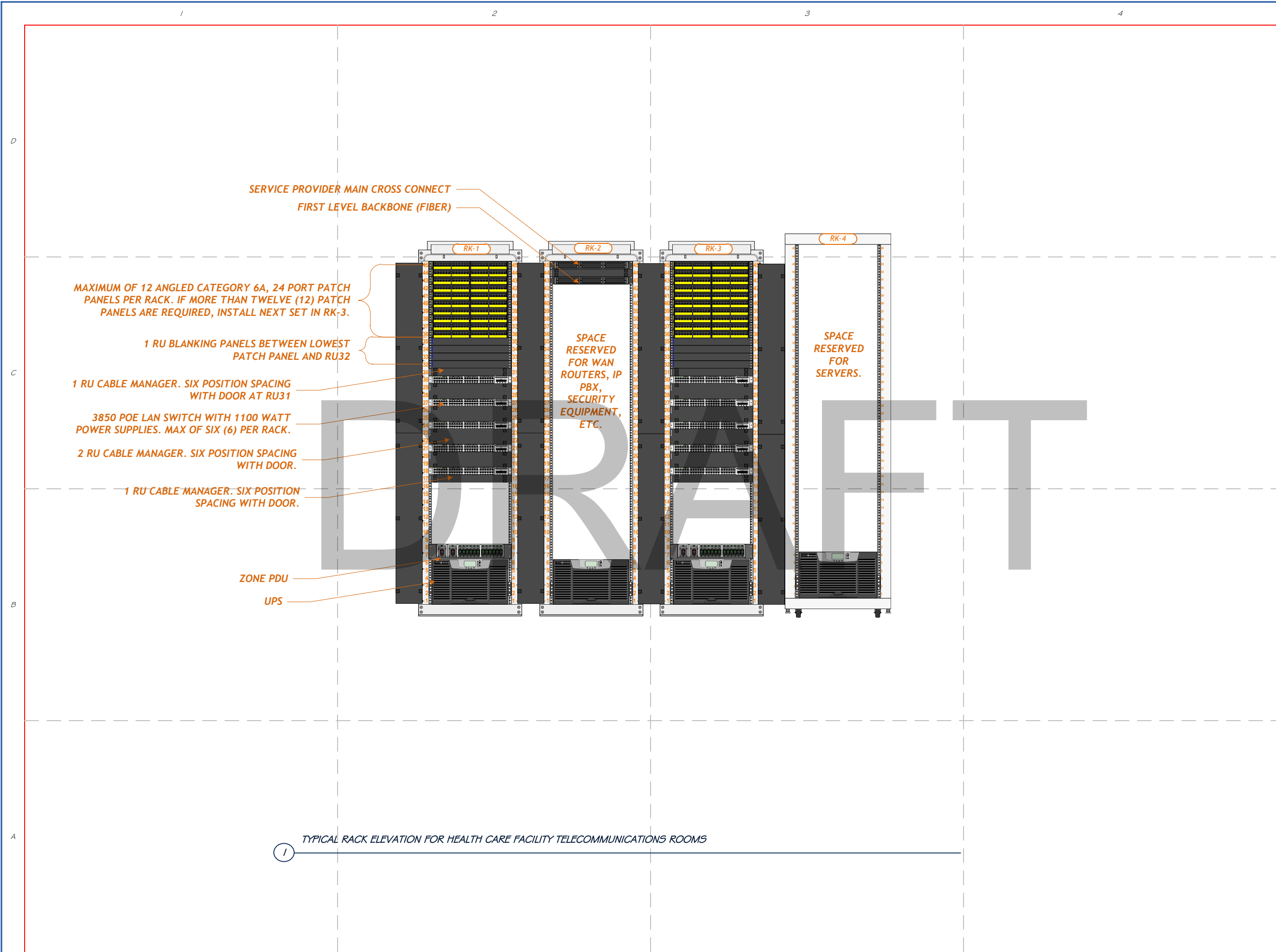
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SHEET TITLE

TYPICAL BACKBOARD  
ELEVATION

T3 - TYPICAL BACKBOARD  
ELEVATION

SHEET: 6 OF 15



1 TYPICAL RACK ELEVATION FOR HEALTH CARE FACILITY TELECOMMUNICATIONS ROOMS



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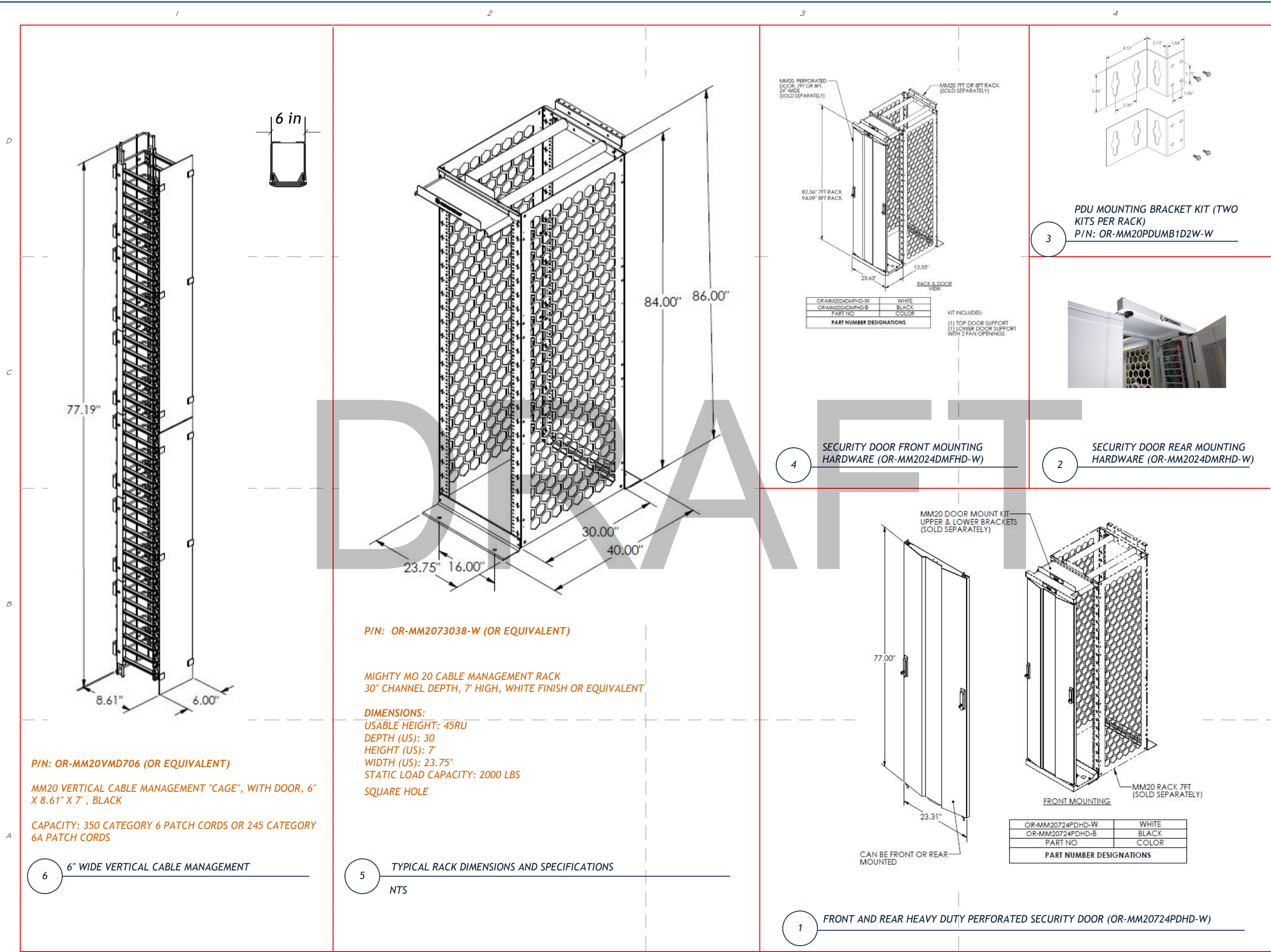
SHEET TITLE

TYPICAL RACK ELEVATION

T3 - TYPICAL RACK  
ELEVATION

SHEET: 7 OF 15





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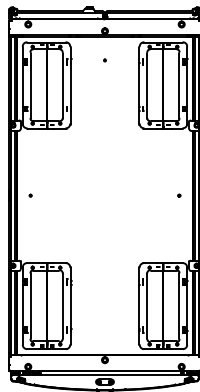
SHEET TITLE

TYPICAL RACK PARTS LIST

T4 - TYPICAL RACK DETAIL

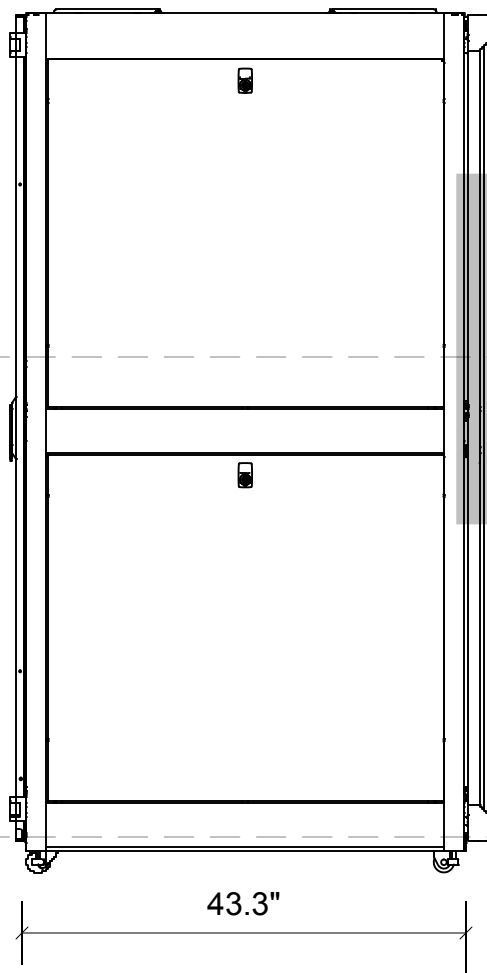
SHEET: 8 OF 15





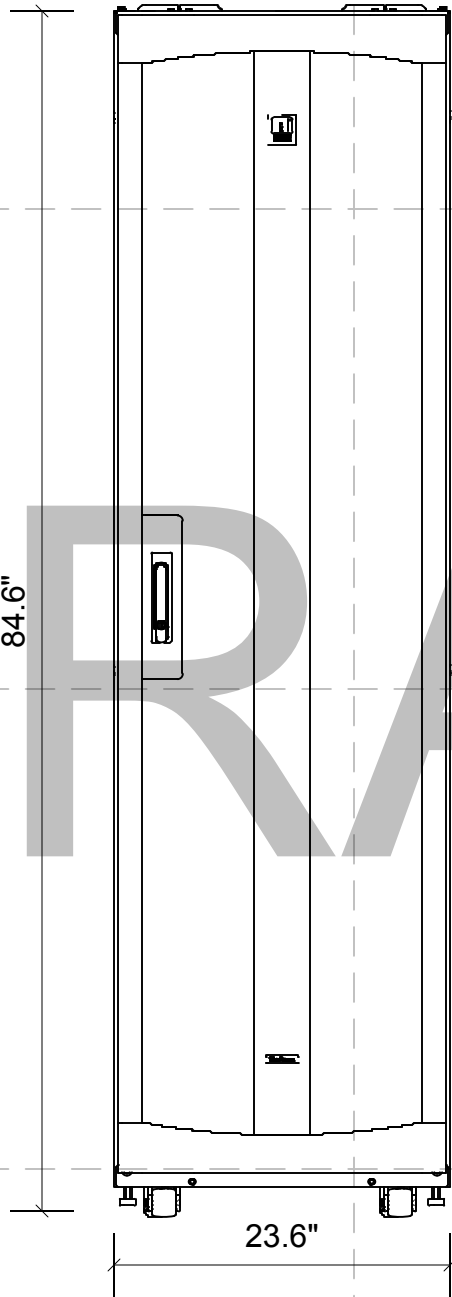
TYPICAL ENCLOSURE TOP VIEW WITH FOUR (4) BRUSHED GROMMET CABLE OPENINGS

NTS



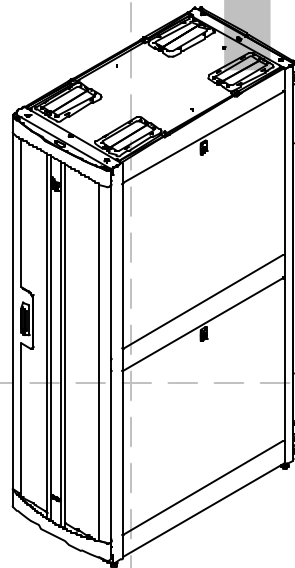
TYPICAL ENCLOSURE SIDE VIEW

NTS



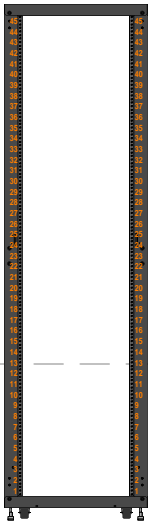
TYPICAL ENCLOSURE FRONT

NTS



TYPICAL ENCLOSURE SPECIFICATION

NTS



CP3210245 F-Series TeraFrame Gen 3 Cabinet System with accessories installed Configuration includes the following components:	
<u>Item Number</u>	<u>Description (Qty)</u>
FF1N-113C-E42-B	F-Series TeraFrame Gen 3 Cabinet System, 45 RMU, 84.6 in. (2149mm) H x 23.6" (600mm) W x 43.30" (1100mm) D Square-Punched Rails, 2-Pair, Single, Perforated Metal Front Door, Two Point, Keyed Swing Handle Lock, Double Perforated Metal Rear Door, Two Point, Keyed Swing Handle Latch, Server Top Panel, 2 Solid Side Panel, Glacier White, 6-Slide Frame
024-739003-E63	Frame, 6 Slide, 23.6" (600 mm) W x 43.3" (1100 mm) D x 45 RMU, Glacier White (1)
024-739060-E03	Door, TeraFrame, Front, Assembly, 23.6" (600 mm) W x 45 RMU, Glacier White (1)
024-739064-703	Lock Kit, 2-Point, Keyed, Front Door, 45 RMU (1)
024-739050-E03	Double Door Assembly, 23.6" (600 mm) W x 45 RMU, Glacier White (1)
024-739054-703	Lock Kit, 2-Point Latching, Keyed, Perforated Door, 45 RMU (1)
024-739140-E12	Top Panel, 2-Piece, Brush, 23.6" (600 mm) W x 43.3" (1100 mm) D, Glacier White
024-739046-E63	Side Panel, 6 SLIDE, 43.3" (1100 mm) D x 45 RMU, Glacier White (2)
024-739200-002	Kit, Common Parts Parts, Teraframe, UL, White (1)
024-739110-701	PDU Bracket, Assembly, Standard, 0.7" (17 mm) W x 3.9" (100 mm) D x 2.4" (60 mm), Black (1)
39110-C01	PDU Bracket, Assembly, Standard, 0.7" (17 mm) W x 3.9" (100 mm) D x 2.4" (60 mm), Black (1)
024-739240-003	Kit, Packaging, 600 W x 1075-1200D x 42U - 48U (1)
024-739029-001	Caster Kit, Two Swivel, Two Fixed, 1.6" (41 mm) W x 2" (51 mm) D x 2" (41 mm) H
39085-E03	Air Dam, 6 SLIDE, 23.6" (600 mm) W x 45 RMU, Glacier White (1)
39137-703	Baying Seal Kit, 45U (2)
39132-E00	Bottom Panel, With Brush, 23.6" (600 mm) W x 39.4" - 47.2" (1000 - 1200 mm) D, Glacier White (1)
31920-E03	Finger Cable Manager no Cover (2)
UL2416	This Cabinet and any included accessories are UL Listed under the NWIN category per the UL2416 Standard. UL file number E227626. Note, the UL Listing only applies to cabinets manufactured in the United States.
(VENDOR TO PROVIDE 45 RU OF PLENAFILL BLANKING PANEL PER ENCLOSURE)	



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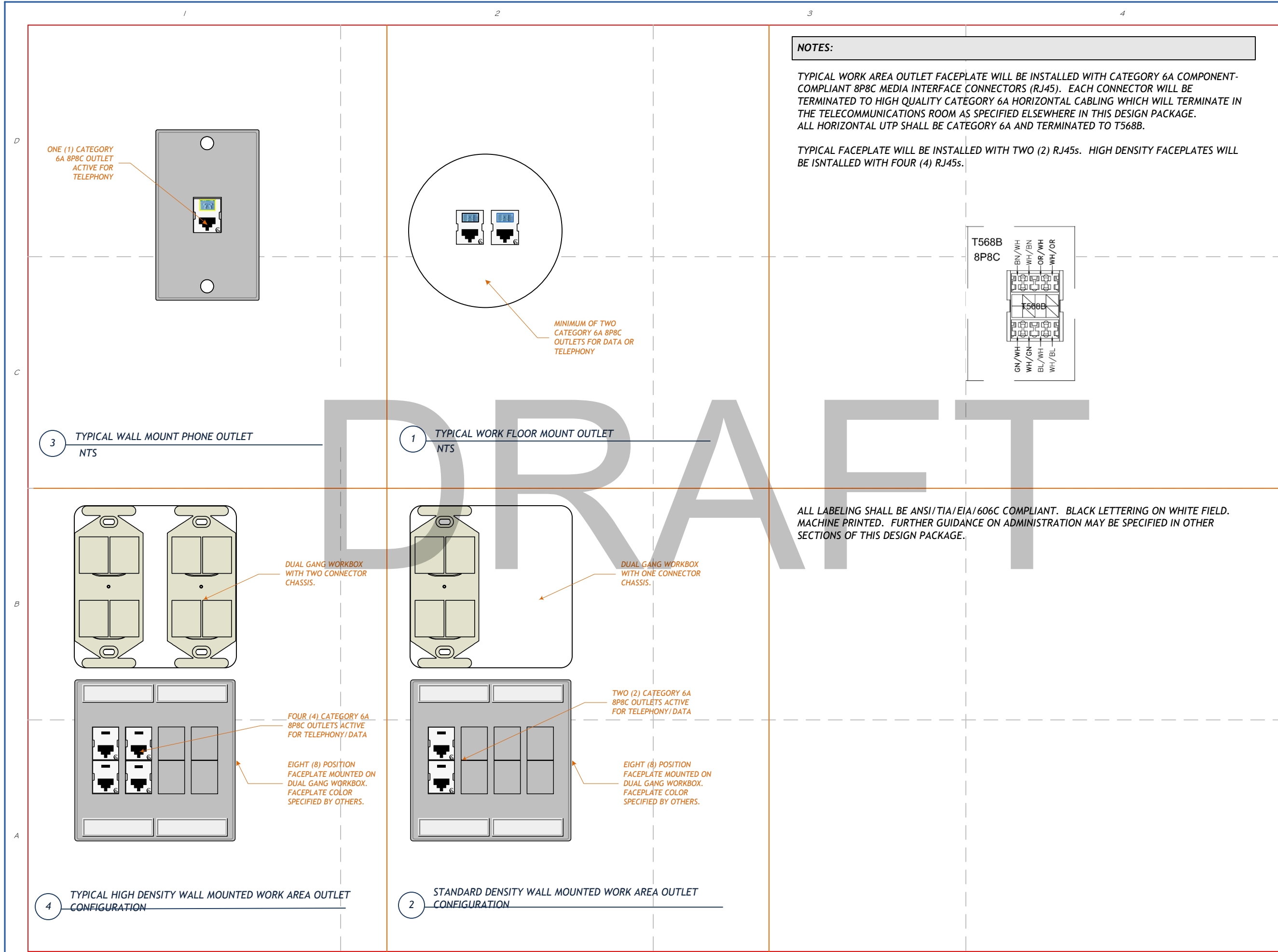
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SHEET TITLE

TYPICAL ENCLOSURE PARTS LIST

T4 - TYPICAL CABINET DETAIL

SHEET: 9 OF 15



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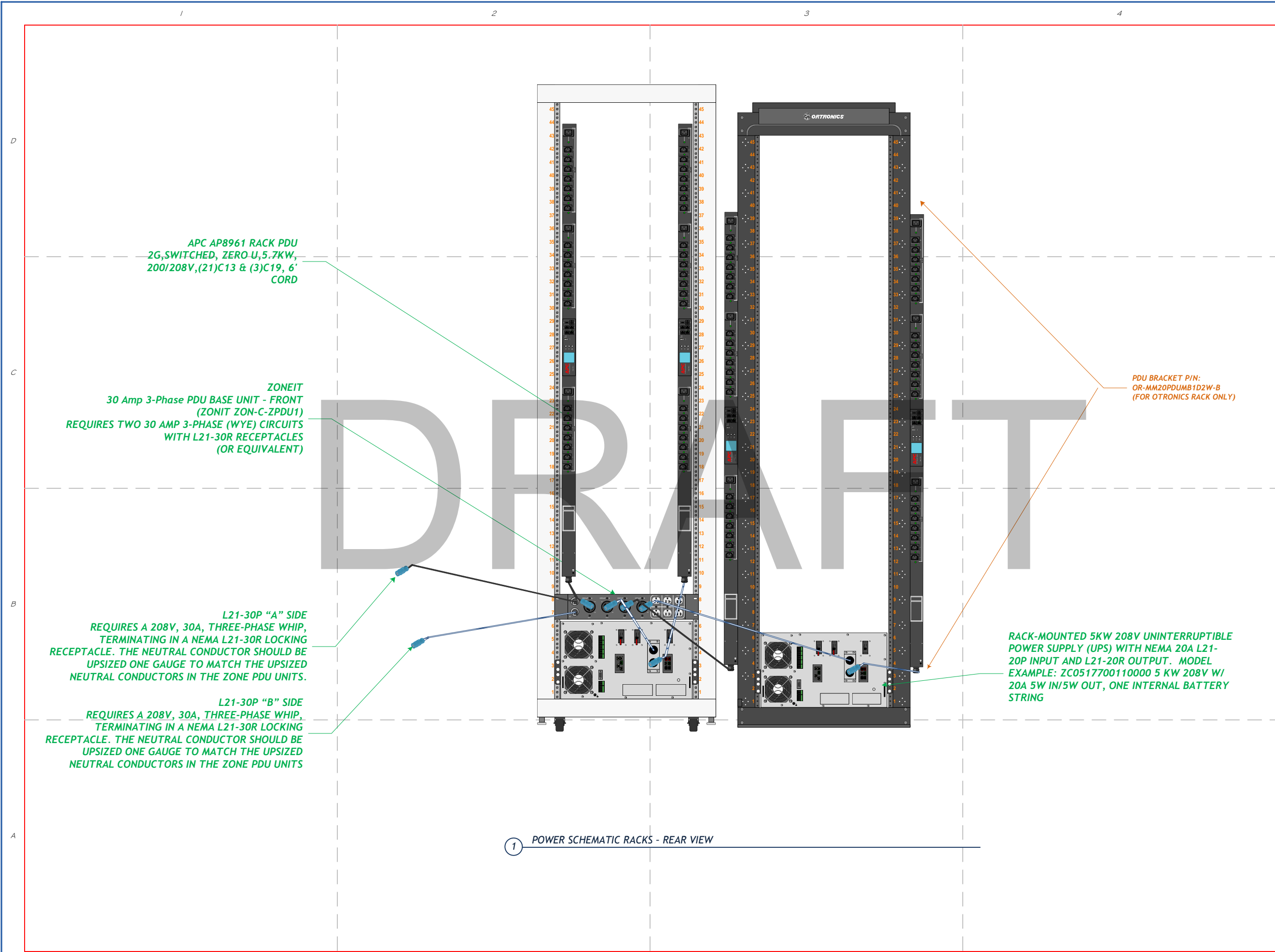
SHEET TITLE

T4 - TYPICAL WORK AREA  
OUTLETS

SHEET: 10 OF 15

SHEET: 11 OF 15





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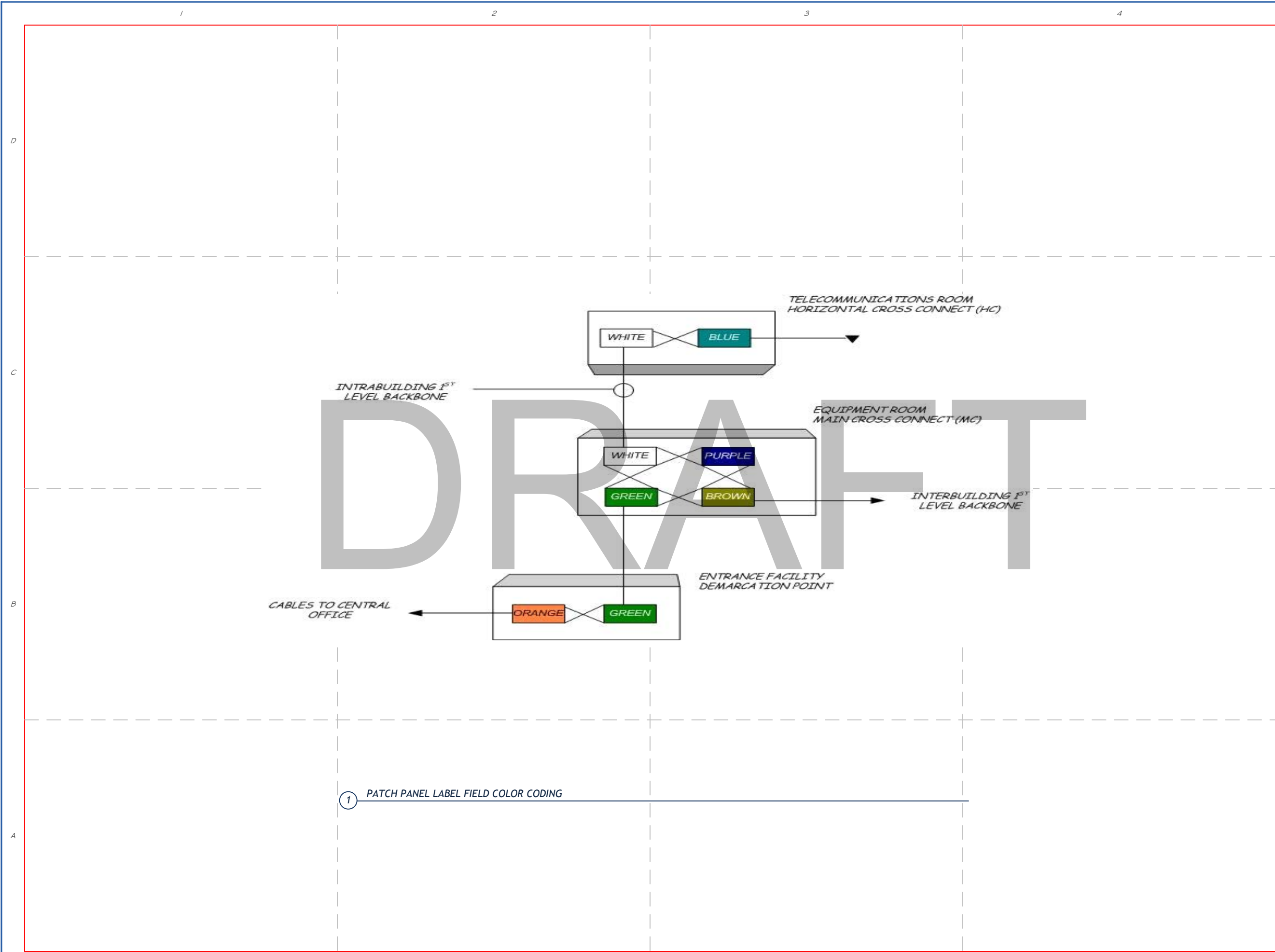
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SHEET TITLE

POWER DISTRIBUTION

T4 - POWER DISTRIBUTION

SHEET: 12 OF 15



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SHEET TITLE

T5 - COLOR CODING

SHEET: 13 OF 15

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## T5 - CBOC ITS NAMING STANDARDS

SHEET: 14 OF 15

- **RACK** = RK1 THROUGH RK4, LABELED LEFT TO RIGHT WHEN LOOKING AT THE FRONT OF THE RACK. APPLIES TO RACKS AND CABINETS.
- **UTP PATCH PANEL** = CPL-RACK NAME-01 THROUGH 45. EXAMPLE: CPL-RK1-01 FOR THE PANEL LOCATED IN RACK UNIT #1 IN RACK #1.
- **UTP PATCH PANEL POSITION** = PANEL ID.01 THROUGH 24. EXAMPLE CPL-RK1-01.01
- **FIBER DISTRIBUTION PANEL** = FPL-RACK NAME-01 THROUGH 45. EXAMPLE: FPL-RK1-01 FOR THE PANEL IN RACK UNIT #1 RACK #1.
- **FIBER DISTRIBUTION CASSETTE** = FCS-RACK NAME-01 THROUGH 45.1 THROUGH 3. EXAMPLE: FCS-RK1-01.1 FOR THE CASSETTE IN POSITION #1 IN PANEL LOCATED IN RACK UNIT #1 IN RACK #1.
- **UTP PATCH CORDS** = CCA[SOURCE.PORT]/[DESTINATION.PORT]. EXAMPLE CCA[CPL-RK1-01.01]/[CPL-RK2-02.02] AS A PATCH CORD CONNECTING PORT #1 IN THE COPPER PATCH PANEL LOCATED IN RACK #1, RACK UNIT #1 WITH PORT 2 LOCATED IN RACK 2, RACK UNIT #2.
- **FIBER PATCH CORDS** = FCA[SOURCE.PORT]/[DESTINATION.PORT]. EXAMPLE FCA[FDP-RK1-01.01.01]/[FDP-RK2-02.02.02] AS A PATCH CORD CONNECTING PORT #1 IN THE FIBER PATCH PANEL LOCATED IN RACK #1, RACK UNIT #1 WITH PORT 2 LOCATED IN RACK 2, RACK UNIT #2.
- **FACEPLATE** = TR ROOM NUMBER-PATCH PANEL ID.PORT. EXAMPLE. 1A-CPL-RK1-01.1 FOR TELECOMMUNICATIONS ROOM 1, UTP PANEL IN RACK #1, RACK UNIT #1, PORT POSITION #1.

### 1 EXAMPLE INSIDE PLANT ADMINISTRATION



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1. **Identify the problem.** The first step in the problem-solving process is to identify the problem. This involves understanding the situation, gathering information, and defining the problem clearly.

SHEET: 15 OF 15

TELECOMMUNICATIONS MEDIA AND INTERFACES SPECIFICATION					
ID	PRIMARY ATTRIBUTE		SECONDARY ATTRIBUTE		SPECIFICATION
1	COPPER PATCH PANELS		PERFORMANCE CATEGORY		CATEGORY 6A (10 GBE)
			POSITION COUNT		24 (4 SIX-PORT MODULES)
			FORM FACTOR		ANGLED
			SIZE		ONE RACK UNIT
			COLOR CODING		BLACK
2	FIBER DISTRIBUTION CASSETTES		CASSETTE CAPACITY		24 STRAND (TWO 12-STRAND MULTI-FIBER PUSH ON (MPO))
			CASSETTE USER INTERFACES		LC QUAD CONNECTORS
			CASSETTE BACKBONE INTERFACES		MPO
			PERFORMANCE CHARACTERISTICS		OM4 LASER ENHANCED 40 GBE 50/125 MULTIMODE
			FORM FACTOR		ONE (1) RU
3	UTP (HORIZONTAL AND FIRST LEVEL BACKBONE)		PERFORMANCE CATEGORY		CATEGORY 6A (10 GBE)
			PERFORMANCE SPECIFICATIONS		MEETS OR EXCEEDS TIA-EIA-568-C.2-10, TSB-155.
			JACKET COLOR		BLUE (HORIZONTAL), WHITE (1 <sup>ST</sup> LEVEL BACKBONE)
			SIZE		ONE RACK UNIT
			COLOR CODING		BLACK
4	FIBER (HORIZONTAL AND FIRST LEVEL BACKBONE)		PERFORMANCE CATEGORY		OM4 LASER ENHANCED TO 40 GIGABIT ETHERNET (GBE
			PERFORMANCE SPECIFICATIONS		LASER OPTIMIZED 50/125 MM FIBERS WITH EFFECTIVE MODAL BANDWIDTH OF AT LEAST 4,700 MHZ·KM AT 850 NM
			MODE		MULTIMODE
					AQUA
			MEDIA CONNECTOR		PRE-TERMINATED WITH MPO, TYPE A
			STRAND COUNT		12
			BUNDLING		LOOSE TUBE
5	UTP PATCH CORDS		PERFORMANCE CATEGORY		CATEGORY 6A, 26-GAUGE, STRANDED
			PERFORMANCE SPECIFICATIONS		CENTER TUNED TO HORIZONTAL MEDIA
			JACKET COLOR		BLUE
			TERMINATION METHOD		FACTORY PRE-TERMINATED
6	FIBER PATCH CORDS		PERFORMANCE CATEGORY		OM4 LASER ENHANCED TO 40 GIGABIT ETHERNET (GBE
			PERFORMANCE SPECIFICATIONS		OM4
			MODE		MULTIMODE
			JACKET COLOR		AQUA
			MEDIA CONNECTOR		PRE-TERMINATED WITH DUPLEX LC

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