

3rd RESUBMITTALS
MAIN SWITCHBOARDS ONLY



**For the Battelle Biological and
Computational Sciences Facility**

Richland, WA.

2008

Owner:	Cowperwood Company
Architect:	Kaplan McLaughlin Diaz
Electrical Engineer:	Flack + Kurtz
General Contractor:	D.E. Harvey Builders
Electrical Contractor:	Magnum Electric Service, Inc.

Section 26 24 13

**Distribution
Switchboards**

Item No.	Qty.	Catalog Number / Details
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480V SERVICE SWITCHBOARDS

257-00	1	<p>Designation: MS-BSF SQUARE D CUSTOM QED SWITCHBOARD</p> <p>-----</p> <p>System Voltage: 480Y/277V 3Ph 4W 60Hz Source Description - Single Main System Ampacity - 4000A Bussing - Aluminum Plated w/Tin and Copper Plated w/Silver Neutral Bus - 100% Max Available Fault Current (RMS) - 65kA Enclosure - Type 1 Accessibility: Front Only Transparent Ready - TRE1 (5 Web pages of Real Time Data) 100 Base T Copper Hub System</p> <p>Dimensions</p> <p>-----</p> <p>4 - 42" Wide Section(s) 4 - 48" Deep Enclosure(s) Dimensions: 168.00" W X 48" D X 91.5" H Approximate Weight: 7660</p> <p>Incoming Requirements</p> <p>-----</p> <p>Suitable for Use As Service Entrance Entry Point: Right of Lineup, Through the Bottom Circuit Monitor - CM3350 w/Ethernet Communications Card</p> <p>Mains</p> <p>-----</p> <p>1 - 4000AF/4000AT 100% 3 Pole Stored Energy, Drawout Mounted: Type NW Power Trip Unit, Long Time, Short Time, Instantaneous, Ground Fault Circuit Breaker Modbus Communications Wired</p> <p>Feeders</p> <p>-----</p> <p>1 - 1000AS/1000AT 480V 100% Rated 65 kA 3: Type RJ w/GFI 1 - 800AS/800AT 480V 80% Rated 65 kA 3 Pole: Type PJ 1 - 600AS/600AT 480V 80% Rated 65 kA 3 Pole: Type PJ 4 - 400AS/400AT 480V 80% Rated 65 kA 3 Pole: Type PJ 4 - 600AS/350AT 480V 80% Rated 65 kA 3 Pole: Type PJ 1 - 250AS/225AT 480V 80% Rated 65 kA 3 Pole: Type PJ 2 - 250AS/200AT 480V 80% Rated 65 kA 3 Pole: Type PJ 2 - 250AS/100AT 480V 80% Rated 65 kA 3 Pole: Type PJ Common Feeder Features: Power Trip Unit, Long Time, Short Time, Instantaneous Circuit Breaker Modbus Communications Wired</p>
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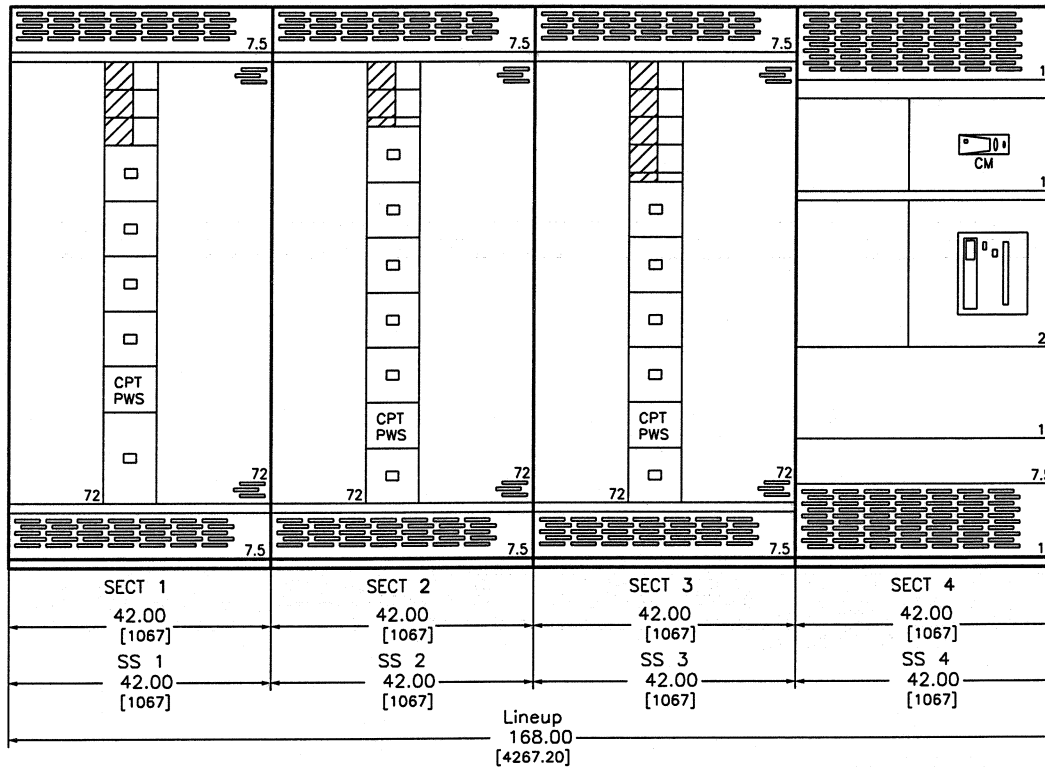
REV	DESCRIPTION	BY	DATE						
-	-	-	-	-	-	-	-	-	-

T-bus
19.5 in

T-bus
19.5 in

T-bus
19.5 in

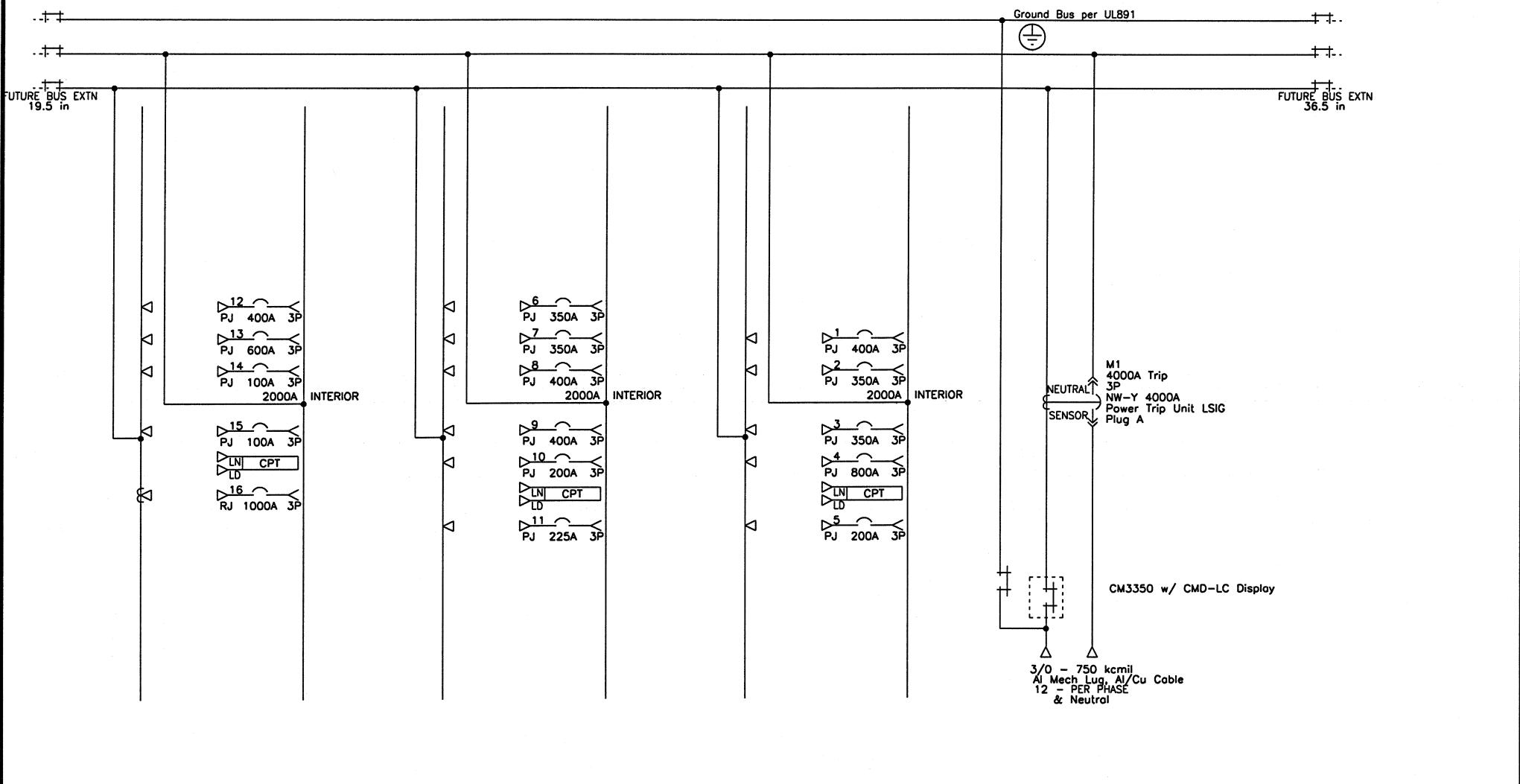
T-bus
36.5 in



ENGLISH DIMENSIONS: INCHES

JOB NAME:	BATTELLE BUILDINGS	EQUIPMENT DESIGNATION:	MS-BSF
JOB LOCATION:	RICHLAND WA	EQUIPMENT TYPE:	OED Switchboard
DRAWN BY:	(Q2C)	DRAWING TYPE:	ELEVATION VIEW
ENGR:			SQUARE D
DATE:	October 17 2008		Schneider Electric
DRAWING STATUS:	QUOTE	DWG#	F23157551-01

REV	DESCRIPTION	BY	DATE						
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SECTION 3		SECTION 4	
JOB NAME:	BATTELLE BUILDINGS	EQUIPMENT DESIGNATION:	MS-BSE
JOB LOCATION:	RICHLAND WA	EQUIPMENT TYPE:	OED Switchboard
DRAWN BY:	(Q2C)	DRAWING TYPE:	ONE LINE
ENGR:			SQUARE D
DATE:	October 17 2008		Schneider Electric
DRAWING STATUS:	QUOTE	DWG#	023157551-01

REV	DESCRIPTION	BY	DATE						
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SWITCHBOARD GENERAL NOTES

PRODUCT DESCRIPTION & RATINGS

Power System Data

480Y/277V 3Ph 4W 60Hz / 3 Phase Wye
 Solidly Grounded
 System Short Circuit Current Rating: 65kA RMS
 Incoming Section 4 Cable Through the Bottom

Bus System Data

4000A Tin/Aluminum & Silver/Copper Main Bus
 (8) .25x2.00 IN/6x51 mm Cu Bus Bar Per Phase/Neutral
 (1) .25x1.75 IN/6x44 mm Cu Ground Bus

Enclosure Data

Type 1 Free Standing
 Exterior Paint Color: ANSI 49
 Front Accessibility Only Required
 Handling: Rollers
 Equipment Nameplate: White Surface/Black Letters
 Device Nameplate: White Surface / Black Letters

Estimated Shipping Weight

Shipping Split 1 2035 lbs / 923 kgs
 Shipping Split 2 2075 lbs / 941 kgs
 Shipping Split 3 2035 lbs / 923 kgs
 Shipping Split 4 1515 lbs / 687 kgs
 Complete Lineup 7660 lbs / 3475 kgs

Code Standards

U.L. Deadfront and suitable for use as Service Entrance
 when not more than six (6) disconnecting means are provided.

Rating Nameplates

ST1- Deadfront- Section Bus 2000A
 ST2- Deadfront- Section Bus 2000A
 ST3- Deadfront- Section Bus 2000A
 ST4- Service Entrance - Section Bus 4000A

PRODUCT INFORMATION

Wiring


All wiring to be Machine Tool Wire type

Instruction Bulletins

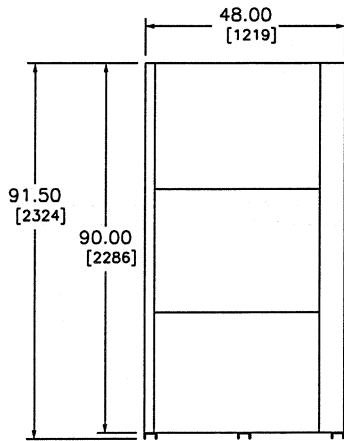
Reference 80043-055 For Handling, Installation,
 Anchoring, Inspection And Maintenance Information

PRODUCT ACCESSORIES/OPTIONS

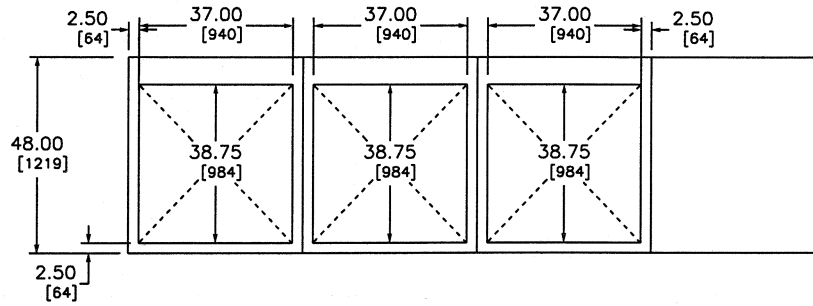
Transparent Ready Equipment - TRE 1
 Web Enabled & Factory Configured for Ethernet
 5 Web Pages Real Time Data
 Customer Ethernet Network - 10/100Mb Copper

JOB NAME:	BATTELLE BUILDINGS	EQUIPMENT DESIGNATION:	MS-BSF
JOB LOCATION:	RICHLAND WA	EQUIPMENT TYPE:	OED Switchboard
DRAWN BY:	(Q2C)	DRAWING TYPE:	GENERAL NOTES
ENGR:			SGLJAFB
DATE:	October 17 2008		Schneider Electric
DRAWING STATUS:	QUOTE	DWG# F23157551-01	PG 3 OF 3 REV -

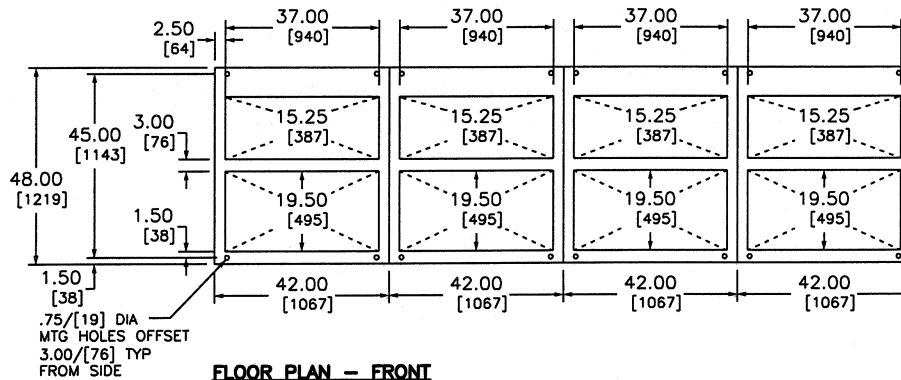
REV	DESCRIPTION	BY	DATE						
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LEFT SIDE VIEW



TOP VIEW - FRONT



FLOOR PLAN - FRONT

ENGLISH DIMENSIONS: INCHES


JOB NAME:	BATTELLE BUILDINGS	EQUIPMENT DESIGNATION:	MS-BSF
JOB LOCATION:	RICHLAND WA	EQUIPMENT TYPE:	OED Switchboard
DRAWN BY:	(Q2C)	DRAWING TYPE:	SIDE, TOP VIEW & FLOOR PLAN
ENGR:			Schneider Electric
DATE:	October 17 2008		
DRAWING STATUS:	QUOTE	DWG#	F23157551-01

REV	DESCRIPTION	BY	DATE												
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POWER STYLE QED-2 SWITCHBOARD

SECT NO	CKT NO	GMD HEIGHT	DEVICE/FRAME RATING	TRIP AMP	FUSE/TRIP	#P	DESIGNATION	N/P	LUG INFORMATION				ACCESSORIES
									QTY	PHASE WIRE RANGE	QTY	NEUT. WIRE RANGE	
1	12	9 in	PJ 400A Plug A	400A	P-LSI	3P	SPARE	Yes	3	3/0 - 500 kcmil	1	250 - 600 kcmil	COM
1	13	9 in	PJ 600A Plug A	600A	P-LSI	3P	MPH-RB	Yes	3	3/0 - 500 kcmil	2	250 - 600 kcmil	COM
1	14	9 in	PJ 250A Plug A	100A	P-LSI	3P	ELEVATOR-2	Yes	-	3/0 - 500 kcmil	-	#6 - 350 kcmil	COM
1	15	9 in	PJ 250A Plug A	100A	P-LSI	3P	ELEVATOR-1	Yes	-	3/0 - 500 kcmil	-	#6 - 350 kcmil	COM
1	-	7.5 in	I/L CPT w 24vdc ps	-	-	-	-	-	-	-	-	-	CPT, PS
1	16	15 in	RJ1000A Plug A 100%	1000A	LSIG	3P	CHILLER CH-1	Yes	4	3/0 - 600kcmil	4	3/0 - 500kcmil	GF,COM
2	6	9 in	PJ 600A Plug C	350A	P-LSI	3P	THK-1A1	Yes	3	3/0 - 500 kcmil	2	250 - 600 kcmil	COM
2	7	9 in	PJ 600A Plug C	350A	P-LSI	3P	THK-1A2	Yes	3	3/0 - 500 kcmil	2	250 - 600 kcmil	COM
2	8	9 in	PJ 400A Plug A	400A	P-LSI	3P	LPH-2B	Yes	3	3/0 - 500 kcmil	1	250 - 600 kcmil	COM
2	9	9 in	PJ 400A Plug A	400A	P-LSI	3P	LPH-1B	Yes	3	3/0 - 500 kcmil	1	250 - 600 kcmil	COM
2	10	9 in	PJ 250A Plug A	200A	P-LSI	3P	MPH-1A	Yes	-	3/0 - 500 kcmil	-	#6 - 350 kcmil	COM
2	-	7.5 in	I/L CPT w 24vdc ps	-	-	-	-	-	-	-	-	-	CPT, PS
2	11	9 in	PJ 250A Plug A	225A	P-LSI	3P	SPARE	Yes	-	3/0 - 500 kcmil	-	#6 - 350 kcmil	COM
3	1	9 in	PJ 400A Plug A	400A	P-LSI	3P	SPARE	Yes	3	3/0 - 500 kcmil	1	250 - 600 kcmil	COM
3	2	9 in	PJ 600A Plug C	350A	P-LSI	3P	THK-2A2	Yes	3	3/0 - 500 kcmil	2	250 - 600 kcmil	COM
3	3	9 in	PJ 600A Plug C	350A	P-LSI	3P	THK-2A1	Yes	3	3/0 - 500 kcmil	2	250 - 600 kcmil	COM
3	4	9 in	PJ 800A Plug A	800A	P-LSI	3P	NDPH-1	Yes	3	3/0 - 500 kcmil	3	250 - 600 kcmil	COM
3	-	7.5 in	I/L CPT w 24vdc ps	-	-	-	-	-	-	-	-	-	CPT, PS
3	5	9 in	PJ 250A Plug A	200A	P-LSI	3P	MPH-2A	Yes	-	3/0 - 500 kcmil	-	#6 - 350 kcmil	COM
4	-	-	Circuit Monitor	-	-	-	-	-	-	-	-	-	CM
4	M1	-	NW 4000A Plug A	4000A	P-LSIG	3P	MAIN	Yes	12	3/0 - 750 kcmil	12	3/0 - 750 kcmil	OC,OF4,CCKK,CCPS,GF,COM

LEGEND	
CCKK	Cradle Cell Key Kit
CCPS	Cradle Cell Position Switch
COM	Communications
GF	Ground Fault
OC	Over Current Trip Switch
OF4	4 Form C Breaker Aux Contacts

JOB NAME:	BATTELLE BUILDINGS	EQUIPMENT DESIGNATION:	MS-BSF
JOB LOCATION:	RICHLAND WA	EQUIPMENT TYPE:	QED Switchboard
DRAWN BY:	(Q2C)	DRAWING TYPE:	SCHEDULE
ENGR:			
DATE:	October 17 2008		
DRAWING STATUS:	QUOTE	DWG#	023157551-01

Item No.	Qty.	Catalog Number / Details
272-00	1	<p>Designation: MS-CSF SQUARE D CUSTOM QED SWITCHBOARD</p> <p>-----</p> <p>System Voltage: 480Y/277V 3Ph 4W 60Hz Source Description - Single Main System Ampacity - 4000A Bussing - Aluminum Plated w/Tin and Copper Plated w/Silver Neutral Bus - 100% Max Available Fault Current (RMS) - 65kA Enclosure - Type 1 Accessibility: Front Only Transparent Ready - TRE1 (5 Web pages of Real Time Data) 100 Base T Copper Hub System</p> <p>Dimensions</p> <p>-----</p> <p>4 - 42" Wide Section(s) 4 - 48" Deep Enclosure(s) Dimensions: 168.00" W X 48" D X 91.5" H Approximate Weight: 7780</p> <p>Incoming Requirements</p> <p>-----</p> <p>Suitable for Use As Service Entrance Entry Point: Left of Lineup, Through the Bottom Circuit Monitor - CM3350 w/ Ethernet Communications Card</p> <p>Mains</p> <p>-----</p> <p>1 - 4000AF/4000AT 100% 3 Pole Stored Energy, Drawout Mounted: Type NW Power Trip Unit, Long Time, Short Time, Instantaneous, Ground Fault Circuit Breaker Modbus Communications Wired</p> <p>Feeders</p> <p>-----</p> <p>1 - 1200AS/1200AT 480V 100% Rated 65 kA 3Pole: Type RJ w/GF 1 - 1000AS/1000AT 480V 100% Rated 65 kA 3Pole: Type RJ w/GFI 1 - 800AS/800AT 480V 80% Rated 65 kA 3 Pole: Type PJ 1 - 800AS/500AT 480V 80% Rated 65 kA 3 Pole: Type PJ 5 - 400AS/400AT 480V 80% Rated 65 kA 3 Pole: Type PJ 1 - 600AS/350AT 480V 80% Rated 65 kA 3 Pole: Type PJ 3 - 250AS/225AT 480V 80% Rated 65 kA 3 Pole: Type PJ 4 - 250AS/175AT 480V 80% Rated 65 kA 3 Pole: Type PJ 2 - 250AS/100AT 480V 80% Rated 65 kA 3 Pole: Type PJ Common Feeder Features: Power Trip Unit, Long Time, Short Time, Instantaneous, Circuit Breaker Modbus Communications Wired</p>

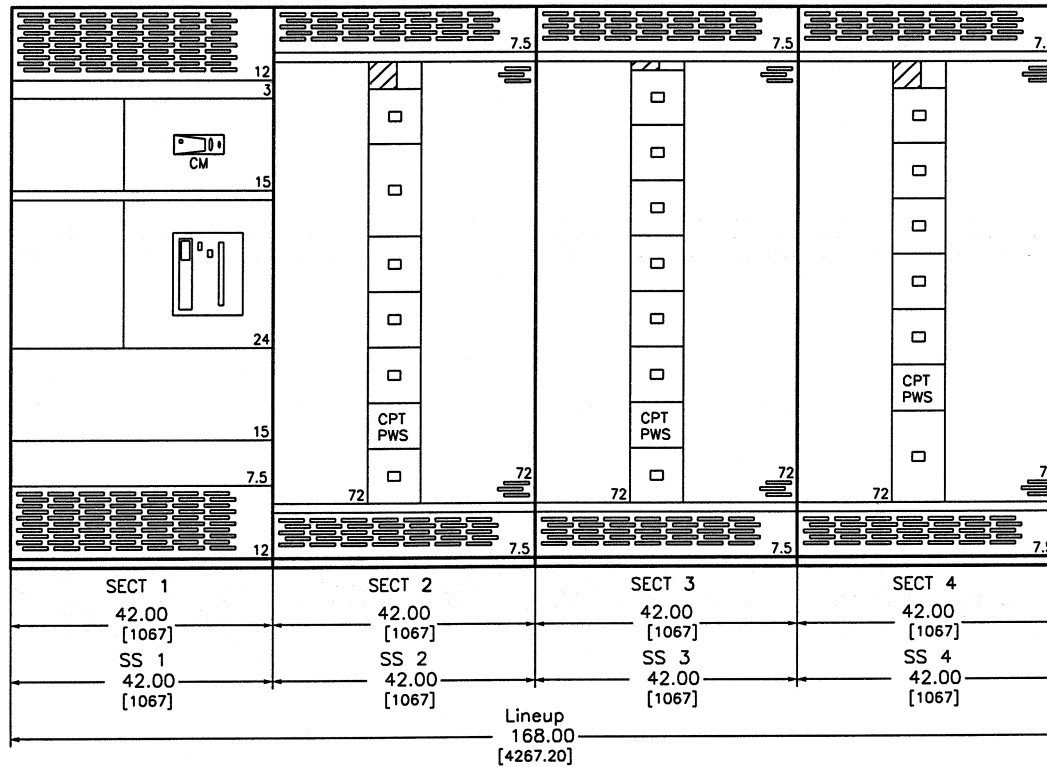
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T-bus
36.5 in

T-bus
19.5 in

T-bus
19.5 in

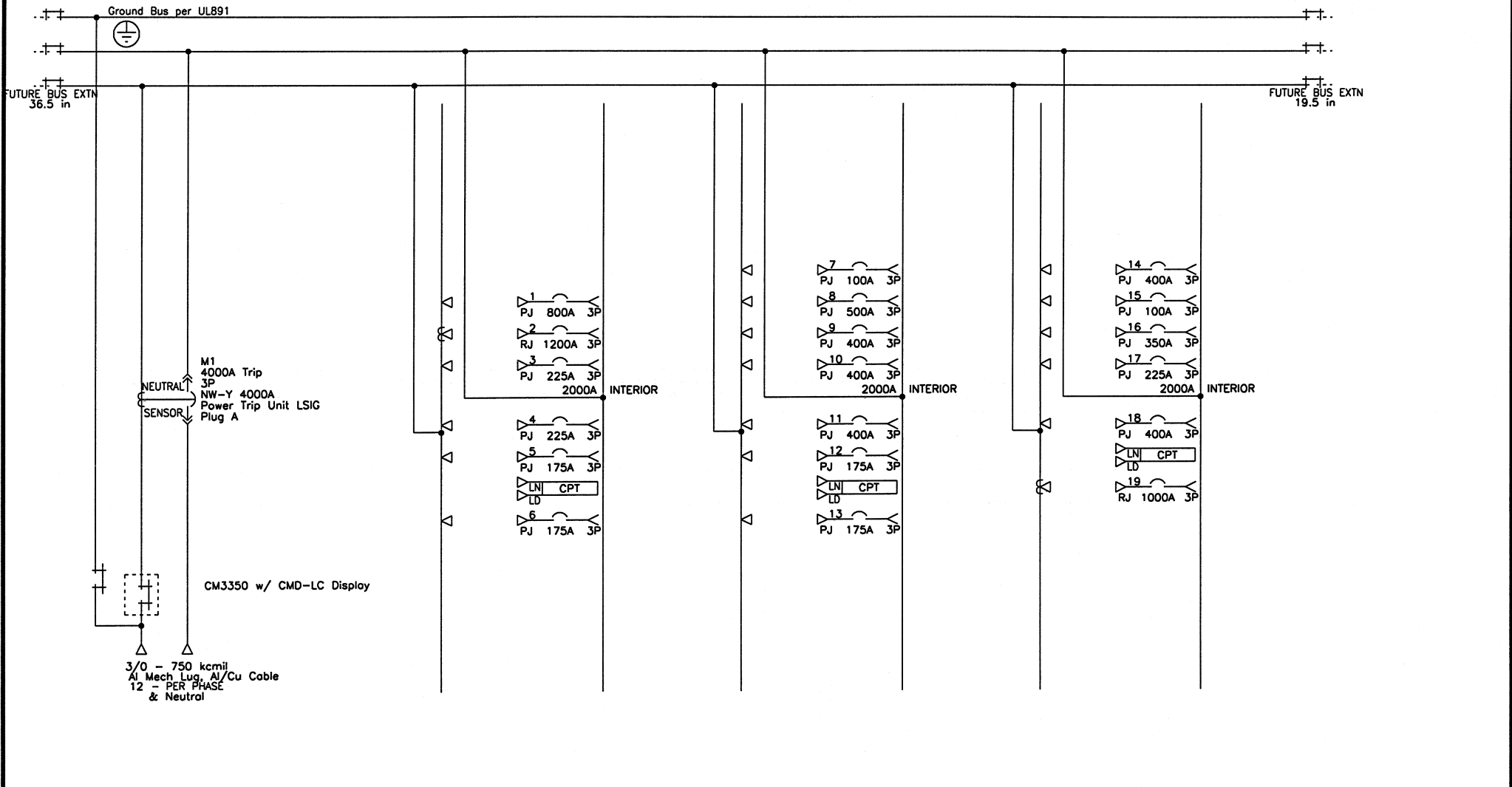
T-bus
19.5 in



ENGLISH DIMENSIONS: INCHES

JOB NAME:	BATTELLE BUILDINGS	EQUIPMENT DESIGNATION:	MS-CSF
JOB LOCATION:	RICHLAND WA	EQUIPMENT TYPE:	OED Switchboard
DRAWN BY:	(QZC)	DRAWING TYPE:	ELEVATION VIEW
ENGR:			Schneider Electric
DATE:	October 17 2008		
DRAWING STATUS:	QUOTE	DWG#	F23157551-01

REV	DESCRIPTION	BY	DATE						
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JOB NAME:	BATTELLE BUILDINGS	EQUIPMENT DESIGNATION:	MS-CSF
JOB LOCATION:	RICHLAND WA	EQUIPMENT TYPE:	OED Switchboard
DRAWN BY:	(Q2C)	DRAWING TYPE:	ONE LINE
ENGR:			Schneider Electric
DATE:	October 17 2008	DWG#	023157551-01
DRAWING STATUS:	QUOTE		PG 1 OF 2 REV -

REV	DESCRIPTION	BY	DATE						
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SWITCHBOARD GENERAL NOTES

PRODUCT DESCRIPTION & RATINGS

Power System Data

480Y/277V 3Ph 4W 60Hz / 3 Phase Wye
 Solidly Grounded
 System Short Circuit Current Rating: 65kA RMS
 Incoming Section 1 Cable Through the Bottom

Bus System Data

4000A Tin/Aluminum & Silver/Copper Main Bus
 (8) .25x2.00 IN/6x51 mm Cu Bus Bar Per Phase/Neutral
 (1) .25x1.75 IN/6x44 mm Cu Ground Bus

Enclosure Data

Type 1 Free Standing
 Exterior Paint Color: ANSI 49
 Front Accessibility Only Required
 Handling: Rollers
 Equipment Nameplate: White Surface/Black Letters
 Device Nameplate: White Surface / Black Letters

Estimated Shipping Weight

Shipping Split 1 1515 lbs / 687 kgs
 Shipping Split 2 2075 lbs / 941 kgs
 Shipping Split 3 2115 lbs / 959 kgs
 Shipping Split 4 2075 lbs / 941 kgs
 Complete Lineup 7780 lbs / 3529 kgs

Code Standards

U.L. Deadfront and suitable for use as Service Entrance
 when not more than six (6) disconnecting means are provided.

Rating Nameplates

ST1- Service Entrance - Section Bus 4000A
 ST2- Deadfront- Section Bus 2000A
 ST3- Deadfront- Section Bus 2000A
 ST4- Deadfront- Section Bus 2000A

PRODUCT INFORMATION

Wiring


All wiring to be Machine Tool Wire type

Instruction Bulletins

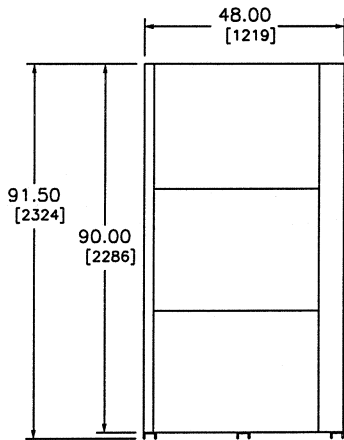
Reference 80043-055 For Handling, Installation,
 Anchoring, Inspection And Maintenance Information

PRODUCT ACCESSORIES/OPTIONS

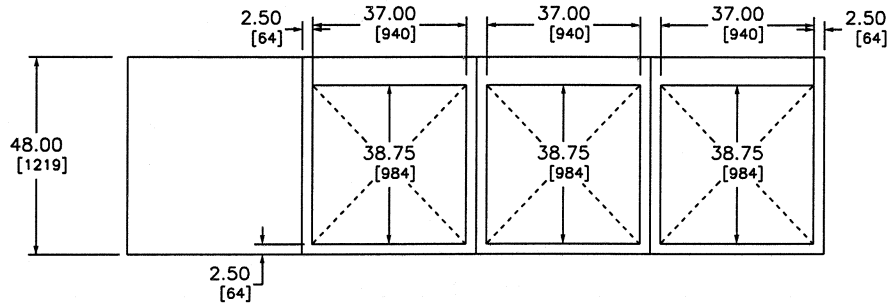
Transparent Ready Equipment - TRE 1
 Web Enabled & Factory Configured for Ethernet
 5 Web Pages Real Time Data
 Customer Ethernet Network - 10/100Mb Copper

JOB NAME:	BATTELLE BUILDINGS	EQUIPMENT DESIGNATION:	MS-CSF
JOB LOCATION:	RICHLAND WA	EQUIPMENT TYPE:	OED Switchboard
DRAWN BY:	(Q2C)	DRAWING TYPE:	GENERAL NOTES
ENGR:			SQJIAFE D Schneider Electric
DATE:	October 17 2008		
DRAWING STATUS:	QUOTE	DWG# F23157551-01	PG 3 OF 3 REV -

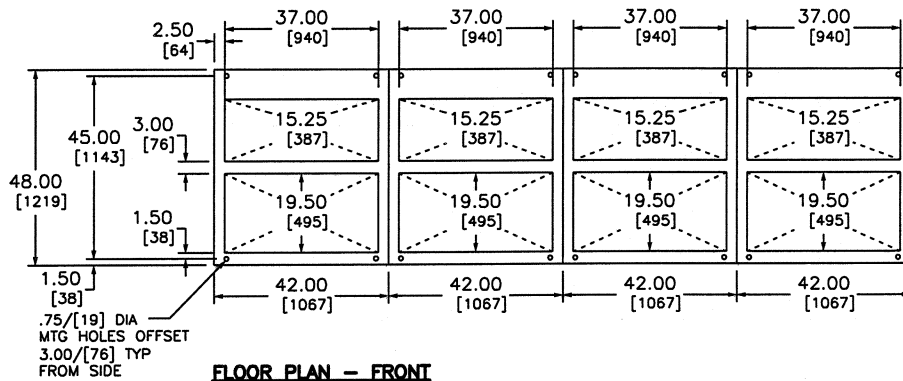
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LEFT SIDE VIEW



TOP VIEW - FRONT



FLOOR PLAN - FRONT

ENGLISH DIMENSIONS: INCHES


JOB NAME:	BATTELLE BUILDINGS	EQUIPMENT DESIGNATION:	MS-CSF
JOB LOCATION:	RICHLAND WA	EQUIPMENT TYPE:	QED Switchboard
DRAWN BY:	(G2C)	DRAWING TYPE:	SIDE, TOP VIEW & FLOOR PLAN
ENGR:			Schneider Electric
DATE:	October 17 2008		
DRAWING STATUS:	QUOTE	DWG#	F23157551-01

REV	DESCRIPTION	BY	DATE						
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POWER STYLE QED-2 SWITCHBOARD

SECT NO	CKT NO	GMD HEIGHT	DEVICE/FRAME RATING	TRIP AMP	FUSE/TRIP	#P	DESIGNATION	N/P	LUG INFORMATION				ACCESSORIES
									QTY	PHASE WIRE RANGE	QTY	NEUT. WIRE RANGE	
1	-	-	Circuit Monitor	-	-	-	-	-	-	-	-	-	CM
1	M1	-	NW 4000A Plug A	4000A	P-LSIG	3P	MAIN	Yes	12	3/0 - 750 kcmil	12	3/0 - 750 kcmil	OC,OF4,CCKK,CCPS,GF,COM
2	1	9 in	PJ 800A Plug A	800A	P-LSI	3P	DPH-2A1	Yes	3	3/0 - 500 kcmil	3	250 - 600 kcmil	COM
2	2	15 in	RJ1200A Plug A 100%	1200A	LSIG	3P	DPH-1A1	Yes	4	3/0 - 600kcmil	4	3/0 - 500kcmil	GF,COM
2	3	9 in	PJ 250A Plug A	225A	P-LSI	3P	LPH-2A1	Yes	-	3/0 - 500 kcmil	-	#6 - 350 kcmil	COM
2	4	9 in	PJ 250A Plug A	225A	P-LSI	3P	LPH-1A1	Yes	-	3/0 - 500 kcmil	-	#6 - 350 kcmil	COM
2	5	9 in	PJ 250A Plug A	175A	P-LSI	3P	THK-RE-2A1	Yes	-	3/0 - 500 kcmil	-	#6 - 350 kcmil	COM
2	-	7.5 in	I/L CPT w 24vdc ps	-	-	-	-	-	-	-	-	-	CPT, PS
2	6	9 in	PJ 250A Plug A	175A	P-LSI	3P	THK-RE-1A1	Yes	-	3/0 - 500 kcmil	-	#6 - 350 kcmil	COM
3	7	9 in	PJ 250A Plug A	100A	P-LSI	3P	ELEVATOR-3	Yes	-	3/0 - 500 kcmil	-	#6 - 350 kcmil	COM
3	8	9 in	PJ 800A Plug A	500A	P-LSI	3P	MPH-1	Yes	3	3/0 - 500 kcmil	3	250 - 600 kcmil	COM
3	9	9 in	PJ 400A Plug A	400A	P-LSI	3P	LPH-2M1	Yes	3	3/0 - 500 kcmil	1	250 - 600 kcmil	COM
3	10	9 in	PJ 400A Plug A	400A	P-LSI	3P	LPH-1M1	Yes	3	3/0 - 500 kcmil	1	250 - 600 kcmil	COM
3	11	9 in	PJ 400A Plug A	400A	P-LSI	3P	SPARE	Yes	3	3/0 - 500 kcmil	1	250 - 600 kcmil	COM
3	12	9 in	PJ 250A Plug A	175A	P-LSI	3P	THK-RW-4A1	Yes	-	3/0 - 500 kcmil	-	#6 - 350 kcmil	COM
3	-	7.5 in	I/L CPT w 24vdc ps	-	-	-	-	-	-	-	-	-	CPT, PS
3	13	9 in	PJ 250A Plug A	175A	P-LSI	3P	THK-RW-3A1	Yes	-	3/0 - 500 kcmil	-	#6 - 350 kcmil	COM
4	14	9 in	PJ 400A Plug A	400A	P-LSI	3P	MPH-R1	Yes	3	3/0 - 500 kcmil	1	250 - 600 kcmil	COM
4	15	9 in	PJ 250A Plug A	100A	P-LSI	3P	T-CP	Yes	-	3/0 - 500 kcmil	-	#6 - 350 kcmil	COM
4	16	9 in	PJ 600A Plug C	350A	P-LSI	3P	MPH-2	Yes	3	3/0 - 500 kcmil	2	250 - 600 kcmil	COM
4	17	9 in	PJ 250A Plug A	225A	P-LSI	3P	SPARE	Yes	-	3/0 - 500 kcmil	-	#6 - 350 kcmil	COM
4	18	9 in	PJ 400A Plug A	400A	P-LSI	3P	SPARE	Yes	3	3/0 - 500 kcmil	1	250 - 600 kcmil	COM
4	-	7.5 in	I/L CPT w 24vdc ps	-	-	-	-	-	-	-	-	-	CPT, PS
4	19	15 in	RJ1000A Plug A 100%	1000A	LSIG	3P	CHILLER CH-1	Yes	4	3/0 - 600kcmil	4	3/0 - 500kcmil	GF,COM

LEGEND	
CCKK	Cradle Cell Key Kit
CCPS	Cradle Cell Position Switch
COM	Communications
GF	Ground Fault
OC	Over Current Trip Switch
OF4	4 Form C Breaker Aux Contacts

JOB NAME:	BATTELLE BUILDINGS	EQUIPMENT DESIGNATION:	MS-CSF
JOB LOCATION:	RICHLAND WA	EQUIPMENT TYPE:	QED Switchboard
DRAWN BY:	(Q2C)	DRAWING TYPE:	SCHEDULE
ENGR:			
DATE:	October 17 2008		
DRAWING STATUS:	QUOTE		
		 Schneider Electric	
		DWG# 023157551-01	PG 2 OF 2 REV -