

PORTLAND PUBLIC SCHOOLS
TECHNICAL DESIGN AND CONSTRUCTION STANDARDS
PPS Division 27: Communications Standards

APPROVED PARTS LIST (Part numbers available upon request)

Specifications Section / Item	Vendor	Details
270000 COMMUNICATIONS		
Detail and Elevation Project Drawing Size (1)		ANSI D size (34" x 22")
Detail and Elevation Drawing Minimum Scale (1)		1/4" = 1'-0" or larger
ER/TR Drawing Size (2)		ANSI D size (34" x 22")
ER/TR Drawing Minimum Scale (2)		1/4" = 1'-0" or larger
Building Composite Project Drawing Size (3)		ANSI D size (34" x 22")
Building Composite Drawing Minimum Scale (3)		1/16" = 1'-0" or larger
Copper Connectivity: Choice 1	Commscope	Commscope
Copper Connectivity: Choice 2	Panduit	Panduit
Copper Connectivity: Choice 3	Leviton	Leviton
Fiber Connectivity: Choice 1	Commscope	Commscope 12-strand OS2
Fiber Connectivity: Choice 2	Panduit	Panduit 12-strand OS2
Fiber Connectivity: Choice 3	Leviton	Leviton 12-strand OS2
Copper Cabling: Choice 1	Commscope	Commscope
Copper Cabling: Choice 2	Prysmian	Prysmian (with Panduit)
Copper Cabling: Choice 3	Berk-Tek with Leviton	Berk-Tek (with Leviton)
270526 GROUNDING AND BONDING		
Allowed GB Manufacturer 1	Harger	Ground Bars and Accessories
Allowed GB Manufacturer 2	Chatsworth	Ground Bars and Accessories
Allowed GB Manufacturer 3	Approved Alternate	
Approved Fiber Grounding Manufacturer 1	Corning	Armored Cable Grounding Kit
Approved Fiber Grounding Manufacturer 1	3M	Scotchlok Shield Bond Connectors
Approved Fiber Grounding Manufacturer 1	Approved Alternate	
Primary Bonding Busbar	Chatsworth	Copper
Primary Bonding Busbar Size	Chatsworth	4"H x 12"W x 1/4" D Copper
Secondary Bonding Busbar	Chatsworth	Copper
Secondary Bonding Busbar Size	Chatsworth	2"H x 10"W x 1/4"D Copper
Cable Runway Bonding Strap Kit	Chatsworth	#6 AWG Bonding Strap Kit, Each
Rack Bonding Jumper Kit	Chatsworth	9' Long #6 AWG Stranded Copper Insulated Jumper
Compression Lugs	Chatsworth	Two Hole #6 Cable
Two Mounting Hole Bonding Terminal Block	Chatsworth	Two Mounting Hole Terminal, Black Wire Size #14-2/0
Ground Wire	Chatsworth	Green Ground Wire with Yellow Stripe 100'

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270528 PATHWAYS & JUNCTION BOXES		
Adjustable Cable Support Systems	Nvent Caddy	CAT HP J Hook, Pregalvanized, 1" DIA
Cable Support J Hook Trees	Nvent Caddy	Ceiling Mount DoubleSided
Caddy CAT CM Double J Hook	Nvent Caddy	ElectroGalvanized Double J Hook
Fire Stopping Allowed Manufacturer 1	Specified Technologies (STI)	Self Sealing EZ Path Kit
2" Firewall penetration	Specified Technologies (STI)	
4" Firewall penetration	Specified Technologies (STI)	
Firestopping Grommet	Specified Technologies (STI)	Two Piece Split Grommet/ Multiple Cables up to .53"
Fire Stopping Retro Fit	Specified Technologies (STI)	Retrofit Device 2" Sleeve, One Pair
Fire Stopping Allowed Manufacturer 2	3M	
Fire Stopping Product 1	3M	Fire Barrier Sealant
Fire Stopping Allowed Manufacturer 3	Hilti	
Fires Stopping Product 2	Hilti	Intumescent Sealant
270529 HANGERS AND SUPPORTS		
Hangers Supports Approved 1	Erico Caddy	Erico Caddy
Hangers Supports Approved 2	Panduit	Panduit J-Hook 10Pk.
Hangers Supports Approved 3	Cooper B-Line	Cooper B-Line J Hook: 2 inch
270533 CONDUITS AND BACKBOXES		
AV Backbox: Part Number	RANDL Industries	
AV Backbox with extension ring	RANDL Industries	
Retrofit Only: AV Backbox	Pass and Seymour	
Conduit Support Manufacturer 1	Erico	2-Hole Strap
Conduit Support Manufacturer 2	Raco	Backbox
Conduit Support Manufacturer 3	Kindorf	Support
Conduit Support Manufacturer 4	Unistrut	Support
Approved Hand Holes and Vaults	Oldcastle	Utility Vault
270536 CABLE TRAYS		
Cable Tray: Manufacturer 1	Cablofil	Wiremesh
Cable Tray: Manufacturer 2	Snaketray	Wiremesh
Cable Tray: Manufacturer 3	Flex-Tray	Wiremesh
Cable Tray: Manufacturer 4	Chatsworth	Ladder Rack

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Specifications Section / Item	Vendor	Details
270539 SURFACE RACEWAYS		
SMR: Manufacturer 1	Wiremold	Wiremold
SMR: Manufacturer 2	EMT Conduit	Painted to match wall color
SMR: Manufacturer 3	N/A	Approved Equal
SMR: Part Number 1	Wiremold	500 Series (non-data cable)
SMR: Part Number 2	Wiremold	700 Series (non-data cable)
SMR: Part Number 3	Wiremold	2400 Series
SMR: Part Number 4	Wiremold	3000 Series
SMR: Part Number 5	Wiremold	4000 Series
SMR: Part Number 6	EMT Conduit	Painted conduit to match wall color
271100 COMMUNICATIONS EQUIPMENT		
4 x 8 AC Rated Plywood Backboard 3/4 inch thick		
Fire Retardent Paint	Benjamin Moore	Super Spec Hp 220 Latex Flat Fire Retardant Paint
1880ENA1-NSC-25, equip with (25) CB1E protector modules	CIRCA	Equip with (25) CB1E protector modules
271116 COMMUNICATIONS RACKS AND CABINETS		
Approved Metals: Product 1	Chatsworth	Chatsworth
Square or Round Rack Holes	Chatsworth	#12-24 Threaded Equipment Mounting Holes
Standard Rack 2 Post: Part Number	Chatsworth	Standard Rack
Standard Rack 2 Post: Size	Chatsworth	7' x 19" with 3" mounting rails
Adjustable 4 Post Rack: Part Number	Chatsworth	Adjustable QuadraRack
Adjustable 4 Post Rack: Size	Chatsworth	7' x 19" x (29" - 36" adjustable) Deep
4 Post Rack Mount Kit	Chatsworth	For Concrete Floors
Cable Runway Mounting Bracket: Part Number	Chatsworth	QuadraRack Cable Runway Mounting Bracket
Equipment Support Rails: Part Number	Chatsworth	Adjustable QuadraRack Support Rails
Telecommunications Cabinet: Large	Chatsworth	Cube-It Wall Mount Cabinet
Cabinet Size: Large	Chatsworth	48"h x 24"w x 30"d
Telecommunications Cabinet: Medium	Chatsworth	Cube-It Wall Mount Cabinet
Cabinet Size: Medium	Chatsworth	36"h x 24"w x 30"d
Telecommunications Cabinet: Small	Chatsworth	Cube-It Wall Mount Cabinet
Cabinet Size: Small	Chatsworth	24"h x 24"w x 30"d
Locking Drawer: Part Number	Chatsworth	Lockable Storage Drawer

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Specifications Section / Item	Vendor	Details
271119 TERMINATION BLOCKS AND PATCH		
Cat6 Patch Panel: Part Number 1	CommScope	Cat6 Panel Cat6 insert black (24 pack) 760237638
Cat6 Patch Panel: Part Number 2	Leviton	Cat6 Panel Cat6 Insert
Cat6 Patch Panel: Part Number 3	Panduit	Cat6 Panel
Cat6A Patch Panel: Part Number 1	CommScope	Cat6A Panel Cat6A Insert SLX Series 2153449
Cat6A Patch Panel: Part Number 2	Leviton	Cat6A Panel, 6A Insert
Cat6A Patch Panel: Part Number 3	Panduit	Cat6A Panel, Cat6A Insert
MDF Fiber Panel/FDU: Part Number	CommScope	2U Fiber Patch/ Splice Panel
MDF Fiber Panel/FDU: Part Number 2	Leviton	2U Fiber Patch/ Splice Panel
MDF Fiber Panel/FDU: Part Number 3	Panduit	2U Fiber Patch/ Splice Panel
IDF Fiber Panel/FDU: Part Number 1	CommScope	1U Fiber Patch/ Splice Panel
IDF Fiber Panel/FDU: Part Number 2	Leviton	1U Fiber Patch/ Splice Panel
IDF Fiber Panel/FDU: Part Number 3	Panduit	1U Fiber Patch/ Splice Panel
Fiber Splice Cartridge: Part Number 1	CommScope	TAReraSPEED Splicing cassette, 12LC, 900µm
Fiber Splice Cartridge: Part Number 2	Leviton	12-Fiber LC Splice Module
Fiber Splice Cartridge: Part Number 3	Panduit	OS2 LC Splice Cassette
271123 CABLE MANAGEMENT AND LADDER		
Cable Mgmt/Ladder Rack: Manufacturer 1	CommScope	12" Ladder Rack
Cable Mgmt/Ladder Rack: Manufacturer 2	Panduit	12" Ladder Rack
Rack to Runway: Manufacturer 1 Part Number	Chatsworth	Rack to Runway Plate
Horizontal Wire Mgmt: Part 1	Chatsworth	1U Horizontal Wire Management
Horizontal Wire Mgmt: Part 2	Panduit	1U Horizontal Wire Management
Horizontal Wire Mgmt: Part 3	Leviton	1U Horizontal Wire Management
Vertical Wire Mgmt: Part 1	Chatsworth	Wide Double-Sided Vertical Cable Manager
Vertical Wire Mgmt: Part 2	Panduit	Wide Double-Sided Vertical Cable Manager
Ladder Rack: Part Number	Chatsworth	
End Caps: Part Number	Chatsworth	
Runway Radius Drop: Part Number	Chatsworth	
Butt splices: Part Number	Chatsworth	
90 Deg Junction: Part Number	Chatsworth	
Wall Angle Support Kit: Part Number	Chatsworth	
Triangle Wall Support	Chatsworth	Triangular Support, Black
Grounding Straps: Part Number	Chatsworth	
Grounding Straps (25): Part Number	Chatsworth	
Network Rack Electrical Outlet 20 AMP NEMA 5-15	Eaton	Rack Mount 20 AMP
271126 RACK MOUNTED POWER PROTECTION AND POWER STRIPS		
Approved PDU Manufacturer	Chatsworth	
PDU: Part Number	Chatsworth	

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Specifications Section / Item	Vendor	Details
271313 COPPER BACKBONE CABLING		
Number of Backbone Cables		2 Cat6 White
Category		Cat6
Inside Cable color		White
Termination Block	Leviton	66 Block/ with Orange Cover
Outside Rated Color		Black
271323 FIBER OPTIC BACKBONE CABLING		
Fiber Part manufacturer 1	Commscope	Armored Single-mode (OS2) Indoor/ Outdoor Plenum
Fiber Part manufacturer 2	Berktek	Armored Single-mode (OS2) Indoor/ Outdoor Plenum
Fiber Part manufacturer 3	Prysmian	Armored Single-mode (OS2) Indoor/ Outdoor Plenum
Fiber Strand Count		12
Fiber Color		Yellow
Fiber Color (outdoor)		Black
Fiber Coupler		Yellow
Fiber roll type		Type-C
Fiber Rating for Connector and Cassette		OS2
Connector Type		Duplex LC
274100 Audio/Video Systems		
HDBaseT for classrooms	Liberty AV	
271513 COPPER HORIZONTAL CABLING		
Cat6 Cable: Part Number 1	CommScope	Cat6 Plenum Blue
Cat6 Cable: Part Number 2	Leviton	Cat6 Plenum Blue
Cat6 Cable: Part Number 3	Panduit	Cat6 Plenum Blue
Cat6A Cable: Part Number 1	CommScope	Yellow
Cat6A Cable: Part Number 2	Leviton	Yellow
Cat6A Cable: Part Number 3	Panduit	Yellow
Building Control cable type		Cat6
Building Control cable color		White

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271543 FACEPLATES AND CONNECTORS		
Wallphone Outlet Config Classroom		2 port plate, one jack
Work Area Outlet Config Office		2 port plate, two jack
Teaching Wall Projector		2 port plate, two jack
WAP Config (hardlid ceiling)		2 port biscuit
WAP Config (wall)		2 port plate, two jacks
Camera Location Config		Single port biscuit
Building Controls Config		single port plate and single jack
WAO Jack category		Cat6
WAO number of jacks/plate		2
WAO color at faceplate		match plate
WAO color at patch panel		Cat6 Black or Cat6A Yellow
Wall phone outlet config		1 Port
Wall phone number of jacks/plate		1
Wall phone color at faceplate		White
Wall phone color at patch panel		Black
WAP Jack category		6A
WAP number of jacks/plate		2
WAP color at faceplate		Yellow
WAP color at patch panel		Yellow
Faceplate for analog "red" phone	Leviton	
Faceplate type 1	Commscope	
Faceplate type 2	Leviton	
Faceplate type 3	Panduit	
271619 PATCH CORDS		
Fiber patch cord		
Fiber sheath		
Fiber boot		
Projector patch cord		
WAP patch cord		
Camera patch cord		
Paging patch cord		
Readerboard patch cord		
Building Controls patch cord		
272133 WIRELESS ACCESS POINTS		
Access Points		
Mounting Brackets		
Enclosures		
272319 VIDEO SURVEILLANCE		
Camera cable category		Cat6A
Camera cable color		Yellow

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Specifications Section / Item	Vendor	Details
274100 AUDIO-VIDEO SYSTEMS		
Voice Amplification System Manufacturer	Lightspeed	N/A
Voice Amplification Amplifier	Lightspeed	
Voice Amplification Speaker	Lightspeed	N/A
Speaker to Amplifier wire type	General	18/2 CMP
Page First Intercom shunt	Lightspeed	N/A
Page First to Intercom wire type	General	22/2 Conductor
274123 AUDIO-VIDEO ACCESSORIES		
HDMI Cable		4K rated HDMI cable
HDBaseT system	Liberty	
PoE Wireless Display Adapters	Airtame	Owner Furnished
100" diagonal whiteboard	Epson	(16:10) dry erase whiteboard
275113 DISTRIBUTED PAGING SYSTEMS		
Lay-in Ceiling IP Speaker	Valcom	
Flush Wall Mount IP Speaker	Valcom	
Exterior Paging Horn	Valcom	
Lay-in Ceiling Analog Speaker	Valcom	
Wall Mount IP Speaker	Valcom	
Corner Speaker	Valcom	one-way amplified speaker
IP Display Speaker	Valcom	
Analog P-Tec Ceiling Speaker	Valcom	
Zone Controller	Valcom	
Power Supply	Valcom	
Software	Informacast	District Furnished and installed
Wire guard		compatible with speaker selection.
275123 INTERCOMMUNICATIONS AND PROGRAM SYSTEMS		
Gym Call Box	Valcom	
275129.17 TWO-WAY RADIO COMMUNICATION		
Handheld radio	Kenwood	
Repeater	Kenwood	
Antenna	Telewave	
Battery Backup	SAMLEX	
Cabinet Enclosure	DDB Unlimited	
Coax Cable		
275313 DISTRIBUTED CLOCK SYSTEMS		
Master Clock Controller	American Time	System Controller
12" Clock	American Time	Battery powered 12" clock
Bell Wireless	American Time	Wireless bell assembly
Bell Wired	American Time	120V weatherproof bell

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Specifications Section / Item	Vendor	Details
275319 DISTRIBUTED ANTENNA SYSTEMS		
Antenna (Indoor directional)	Honeywell	Omni indoor antenna
Coaxial cable	RFS	1/2in Low Loss Flexible Cable
Antenna (Donor)	Comba -OR- Cellular Specialties, Inc	Outdoor High Isolation Narrow Beam Antenna
Bi-Directional Amplifier (BDA)	Comba -OR- Honeywell	Public Safety Bi-Directional Amplifier
Battery backup	Comba -OR- Honeywell	Battery Backup Unit