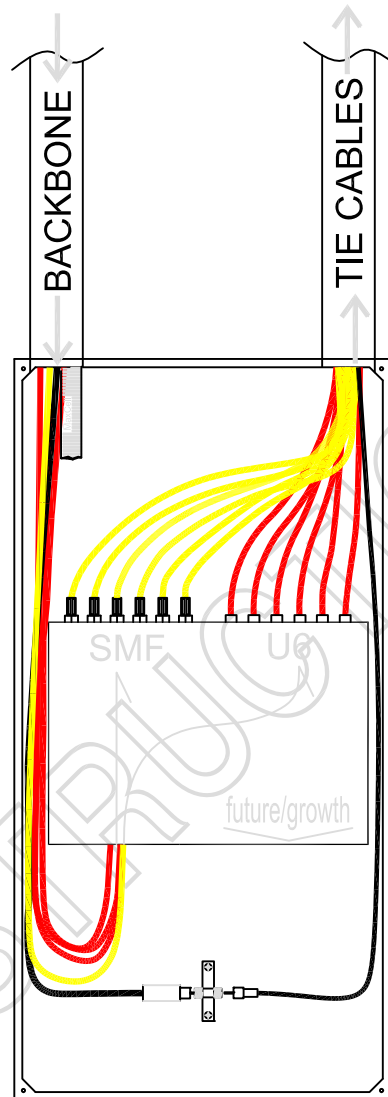


# PORT OF SEATTLE DEMARCATION (DMARC) CABLE PACKAGE DESIGN

-FOR USE BY ALL TENANTS AND PORT OFFICES REQUIRING A DMARC (exception: Kiosk and/or Small Operations)

Revision: GEN 3.1\_050115 for DIV-27



## Instructions to Communication Engineer &/or Designer:

1. DMARC ELEC Details 1a thru 1d relate to best conduit route choices to DMARC for your location. Pick one setup for conduit that best serves route to your space. The detail picked shall go into the Electrical plan set!
2. Pair the COMM Detail (1a thru 1d) that matches the ELEC plan you selected. This plan and all following details shall go into the Communication plan set!
3. Include detail G1, G2 and P1 with the assembly of COMM details. These are general details and a parts list that must be packaged with all DMARC drawing sets
4. Make every effort to use one of the four conduit layouts. Alterations or mirroring of design must be brought to the attention of the START Committee for approval. The Label templates, cable routing, and bend tolerances rely of the above steps followed properly to provide a consistent working product for all parties.

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-FOR USE BY ALL TENANTS AND PORT OFFICES REQUIRING A DMARC (exception: Kiosk and/or Small Operations)

Revision: GEN 3.1\_050115 for DIV-27

## Instructions to Communication Engineer &/or Designer:



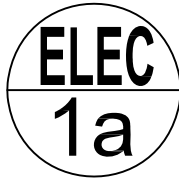
1. After you attend your first design review by the START Committee, you will receive a Termination sheet like the below which covers Cable Labels and proper Termination Points in a Port of Seattle Equipment Room (ER)
2. This document shall go into the Communications plan set!

DMARC INFRASTRUCTURE TERMINATION & LABEL SUPPORT						
<b>Notes:</b> 1. All cable infrastructure shall be Systemax/CommScope; refer to DMARC drawing for necessary parts list and required termination hardware layout 2. Inspect 2" conduit pathway; Communication pathways MUST NOT exceed 180° of bend between pull points 3. Ensure Ethernet standards are maintained and DMARC termination panel to panel is equal to less than 90m (297ft.) -unless exception noted by Design Engineer &/or Port of Seattle approved variance 4. See below for required CONDUIT label at every 25ft. on continuous run and both sides on any penetration  Required CONDUIT Label: COT.MT.01234 ER-STIA EQ.A-TEST-1						
<b>DESTINATION</b>	<b>DMARC ID:</b> EQ.A-TEST-1					
	<b>Space Name:</b> example					
	<b>Amt:</b>	<b>Description</b>	<b>Connector</b>	<b>Panel ID</b>	<b>Ports*</b>	<b>Fiber ID</b>
	1	12 Strand SMF	SC-Duplex	I.XPP.A-TEST1-10	1-6	FB.SM.MT.01234
6	Category 6	Info. Mod.		1-6	CB.U6.MT.01234	
1	RG-11 Coax	F-Male	n/a	n/a	CB.CX.MT.01234	
						(*) Port layout within 24 port Systemax M234 Type Zone Box detailed on DMARC COMM drawing
<b>Label Example:</b> Required 3-Line wrap around (self lam.) label placed at EACH end of cable within 2" of entry point of panel &/or termination point <div>FB.SM.MT.01234 ER-STIA EQ.A-TEST-1</div>						
<b>Attention Communication Design Engineers &amp; Contractors:</b> Port of Seattle will have all necessary Patch Panel Labels completed at the SOURCE end, the Port of Seattle communication room, prior to cable installation and termination by tenant communication infrastructure. All be COMMSCOPE/SYSTEMAX Certified. Ensure DMARC INFRASTRUCTURE is terminated to rack noted SOURCE locations only, and proper termination locations. You are responsible for DMARC INFRASTRUCTURE jacket labels (each end). Post cable termination, please schedule Site Inspection by contacting the ICT Service Desk at 206-767-3333 -Request Network Engineering, New Infrastructure Inspection Services						
<b>SOURCE</b>	<b>Port of Seattle Equipment Room ID:</b> ER-STIA					
	<b>Amt:</b>	<b>Description</b>	<b>Connector</b>	<b>Panel ID</b>	<b>Ports</b>	<b>Fiber ID</b>
	1	12 Strand SMF	SC-Duplex	M.FPP.STIA0101.80	1-12	FB.SM.MT.01234
	6	Category 6	6p Mod.	M.CPP.STIA0103	1-6	CB.U6.MT.01234
1	RG-11 Coax	F-Male	n/a (Place at CATV tap on WF)	n/a	CB.CX.MT.01234	
<b>Label Example:</b> Required 3-Line wrap around (self lam.) label placed at EACH end of cable within 2" of entry point of panel &/or termination point <div>FB.SM.MT.01234 ER-STIA EQ.A-TEST-1</div>						

# PORT OF SEATTLE DEMARCATION (DMARC) CABLE PACKAGE DESIGN

-FOR USE BY ALL TENANTS AND PORT OFFICES REQUIRING A DMARC (exception: Kiosk and/or Small Operations)

Revision: GEN 3.1\_050115 for DIV-27

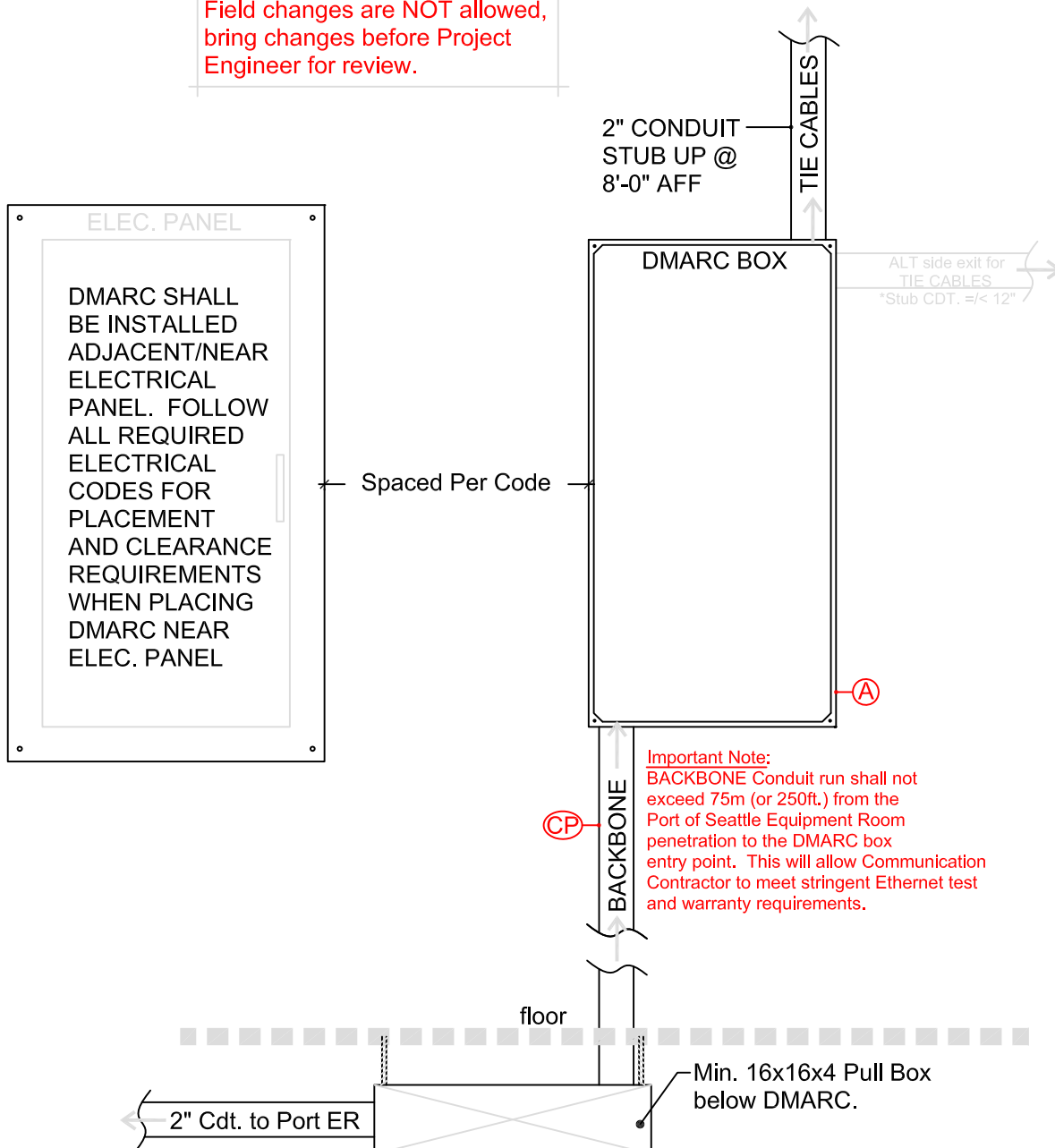


CONDUIT ROUTE METHOD:

BACKBONE: BOTTOM/LEFT

TIE CABLE: TOP/RIGHT

**Attention Electrical Contractor:**  
DO NOT deviate from conduit plan, Communication Contractor is reliant on proper setup. Field changes are NOT allowed, bring changes before Project Engineer for review.



# PORT OF SEATTLE DEMARCATION (DMARC) CABLE PACKAGE DESIGN

-FOR USE BY ALL TENANTS AND PORT OFFICES REQUIRING A DMARC (exception: Kiosk and/or Small Operations)

Revision: GEN 3.1\_050115 for DIV-27



CABLE ROUTE METHOD:

BACKBONE: BOTTOM/LEFT

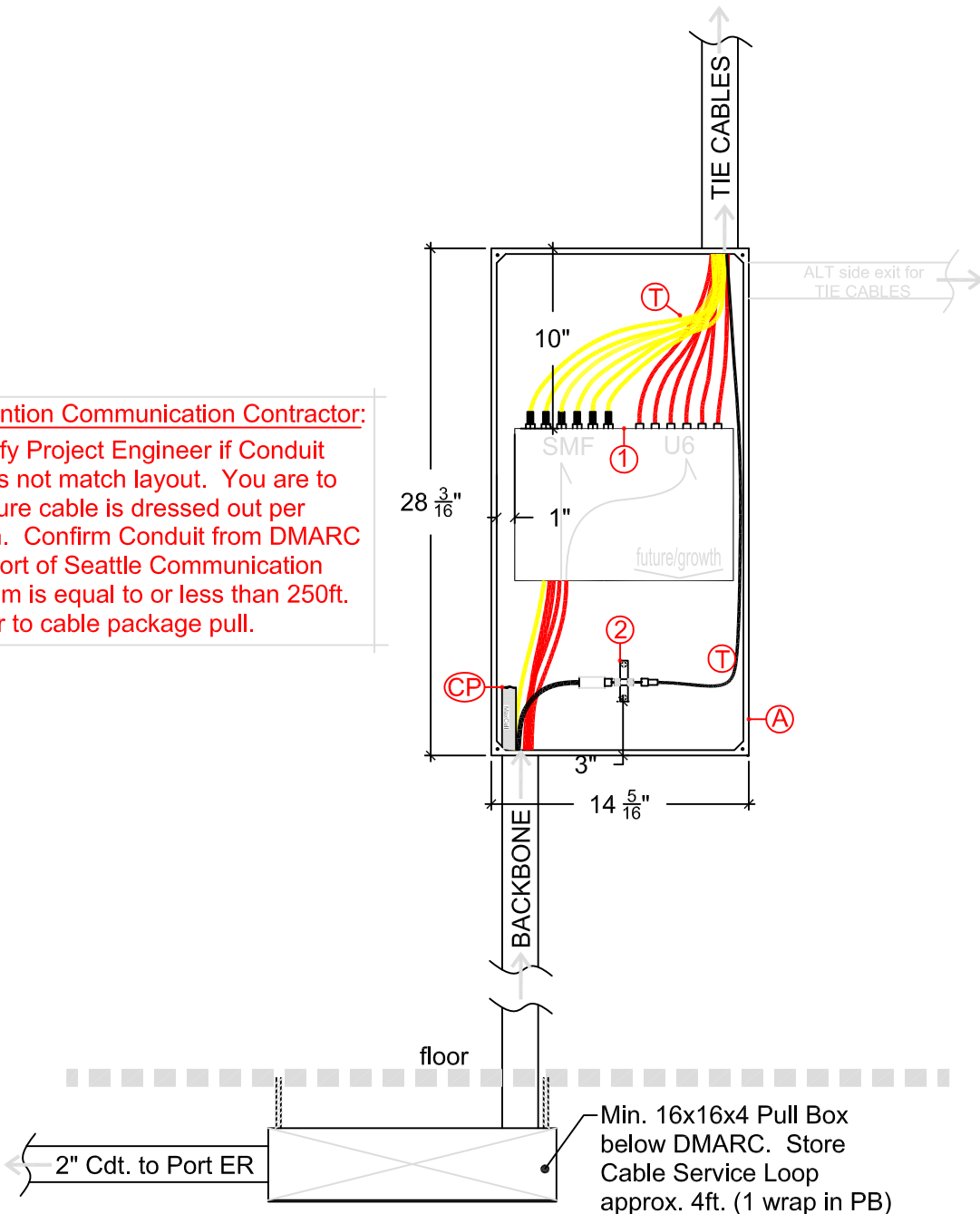
TIE CABLE: TOP/RIGHT

TIE CABLE stub is for routing to the Tenant HORIZONTAL cable within leased space. Tenant shall place their Rack, Cabinet or Wall Field area within 15 linear feet of DMARC BOX.

(Refer to General Detail "G1 & G2" in COMM Plan Set)

**Attention Communication Contractor:**

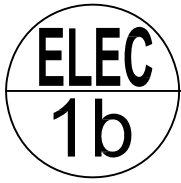
Notify Project Engineer if Conduit does not match layout. You are to ensure cable is dressed out per plan. Confirm Conduit from DMARC to Port of Seattle Communication Room is equal to or less than 250ft. prior to cable package pull.



# PORT OF SEATTLE DEMARCATION (DMARC) CABLE PACKAGE DESIGN

-FOR USE BY ALL TENANTS AND PORT OFFICES REQUIRING A DMARC (exception: Kiosk and/or Small Operations)

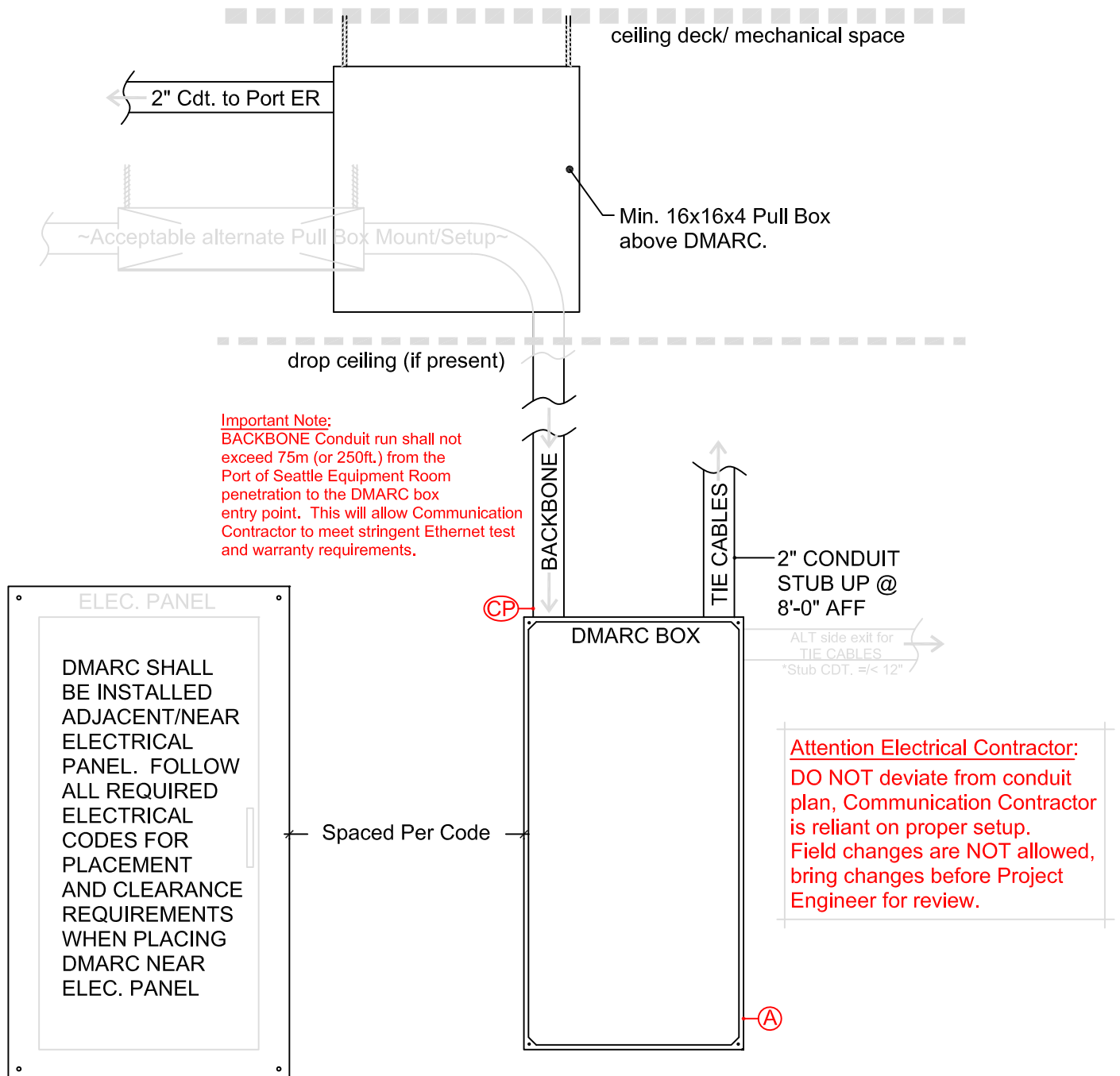
Revision: GEN 3.1\_050115 for DIV-27



## CONDUIT ROUTE METHOD:

BACKBONE: TOP/LEFT

TIE CABLE: TOP/RIGHT



# PORT OF SEATTLE DEMARCATION (DMARC) CABLE PACKAGE DESIGN

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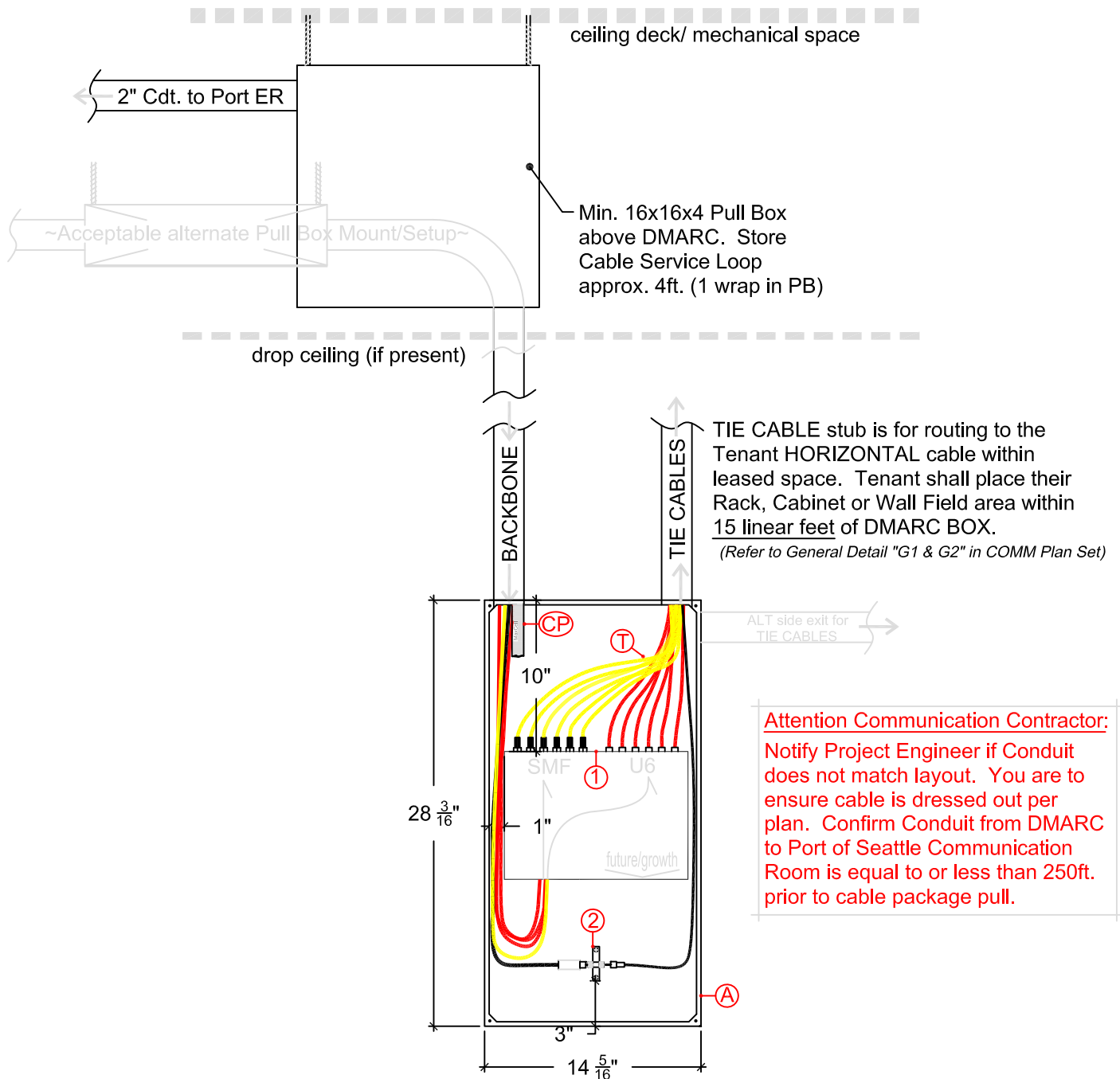
Revision: GEN 3.1\_050115 for DIV-27



## CABLE ROUTE METHOD:

BACKBONE: TOP/LEFT

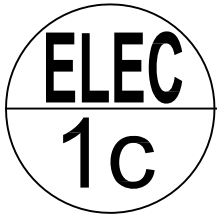
TIE CABLE: TOP/RIGHT



# PORT OF SEATTLE DEMARCATION (DMARC) CABLE PACKAGE DESIGN

-FOR USE BY ALL TENANTS AND PORT OFFICES REQUIRING A DMARC (exception: Kiosk and/or Small Operations)

Revision: GEN 3.1\_050115 for DIV-27



CONDUIT ROUTE METHOD:

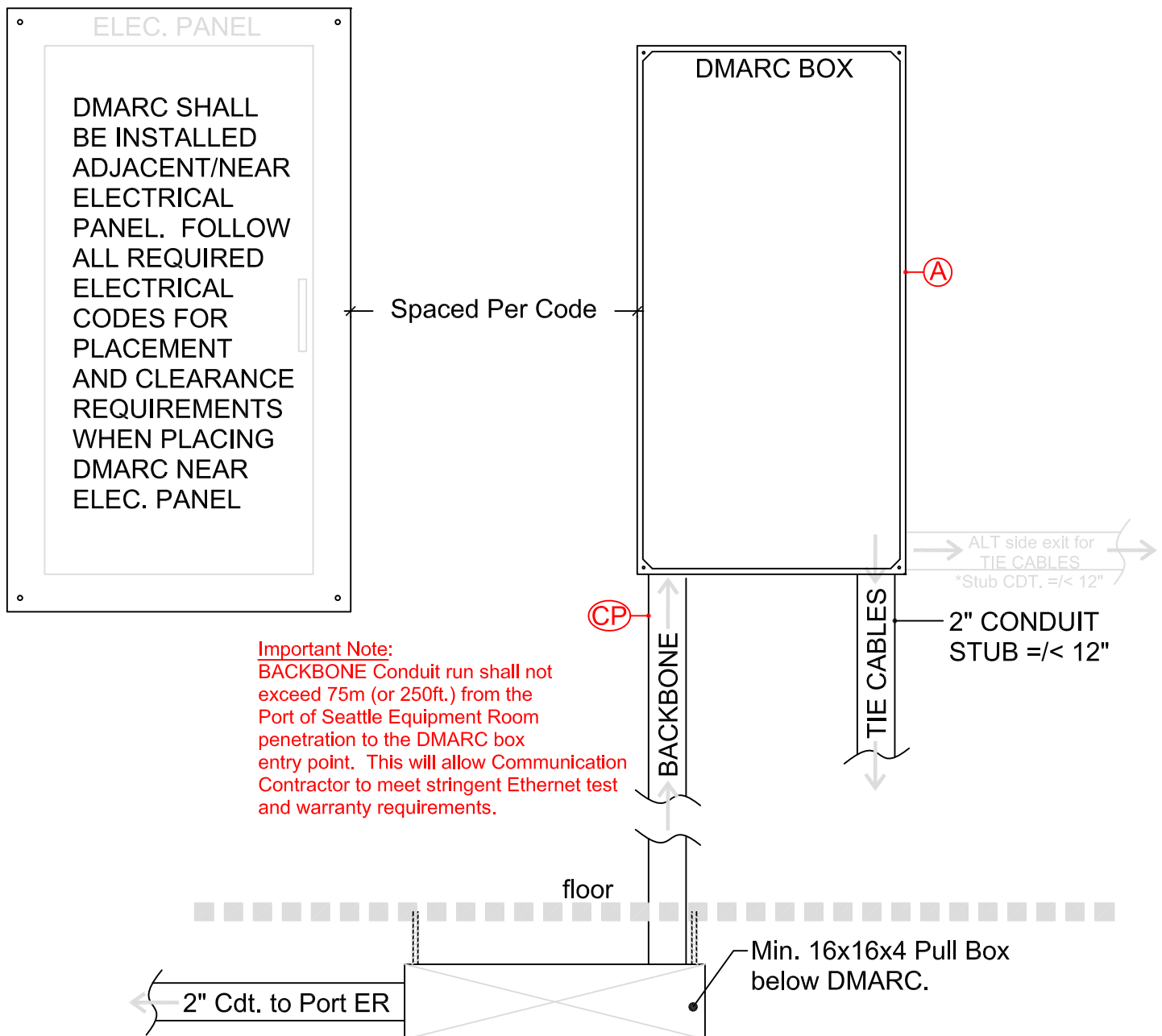
BACKBONE: BOTTOM/LEFT

TIE CABLE: BOTTOM/RIGHT

Attention Electrical Contractor:

DO NOT deviate from conduit plan, Communication Contractor is reliant on proper setup.

Field changes are NOT allowed, bring changes before Project Engineer for review.



**-FOR USE BY ALL TENANTS AND PORT OFFICES REQUIRING A DMARC (exception: Kiosk and/or Small Operations)**

A circular logo with a black border. The word "COMM" is written in bold, black, sans-serif capital letters in the upper half. The letters "1c" are written in bold, black, sans-serif font in the lower half. A horizontal line separates the two halves.

BACKBONE: BOTTOM/LEFT  
TIE CABLE: BOTTOM/RIGHT

[illegible]

TIE CABLE stub is for routing to the Tenant HORIZONTAL cable within leased space. Tenant shall place their Rack, Cabinet or Wall Field area within 15 linear feet of DMARC BOX.

(Refer to General Detail "G1 & G2" in COMM Plan Set)

floor

2" Cdt. to Port ER

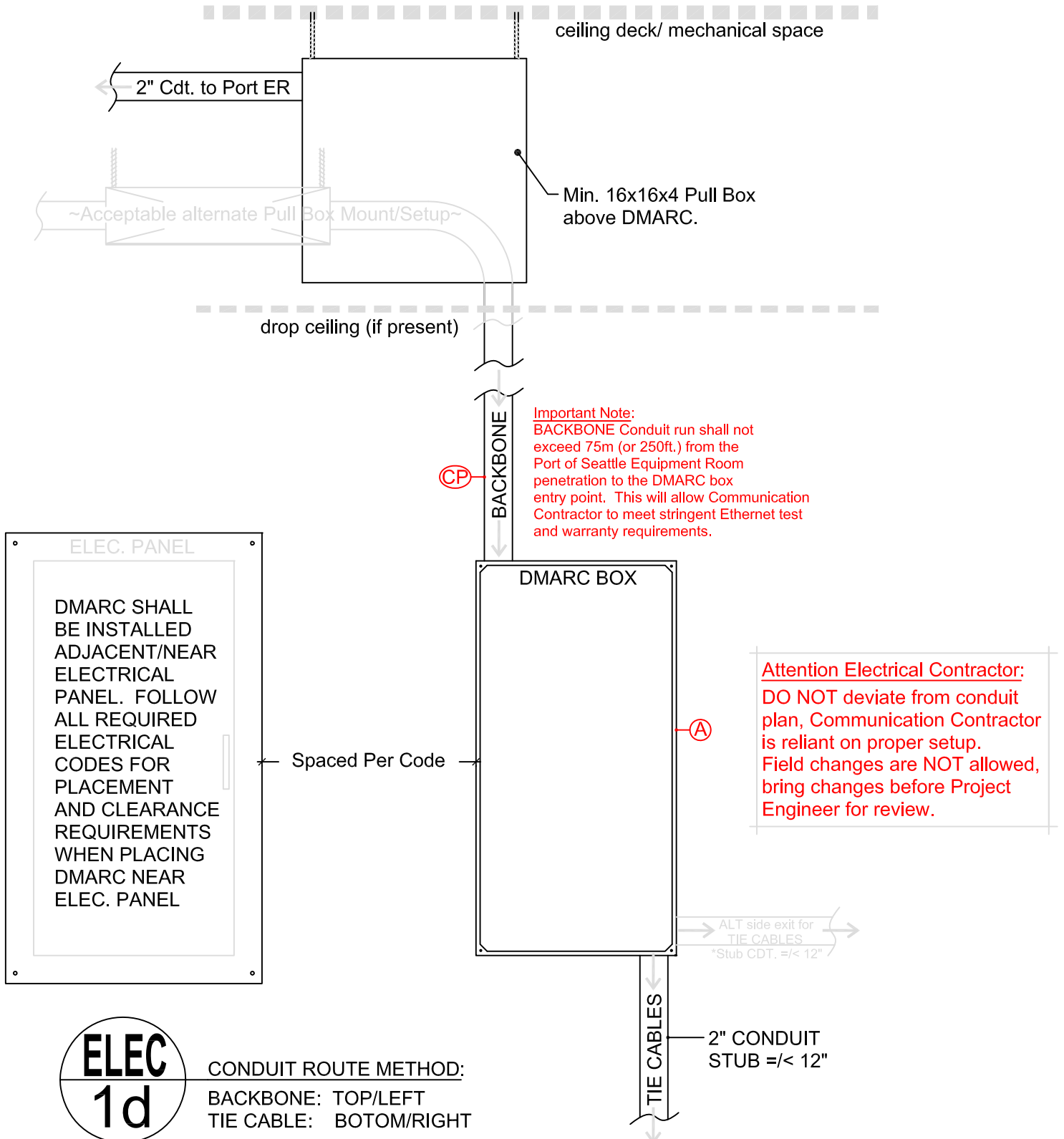
-Min. 16x16x4 Pull Box  
below DMARC. Store  
Cable Service Loop  
approx. 4ft. (1 wrap in PB)



# PORT OF SEATTLE DEMARCATION (DMARC) CABLE PACKAGE DESIGN

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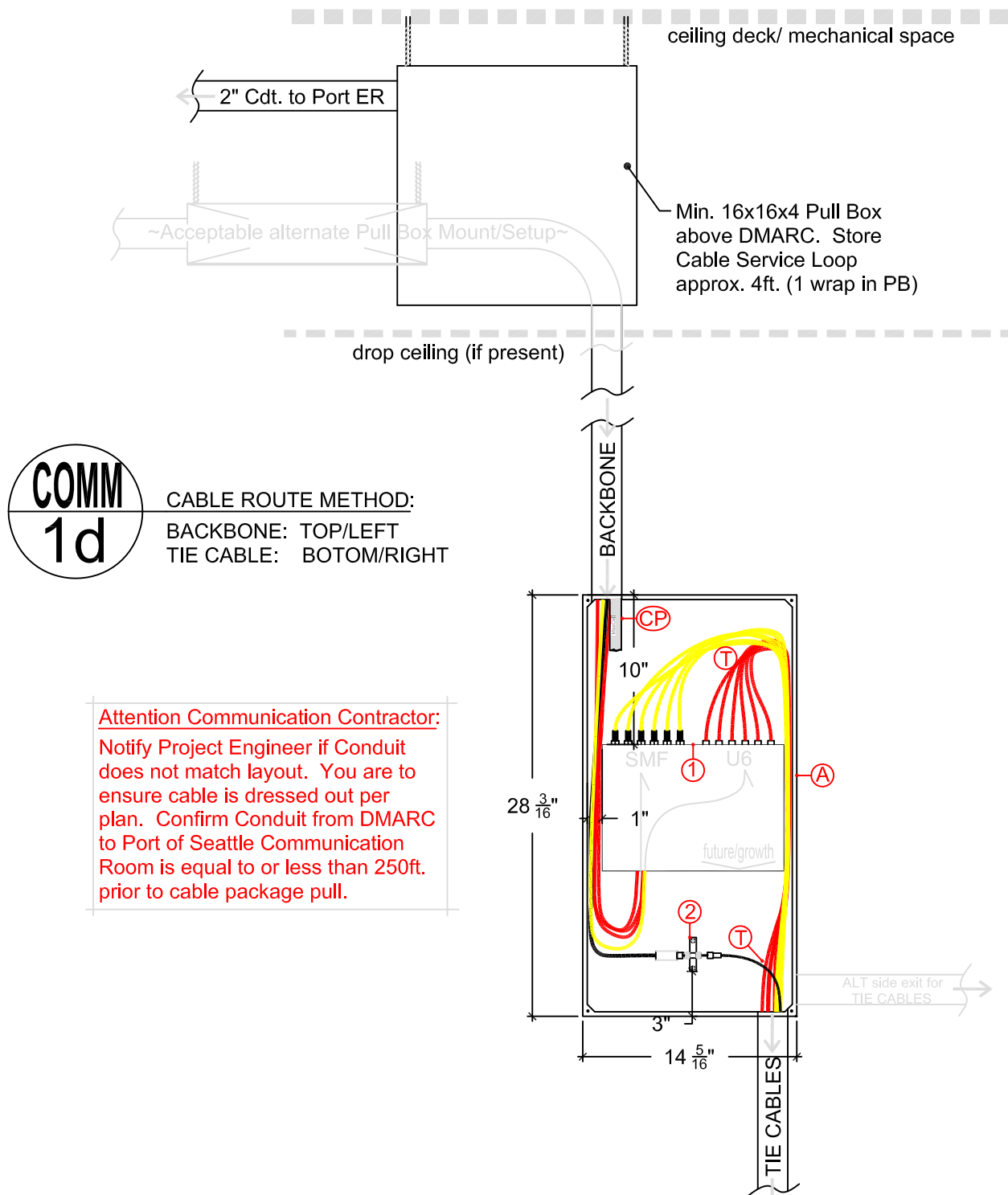
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TIE CABLE stub is for routing to the Tenant HORIZONTAL cable within leased space. Tenant shall place their Rack, Cabinet or Wall Field area within 15 linear feet of DMARC BOX.

(Refer to General Detail "G1 & G2" in COMM Plan Set)



TIE CABLE TERMINATION:  
GENERAL DETAIL -part 1

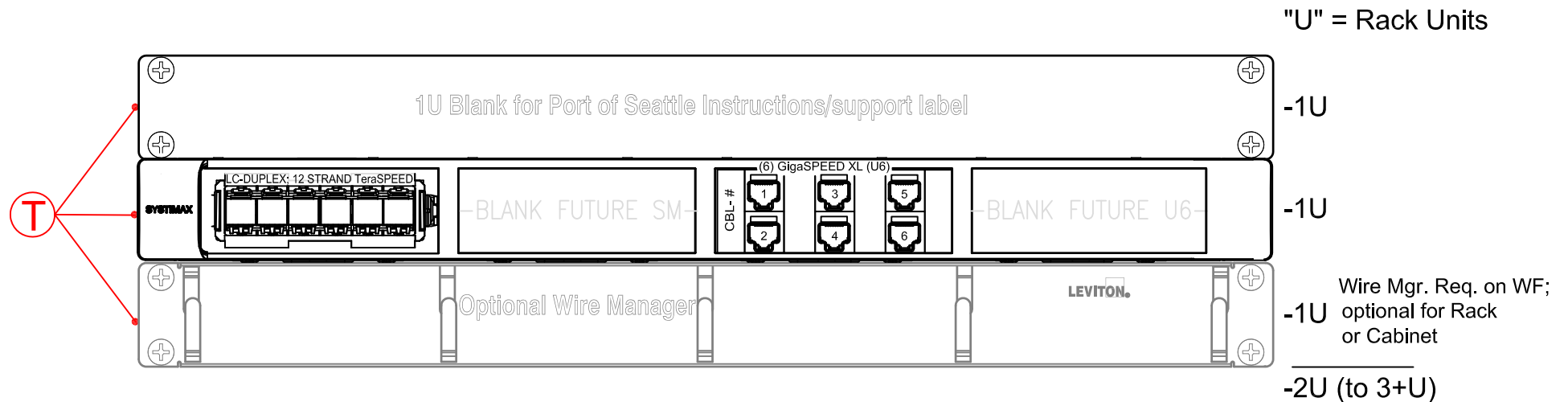
## PORT OF SEATTLE DEMARCATION (DMARC) CABLE PACKAGE DESIGN

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### TENANT END OF TIE CABLES; TERMINATION HARDWARE LAYOUT:

- 1- Tenant end, also known as Tenant Horizontal, shall be within 15 linear feet of DMARC Panel
- 2- Mount below noted hardware in TENANT RACK, CABINET or on WALL FIELD
- 3- If Tenant Horizontal area is not defined at point of DMARC install, store termination hardware for tie cable tenant end in DMARC box
- 4- For further information, refer to TERMINATION HARDWARE & CABLE (TIE Section) -Detail P1 and GENERAL DETAIL -part 2 which shows typical elevation details of Tie Cable arrangements

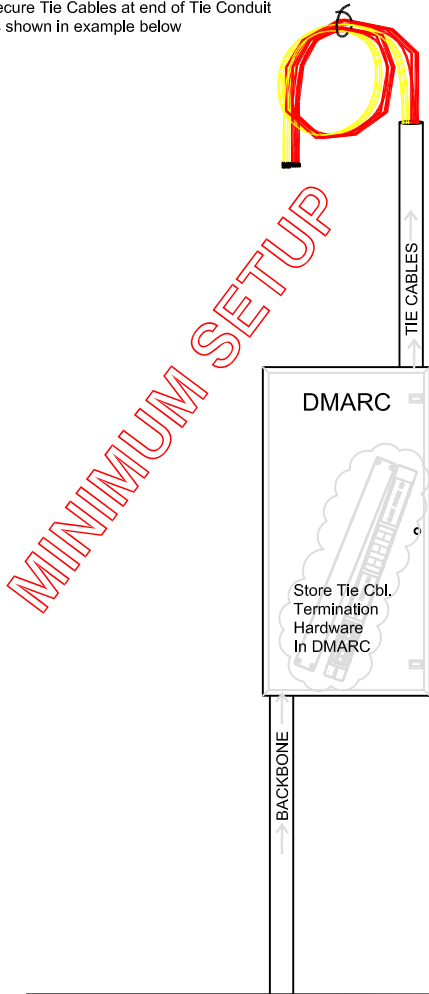




TIE CABLE TERMINATION:  
GENERAL DETAIL -part 2

TENANT UNDEFINED: Minimum Setup

If TENANT HORIZONTAL Cable area is not defined at time of DMARC install, store 1U Blank and Systimax Panel in DMARC Secure Tie Cables at end of Tie Conduit as shown in example below



otherwise select applicable layout

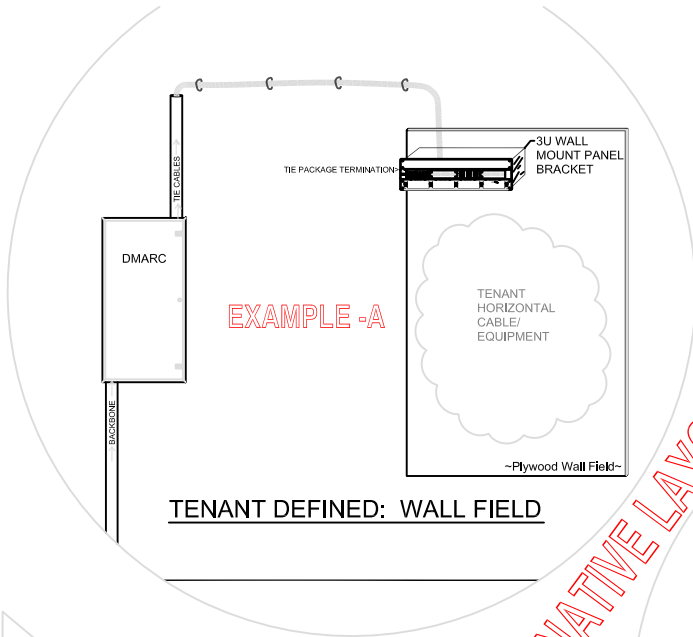
PORT OF SEATTLE DEMARCATION (DMARC) CABLE PACKAGE DESIGN

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EXAMPLE -A

TENANT DEFINED: WALL FIELD



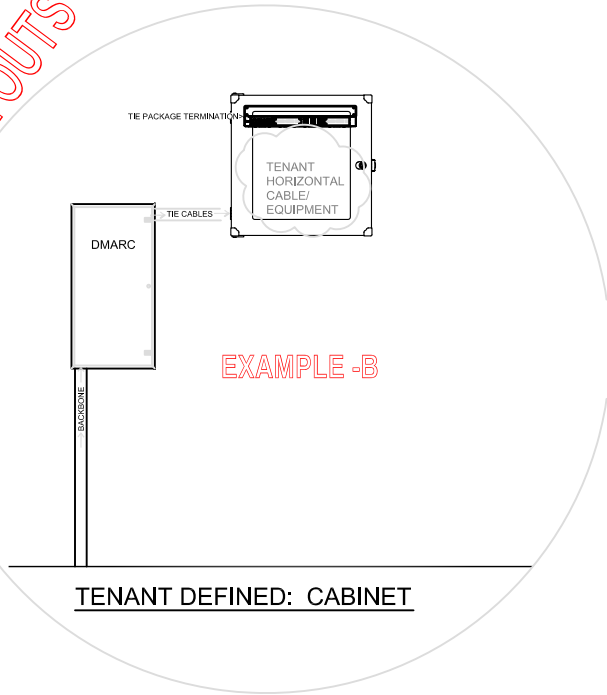
Important Note:

To adhere to the 90m (297ft.) total length (Ethernet Permanent Link) from Port of Seattle Equipment room to Tenant Horizontal area the Tie Cable Package has been set at 15 linear feet from DMARC box.

ALTERNATIVE LAYOUTS

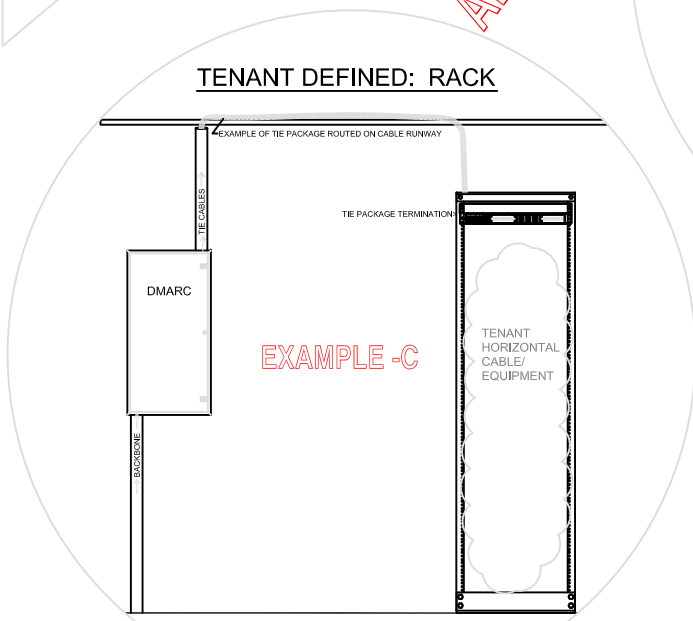
EXAMPLE -B

TENANT DEFINED: CABINET



TENANT DEFINED: RACK

EXAMPLE -C





TERMINATION HARDWARE & CABLE:  
FULL PARTS LIST

## PORT OF SEATTLE DEMARCATION (DMARC) CABLE PACKAGE DESIGN

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### Termination Hardware for Tenant Demarcation Panel (DMARC)

DWG Item #:	Amt.:	Supplier:	Catalog/Part Number (Material ID):	Description:
1	1	CommSCOPE®	<b>M224CPN-262 (700016488)</b> ~Plus below inserts and material~	<b>M224 Type Zone Box; 24 Port Copper/Fiber capacity</b>
	6	w/GigaSPEED XL®	MGS400-317 (700206741)	GigaSPEED XL® MGS400 Series Information Outlet -RED
	1		M224FOS-262 (700016553)	Fiber Optic Spool Kit
	6	CommSCOPE®	SFA-LC02-BL (700002215)	TeraSPEED® LC Duplex Adapter -Blue, Single Pack
	1	w/TeraSPEED®	M81LC-029-Collar (760010090)	25pk. of Clear Plastic Collar for M81Series LC Adapter
	12		SFC-LCF-09-8X (760117895)	Systemax Fiber Qwik II-LC Connectors
2	1	COAX- Misc.	Allen Tel #CT722	Coax grounding block
	2	Suppliers	Belden #716SNS1P11HQ	RG-11 Quad F Connector 7/16in nut
A	1		47605-28N	Series 280 Structured Media Enclosure (28.16" H x 14.23" W x 3.63" D)
	1	Leviton	47605-28D	28" Series 280 Hinged Cover
	1		5L000-LOK	Lock & Key for 280 Hinged Cover
(T) TIE	1		<b>360-E-KIT-1U (760155739)</b> ~Plus below inserts and material~	360 1U Evolve Panel Kit for Fiber and GS3
	1	CommSCOPE®	360-1100-E-FB-4PK (760175877)	360 1100 Evolve Fiber Bezel (Insert to hold fiber cartridge)
	1	w/TeraSPEED®	360DP-12LC-SM (760109389)	SYSTIMAX 360™ Distribution panel 12 LC TeraSPEED® -Blue
	6		FEWLCLC52-JXF015	LC-LC Duplex FO Patch Cord -YELLOW @15ft.
	6	CommSCOPE®	CPC2382-77F015	MGS400 to GS8E SOLID 1071E Patch Cordage -RED @ 15ft.
	1	w/GigaSPEED XL®	360 Evolve M-Series Adapter (760187179)	4pk. of 6-Port bezel to hold mount M-Series Outlet
	2	COAX- Misc.	Ideal Industries #92-655	RG6 Quad Compression Connector
	1	Suppliers	CommSCOPE #5740R (field terminated cable; cut to nec. length)	75Ω, Non-Plenum, Series 6, Quad Shield, CCS conductor; black jacket
	1	Middle Atlantic	EB-1	1 rack unit blank panel (used by Port of Seattle -label info.)
	1*	Leviton	49253-LPM	Five-Ring Horizontal Patch Cord Organizer, 1RU, 4" D-Rings
	1*	Chatsworth (CPI)	11523-708	4U High 19" Hinged Panel for wall mounting

(\*) These parts are ONLY REQUIRED if you are MOUNTING TO A WALL FIELD and you do not have a RACK or CABINET at your Tenant consolidation point/ source of Tenant HORIZONTAL Cable

(CP) CABLE & PATH- WAY	CABLE PACKAGE to Port of Seattle Equipment Room:		
	Amt.:	BACK- BONE:	Catalog/Part Number (Material ID) and Description:
	6	CAT6	<u>1071E QR 4/23 W1000 (700212020)</u> -Description: SYSTIMAX 360™ GigaSPEED XL® U/UTP 1071E Non-Plenum with a jacket color of RED
	1	SMF	<u>R-012-DS-8W-FSUYL (760004440)</u> -Description: 12 strand TeraSPEED Non-Plenum Single Unit Distribution Cable
	1	Coax	<u>5940R</u> -Description: 75Ω, Non-Plenum, Series 11, Quad Shield, CCS conductor; black jacket
	1	Duct	<u>MXCM3303BK 3-Cell</u> by MaxCell -Description: 1 pack/ 3-cell Micro fabric innerduct (pulled outside of cable bundle; for future DMARC cable growth)
	Above pulled into -PATHWAY:		
	1	CDT	Place (1) 2" CONDUIT from Port Equipment Room into DMARC Enclosure; full continuous run shall not exceed 250ft. (75m). Conduit run bends shall not exceed 180 degrees per 100ft lineal segments; place gutters or pull boxes every 100ft of continuous lineal run. All couplers painted Orange