

NOTES:

1. THE EXISTING SLAB AND CONDUIT WAS ORIGINALLY DESIGNED FOR A SWITCHBOARD C/W TIE SECTION. A MORE ECONOMICAL SOLUTION IS NOW BEING PROPOSED WITH THE USE OF TWO (2) STANDARD PANELBOARDS.
2. PANELBOARDS HAVE BEEN SIZED 600A TO ALLOW FOR FUTURE UTILITY TRANSFORMER(S) INCREASE FROM 300KVA TO 500KVA.
3. POWER TRANSFORMER 'PT-2' AND MAIN DISCONNECT 'MDS-2' ARE FUTURE. PANELBOARD 'MDP-1' AND MDP-2' ARE TO BE TEMPORARY TIED-IN TO MAIN DISCONNECT 'MDS-1'.
4. TO PREVENT EQUIPMENT OVERLOAD, THE CHARGING SYSTEM IS DESIGNED TO DYNAMICALLY SHARE THE TRANSFORMER OUTPUT, I.E. THEY WILL DYNAMICALLY ADJUST THEIR OUTPUT BASED ON THE NUMBER OF ACTIVE CHARGERS SO AS NOT TO EXCEED THE TRANSFORMER RATING.
5. OPTIONS TO SIMPLIFY THE DESIGN FURTHER WILL BE ACCEPTED - SUCH AS PLACING ALL BRANCH CIRCUITS ON A SINGLE 600A PANELBOARD, HOWEVER CONDUIT, CABLING/RACKING FROM ONE SIDE OF THE SLAB TO THE OTHER WILL NEED TO BE STUDIED TO SEE IF THERE ARE ANY SAVINGS (LESS EXPENSIVE OPTION TO BE ACCEPTED).

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GOVERNMENT OF BERMUDA
 ST. GEORGE'S BUS DEPOT
 DEPARTMENT OF PUBLIC TRANSPORT
 OLD MILITARY ROAD, ST. GEORGE'S
 480V MAIN DISTRIBUTION
 SCHEMATIC DIAGRAM

PROJECT NO: 23006
 DRAWN BY: IAL
 DATE: FEBRUARY 2023
 SCALE: NTS

E301

PANELBOARD 'MDP-1' EV CHARGING PEDESTALS SIEMENS (OR EQUAL) 600A 480V 3P-4W, 14KA (MIN)	ELECTRIC SERVICE PANEL SCHEDULE						
	DESCRIPTION	BREAKERS	BARS/POLES			BREAKERS	DESCRIPTION
		POLE-AMP	L1	L2	L3	POLE-AMP	
CHARGING STATION EV-1A	3P-125A	1	●			2	CHARGING STATION EV-1B
		3		●		4	
		5			●	6	
CHARGING STATION EV-1C	3P-125A	7	●			8	CHARGING STATION EV-1D
		9		●		10	
		11			●	12	
SPARE	3P-125A	13	●			14	-
		15		●		16	
		17			●	18	
TVSS (PRICE AS OPTION)	-	19	●			20	FEED TO PP-BS via PT-BS
		21		●		22	
		23			●	24	

PANELBOARD 'MDP-2' EV CHARGING PEDESTALS SIEMENS (OR EQUAL) 600A 480V 3P-4W, 14KA (MIN)	ELECTRIC SERVICE PANEL SCHEDULE						
	DESCRIPTION	BREAKERS	BARS/POLES			BREAKERS	DESCRIPTION
		POLE-AMP	L1	L2	L3	POLE-AMP	
CHARGING STATION EV-2A	3P-125A	1	●			2	CHARGING STATION EV-2B
		3		●		4	
		5			●	6	
CHARGING STATION EV-2C	3P-125A	7	●			8	CHARGING STATION EV-2D
		9		●		10	
		11			●	12	
CHARGING STATION EV-2E	3P-125A	13	●			14	-
		15		●		16	
		17			●	18	
TVSS (PRICE AS OPTION)	-	19	●			20	-
		21		●		22	
		23			●	24	

NOTES:

- PANELBOARDS SHALL BE SIEMENS, EATON, SQUARE-D (OR APPROVED EQUAL).
- PANELBOARD RATING SHALL BE 14KA (MIN).
- MAIN CIRCUIT BREAKER TO BE 100% RATED.
- ALL BRANCH CIRCUIT BREAKERS TO BE 100% RATED.
- MAIN CIRCUIT BREAKER TO BE DIALED BACK TO 400A.



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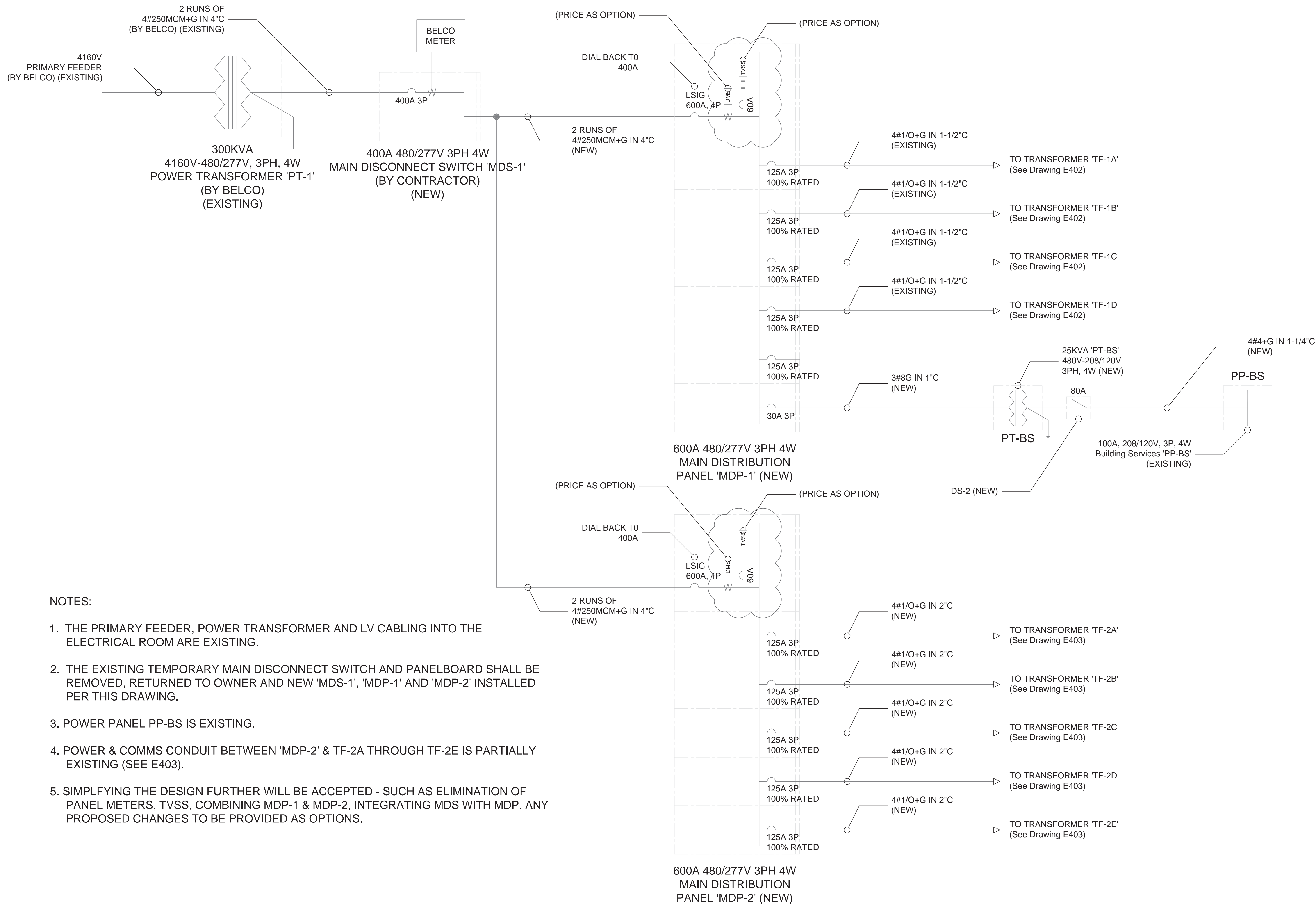
GOVERNMENT OF BERMUDA
ST. GEORGE'S BUS DEPOT
DEPARTMENT OF PUBLIC TRANSPORT
OLD MILITARY ROAD, ST. GEORGE'S
480V MAIN DISTRIBUTION
PANEL SCHEDULE

PROJECT NO: 23006
DRAWN BY: IAL
DATE: FEBRUARY 2023
SCALE: NTS

E302

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REV#	REV. DATE	REV. NOTES



NOTES:

1. THE PRIMARY FEEDER, POWER TRANSFORMER AND LV CABLING INTO THE ELECTRICAL ROOM ARE EXISTING.
2. THE EXISTING TEMPORARY MAIN DISCONNECT SWITCH AND PANELBOARD SHALL BE REMOVED, RETURNED TO OWNER AND NEW 'MDS-1', 'MDP-1' AND 'MDP-2' INSTALLED PER THIS DRAWING.
3. POWER PANEL PP-BS IS EXISTING.
4. POWER & COMMS CONDUIT BETWEEN 'MDP-2' & TF-2A THROUGH TF-2E IS PARTIALLY EXISTING (SEE E403).
5. SIMPLIFYING THE DESIGN FURTHER WILL BE ACCEPTED - SUCH AS ELIMINATION OF PANEL METERS, TVSS, COMBINING MDP-1 & MDP-2, INTEGRATING MDS WITH MDP. ANY PROPOSED CHANGES TO BE PROVIDED AS OPTIONS.

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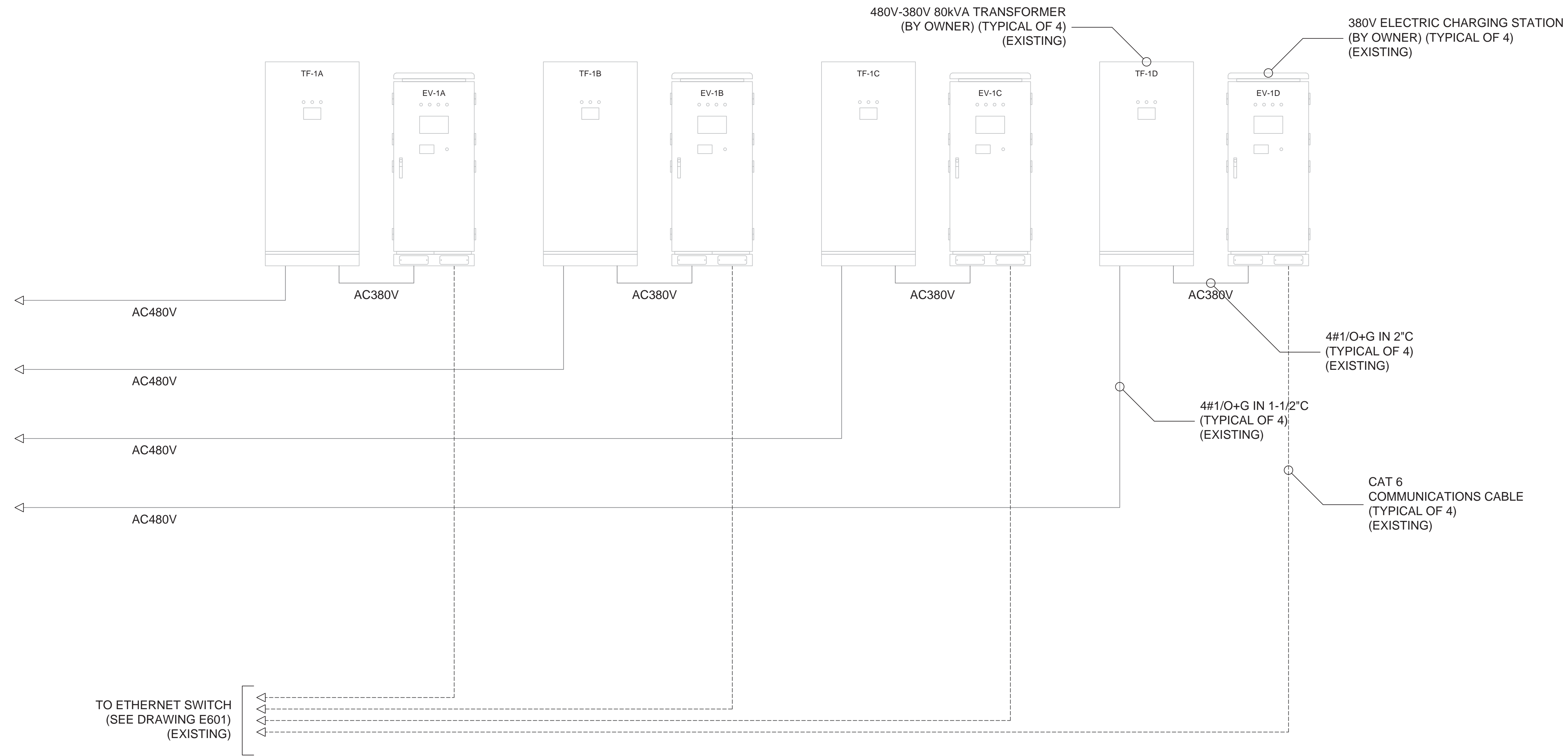
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ST. GEORGE'S BUS DEPOT
 DEPARTMENT OF PUBLIC TRANSPORT
 OLD MILITARY ROAD, ST. GEORGE'S
480V MAIN DISTRIBUTION SCHEMATIC DIAGRAM

PROJECT NO: 23006
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 DATE: FEBRUARY 2023
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E401

EXISTING



NOTES:

1. EVERYTHING ON THIS DRAWING IS EXISTING.
2. CONTRACTOR TO ALLOW FOR DISCONNECTION OF THE FOUR (4) AC480V CONDUCTORS FROM THE EXISTING TEMPORARY PANELBOARD AND RECONNECTION TO THE NEW PANELBOARD.

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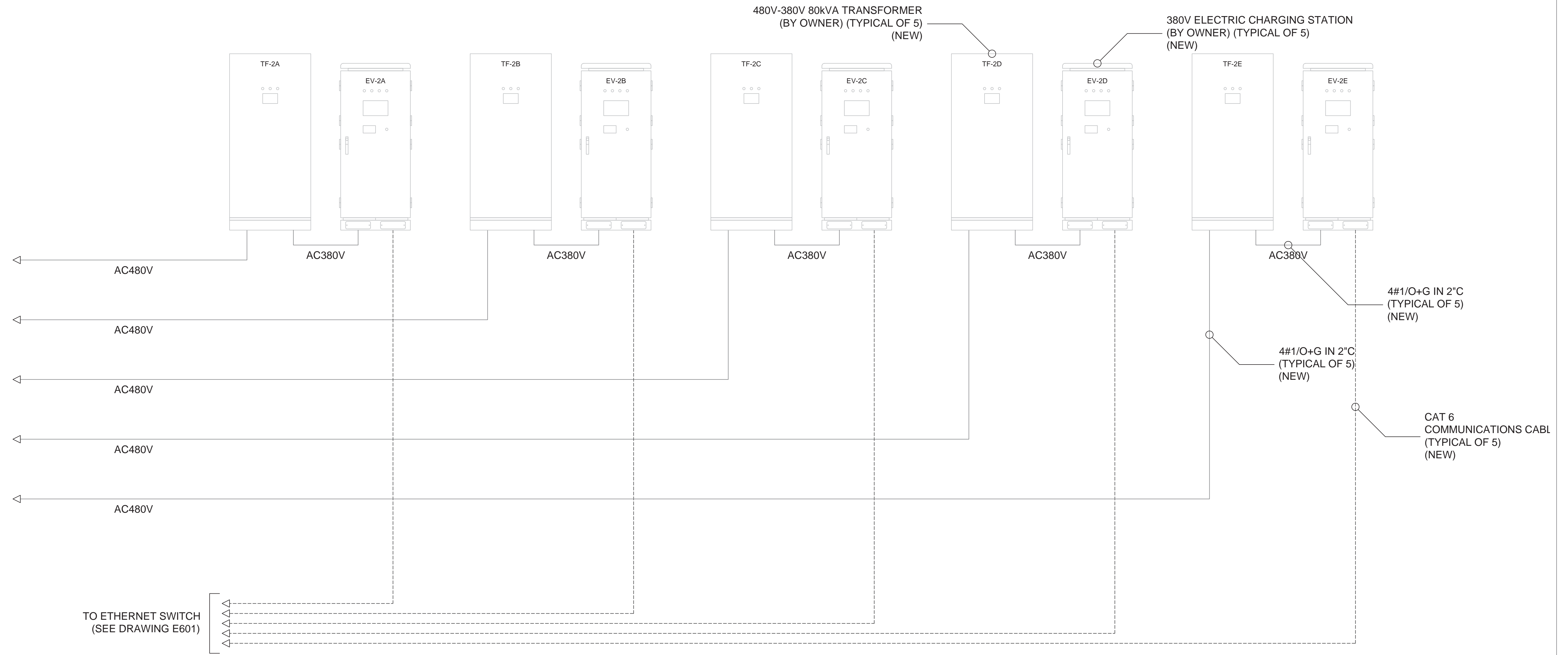
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 OLD MILITARY ROAD, ST. GEORGE'S
480V DISTRIBUTION PANEL 1
 SCHEMATIC

PROJECT NO: 23006
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E402



PROPOSED (ADDITIONAL)



NOTES:

1. EVERYTHING ON THIS DRAWING IS NEW HOWEVER NOTE THERE IS EXISTING POWER & COMMS CONDUIT BETWEEN THE ELECTRICAL ROOM AND LAST (EXISTING) CHARGING PEDESTAL.
2. CONTRACTOR TO ALLOW FOR EXTENDING THE POWER & COMMS CONDUIT FROM THE LAST (EXISTING) CHARGING PEDESTAL TO THE PROPOSED LAST CHARGING PEDESTAL.



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 480V DISTRIBUTION PANEL 2
 SCHEMATIC

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E403

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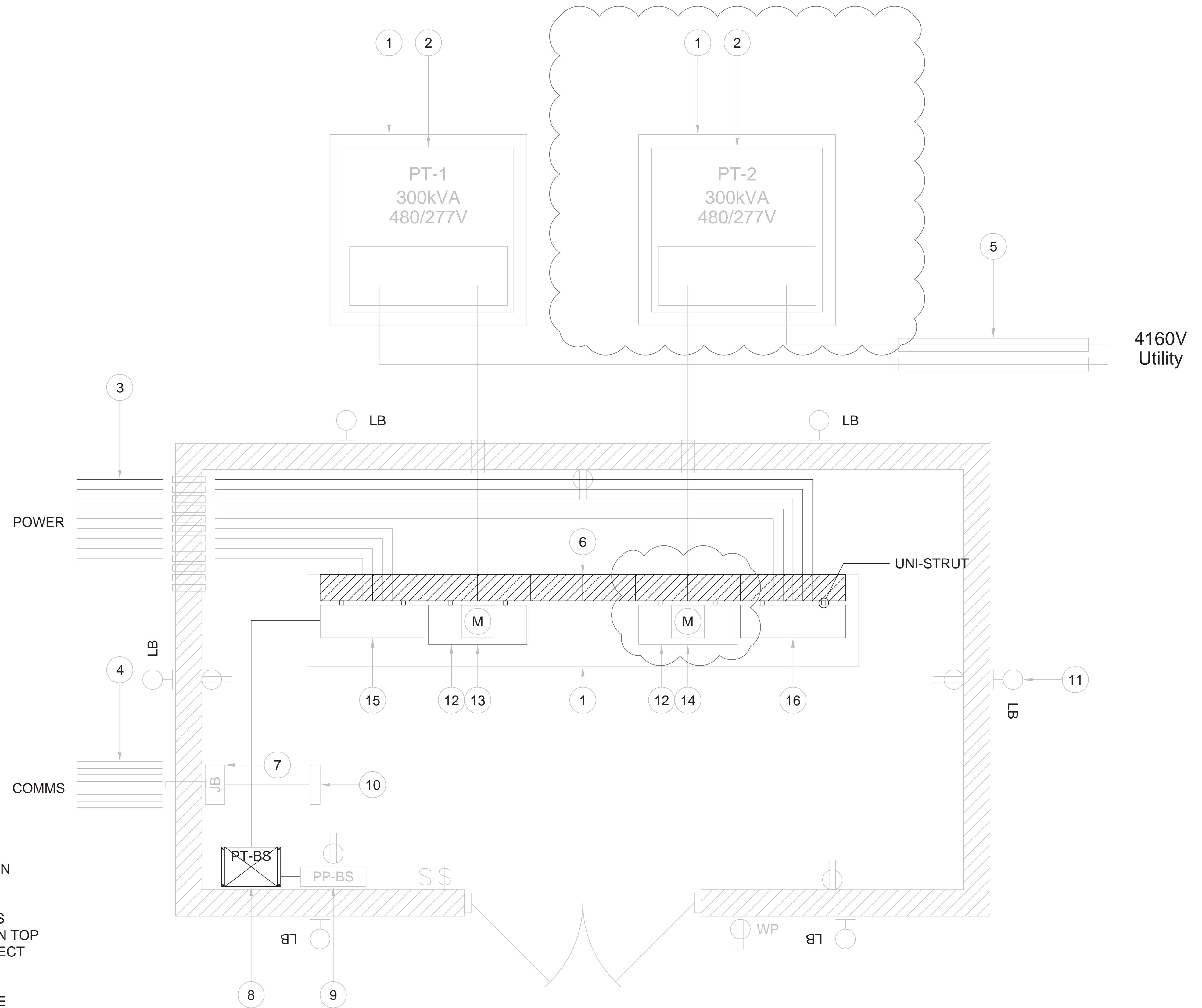
LEGEND

ITEM No.	DESCRIPTION
1	4" HIGH CONCRETE HOUSEKEEPING PAD
2	300KVA 4160V-480V 3-PHASE POWER TRANSFORMER (BY BELCO)
3	1-1/2" & 2" PVC CONDUIT (TYPICAL)
4	2" PVC CONDUIT (TYPICAL)
5	4" PVC CONDUIT (TYPICAL)
6	8" CONCRETE BLOCK WALL (OR APPROVED EQUAL)
7	12" X 12" X 8" PVC JUNCTION BOX (FOR COMMS CABLING)
8	25KVA 480V-120/240V 1-PHASE POWER TRANSFORMER 'PT-BS' (FOR BUILDING SERVICES)
9	100A 120/240V 1-PHASE DISTRIBUTION PANEL 'PP-BS' (FOR BUILDING SERVICES)
10	NETWORK EQUIPMENT
11	LED LIGHT FIXTURE
12	BELCO METERING EQUIPMENT (TYPICAL)
13	400A 480/277V 3P 'MDS-1'
14	400A 480/277V 3P 'MDS-2' (FUTURE)
15	600A 480/277V 3P 'MDP-1'
16	600A 480/277V 3P 'MDP-2'

NOTES:

- EXISTING TEMPORARY MAIN DISCONNECT SWITCH AND MAIN DISTRIBUTION PANEL SHALL BE REMOVED AND RETURNED TO OWNER.
- 8" CONCRETE BLOCK WALL (OR SIMILAR APPROVED STRUCTURE- SUCH AS UNI-STRUT C/W FLOOR-TO-CEILING BRACING) SHALL BE CONSTRUCTED ON TOP OF THE EXISTING HOUSEKEEPING PAD TO SUPPORT MOUNTING DISCONNECT SWITCHES AND DISTRIBUTION PANELBOARDS.
- EXISTING POWER PANEL PP-BS TO REMAIN AND BE RECONNECTED TO THE NEW DISTRIBUTION PANELBOARD 'MDP-1' VIA NEW TRANSFORMER 'PT-BS'.
- ALL EXISTING COMMS INFRASTRUTURE TO REMAIN.
- ALL EXISTING BUILDING SERVICES TO REMAIN.

FUTURE



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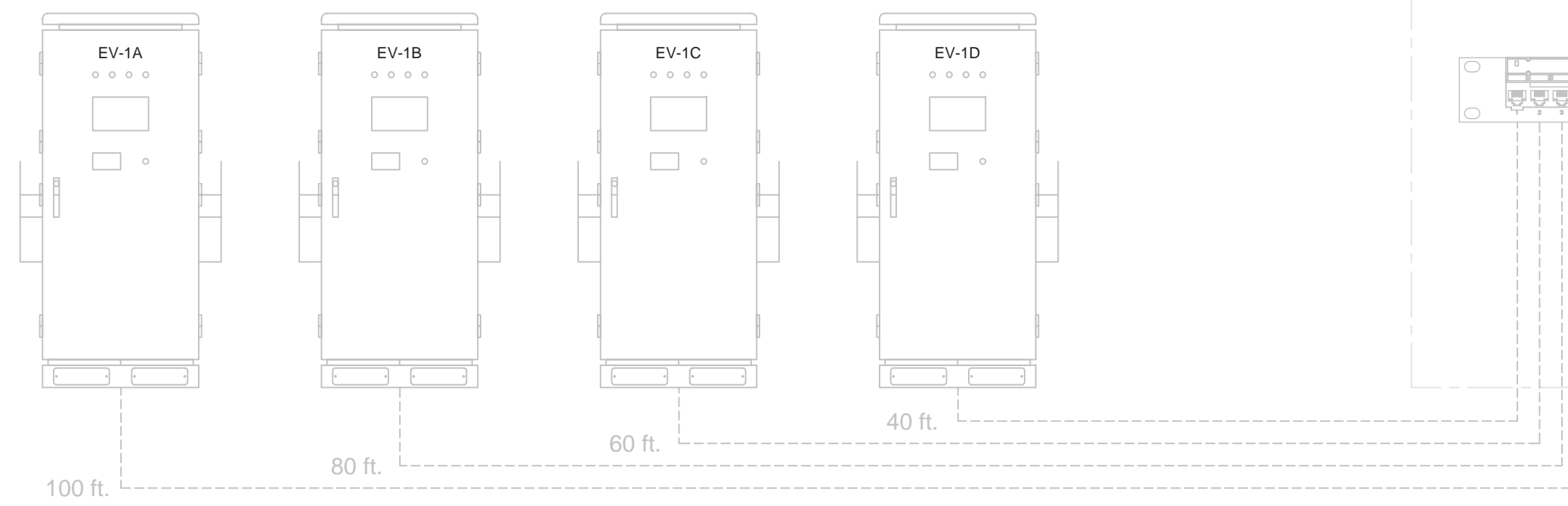
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ELECTRICAL ROOM LAYOUT

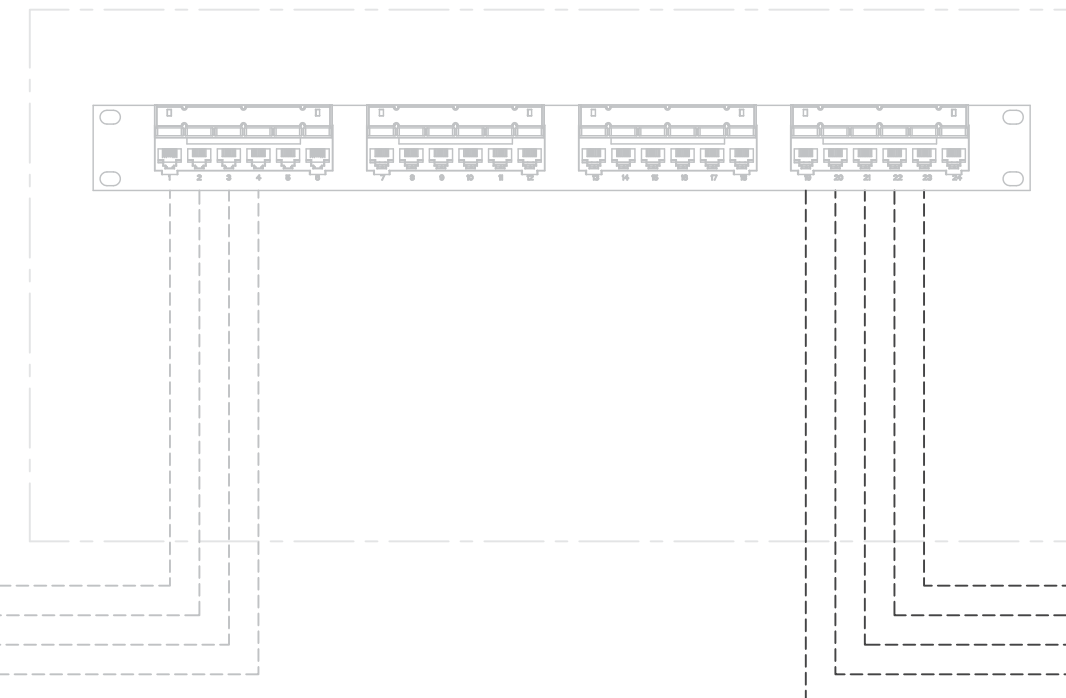
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E501

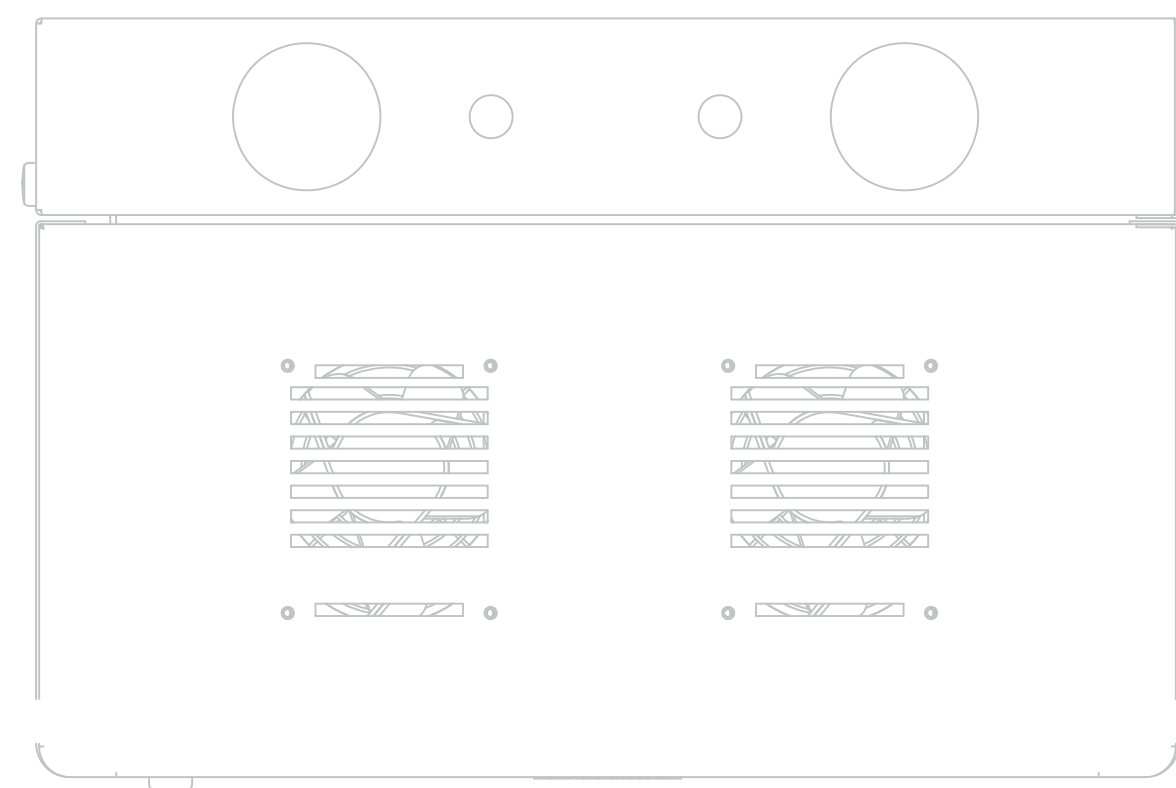
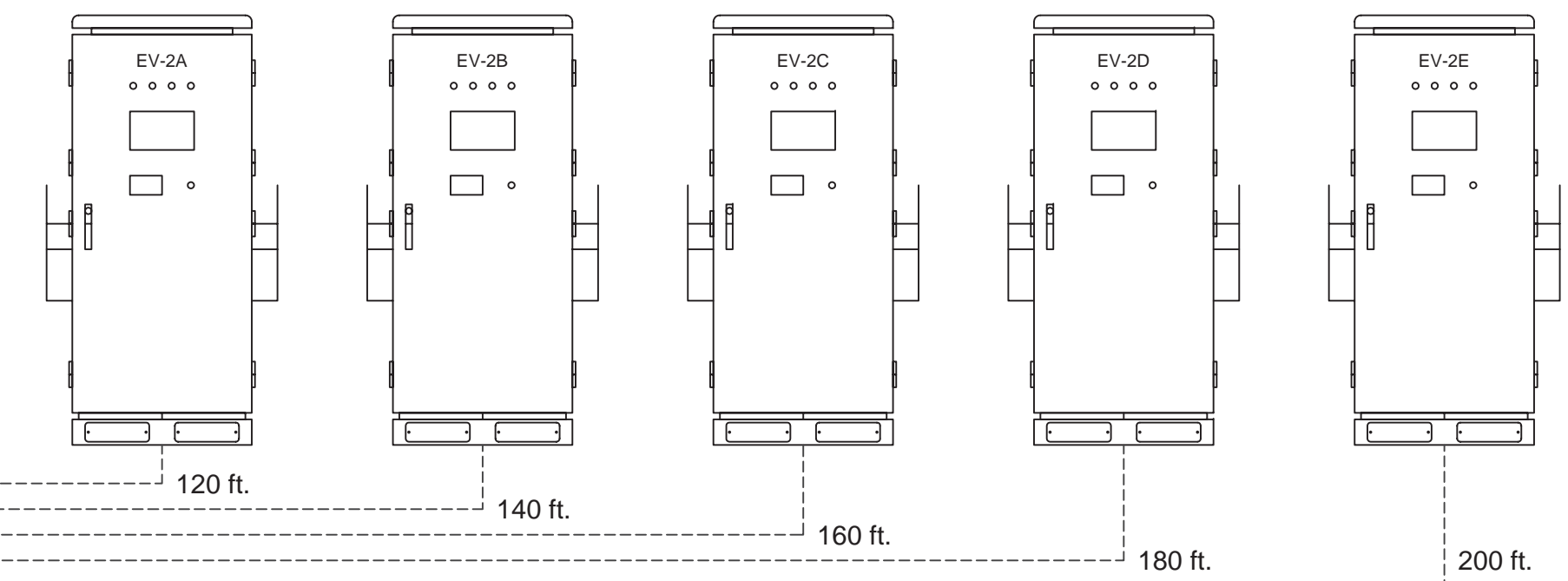
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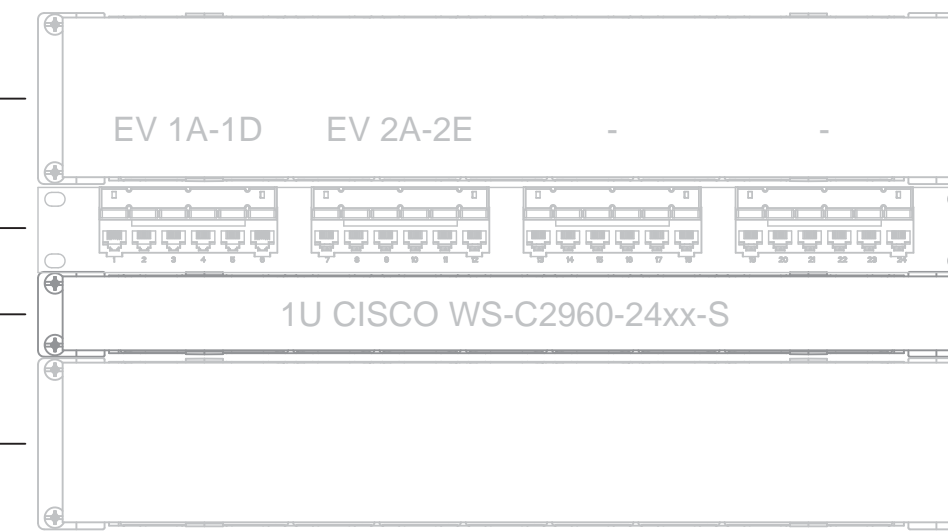
IT/COMMUNICATIONS RACK (EXISTING)



(NEW)



- 2U HORIZONTAL CABLE MANAGER
- PATCH PANEL
- 1U DATA SWITCH
- UPS



1x PDU Power Strip
Horizontal, Surge,
20A, Twistlock plug

WALL MOUNT CABINET 6RU
LIGHT DUTY SERIES FRONT DOOR

PLEXIGLASS SIDE PANELS
VENTED TOP AND BOTTOM PANELS
2 FAN

NOTES:

1. COMMS INFRASTRUCTURE IS EXISTING & COMMS CABLING TO THE EXISTING CHARGING PEDESTALS IS EXISTING.
2. CONTRACTOR TO ALLOW FOR FIVE (5) RUNS OF CAT6 CABLE BETWEEN COMMS EQUIPMENT IN THE ELECTRICAL ROOM AND THE LAST FIVE (5) CHARGING PEDESTALS. DISTANCES ARE APPROXIMATE.
3. COMMS CABLE IS TO BE TERMINATED BOTH ENDS AND TESTED.



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SCHEMATIC DIAGRAM

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E601

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