LINE TYPE LEGEND

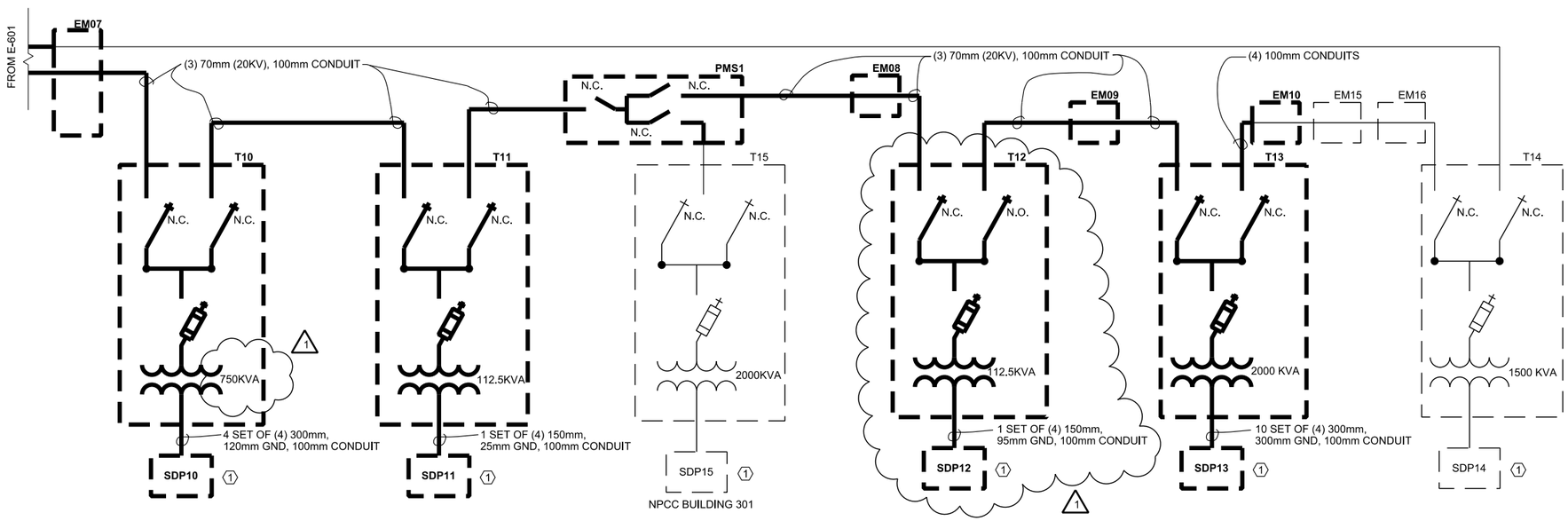
NEW ELEMENT IN CURRENT CONTRACT

EXISTING ELEMENT

FUTURE ELEMENT IN FUTURE CONTRACT

KEY NOTES:

1. SEE SHEETS E-601 THRU E-604 FOR ONE LINE DIAGRAM OF SITE DISTRIBUTION PANEL BOARDS.



1 SITE DISTRIBUTION ONE-LINE DIAGRAM - CONTINUED

E-602 | E-602 SCALE: NOT TO SCALE

US Army Corps of Engineers
Kansas City District

SYM	DESCRIPTION	DATE	APPR
1	AMENDMENT #0001 - UPDATES TO ONE-LINE DIAGRAM	11/15/11	SFP

Designed by: S. PACZOSA
Date: OCTOBER 2011
Drawn by: J. LOCKWOOD
Drawing code: F-141-95-01
Checked by: D. WINKEL
Plot scale: 1:1
Submitted by: S. BURNS
CADD File Name: W05_E-602.DGN

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

KABUL, AFGHANISTAN
MINISTRY OF INTERIOR COMPLEX
MINISTRY OF INTERIOR HEADQUARTERS
FY2011

SITE DISTRIBUTION
ONE-LINE DIAGRAM - CONTINUED

SHEET NUMBER

E-602

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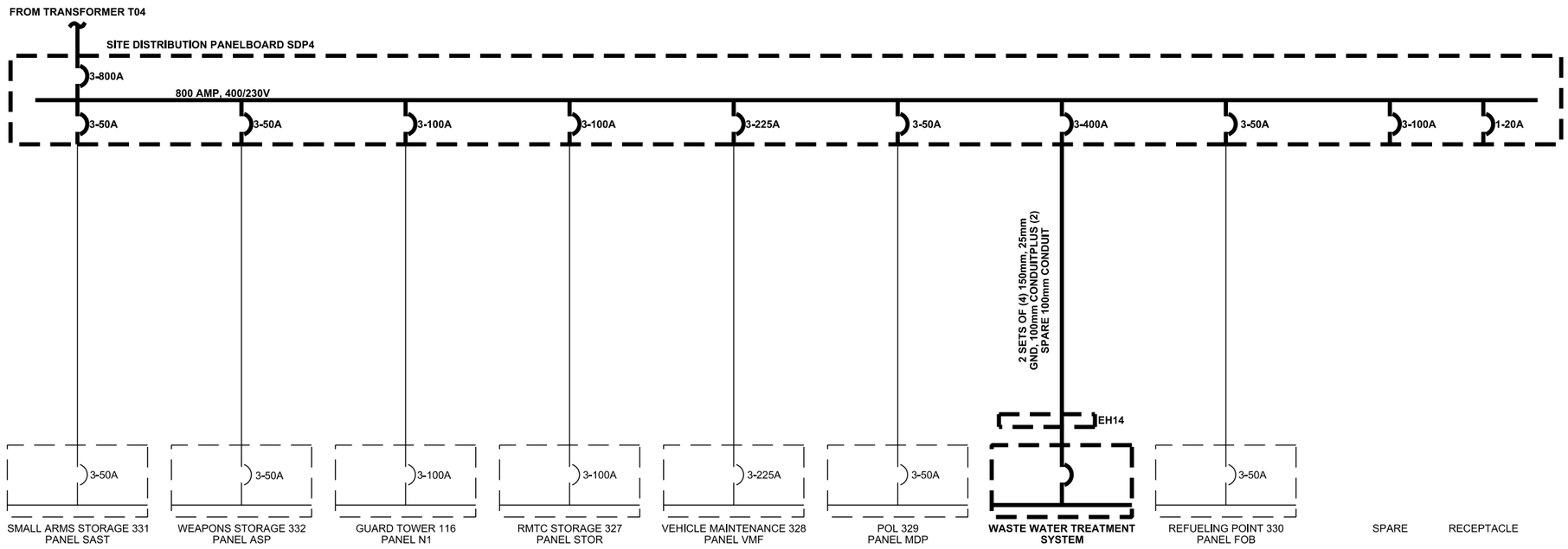
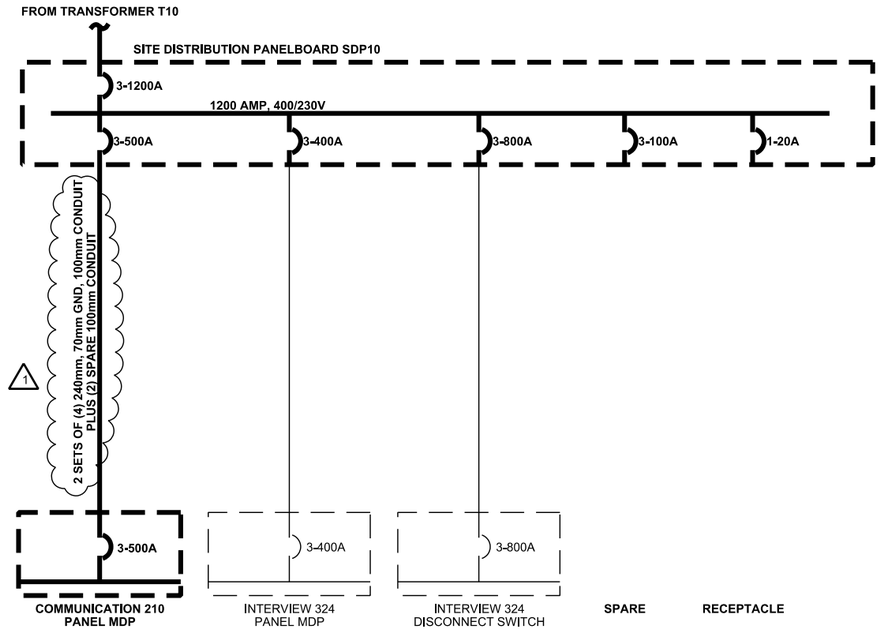
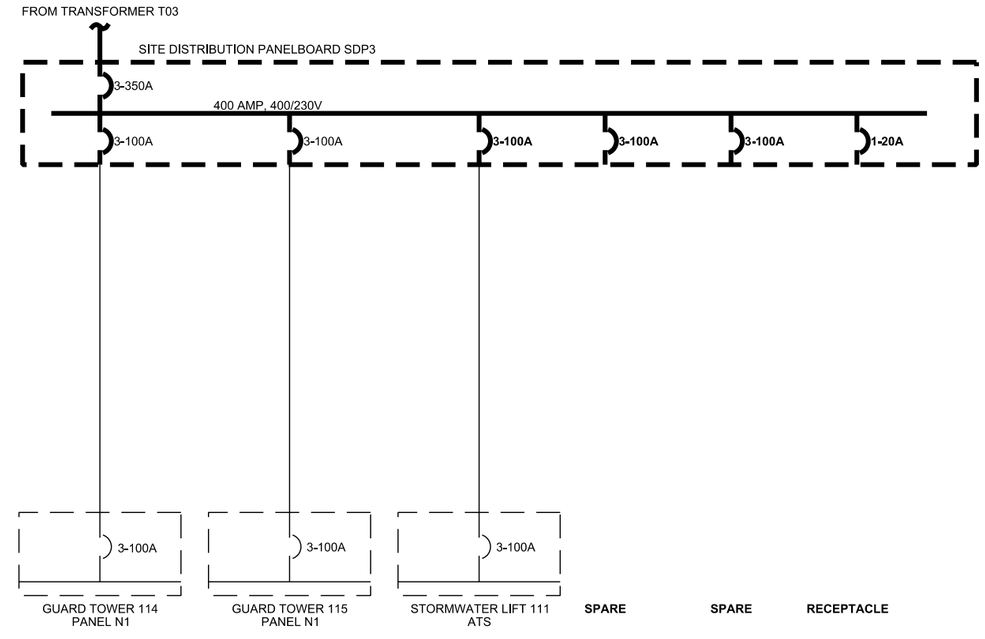


1 SITE DISTRIBUTION PANELBOARD SDP4 ONE-LINE DIAGRAM
E-603 | E-603 SCALE: NOT TO SCALE



2 SITE DISTRIBUTION PANELBOARD SDP10 ONE-LINE DIAGRAM
E-603 | E-603 SCALE: NOT TO SCALE



3 SITE DISTRIBUTION PANELBOARD SDP3 ONE-LINE DIAGRAM
E-603 | E-603 SCALE: NOT TO SCALE

LINE TYPE LEGEND

- NEW ELEMENT IN CURRENT CONTRACT
- EXISTING ELEMENT
- FUTURE ELEMENT IN FUTURE CONTRACT

US Army Corps of Engineers
Kansas City District

SYM	DESCRIPTION	DATE	APPR
1	AMENDMENT #0001 - UPDATES TO ONE-LINE DIAGRAM	11/15/11	SFP

Designed by: S. PACZOSA
Date: OCTOBER 2011
Drawn by: J. LOCKWOOD
Drawing code: F-141-95-01
Checked by: D. WINKEL
Plot scale: 1:1
Submitted by: S. BURNS
CADD File Name: W05_E-603.DGN

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
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MINISTRY OF INTERIOR COMPLEX
MINISTRY OF INTERIOR HEADQUARTERS
FY2011

SITE DISTRIBUTION
PANELBOARD SDP3 AND SDP4 AND SDP10
ONE-LINE DIAGRAM

SHEET NUMBER
E-603

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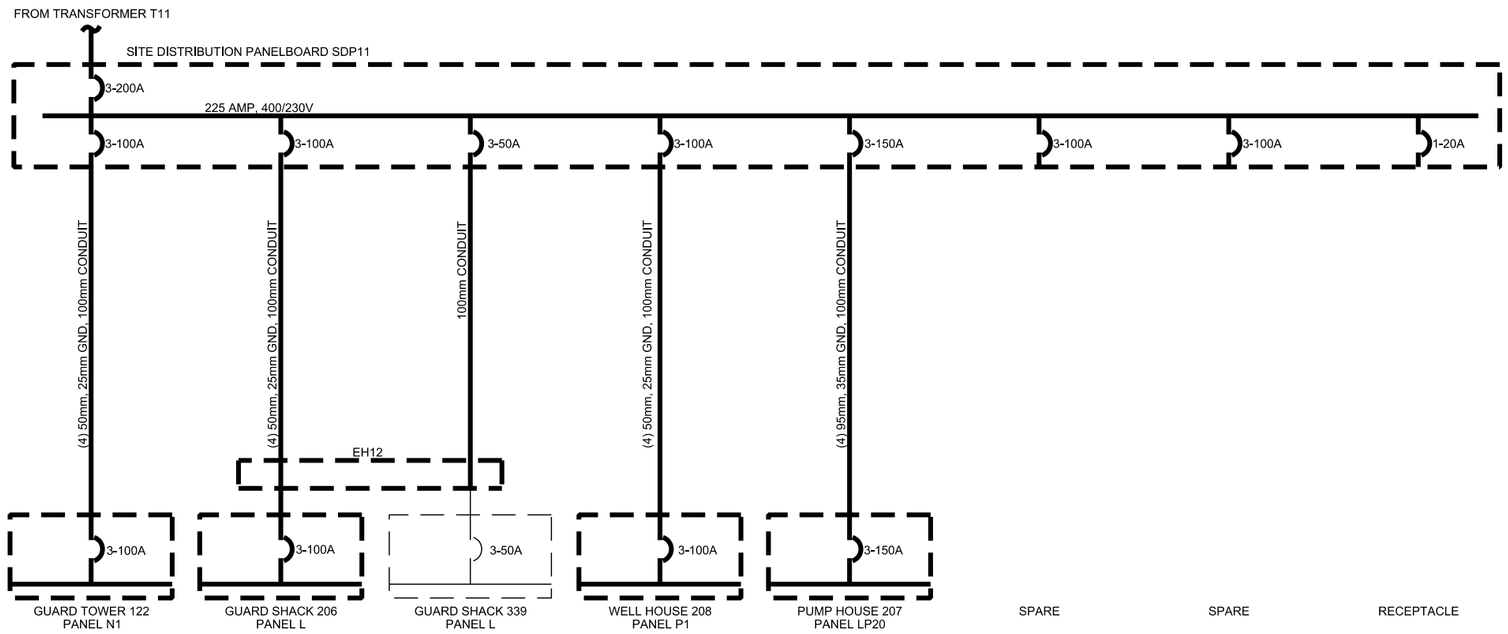
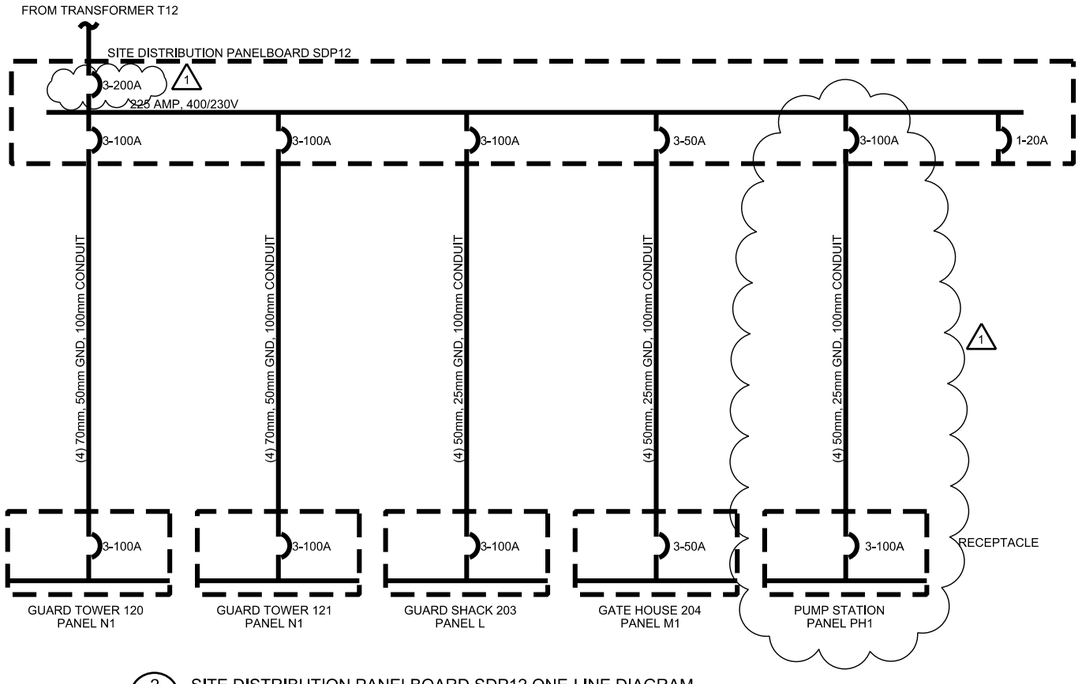


1 SITE DISTRIBUTION PANELBOARD SDP11 ONE-LINE DIAGRAM

E-604 | E-604 SCALE: NOT TO SCALE

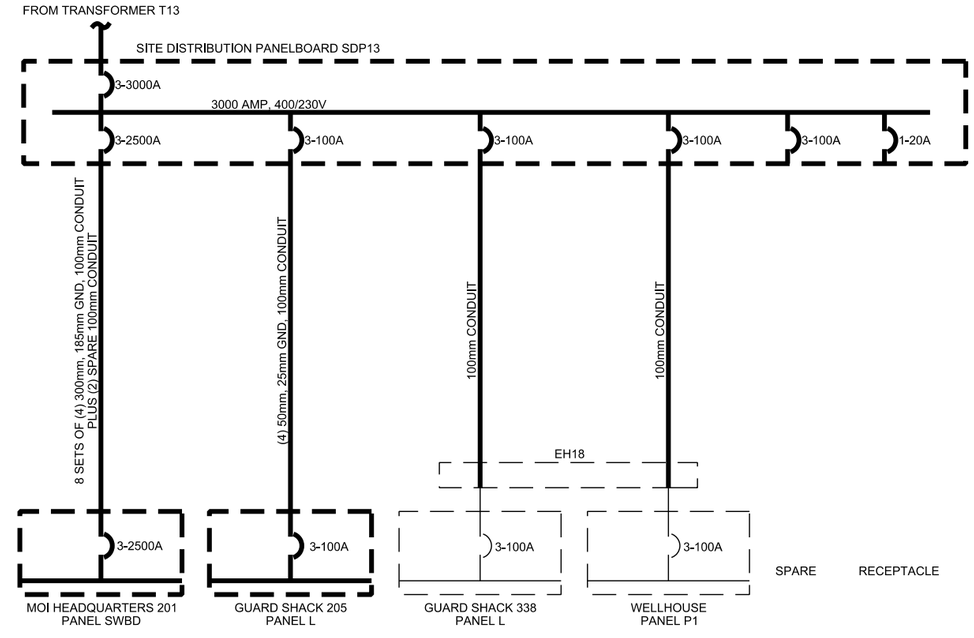
LINE TYPE LEGEND

- NEW ELEMENT IN CURRENT CONTRACT
- EXISTING ELEMENT
- FUTURE ELEMENT IN FUTURE CONTRACT



2 SITE DISTRIBUTION PANELBOARD SDP12 ONE-LINE DIAGRAM

E-604 | E-604 SCALE: NOT TO SCALE



3 SITE DISTRIBUTION PANELBOARD SDP13 ONE-LINE DIAGRAM

E-604 | E-604 SCALE: NOT TO SCALE

US Army Corps of Engineers
Kansas City District

1	AMENDMENT #0001 - UPDATES TO ONE-LINE DIAGRAM	11/15/11	SFP
SYM	DESCRIPTION	DATE	APPR

Designed by: S. PACZOSA
Date: OCTOBER 2011
Drawn by: J. LOCKWOOD
Drawing code: F-141-95-01
Checked by: D. WINKEL
Plot scale: 1:1
Submitted by: S. BURNS
CADD File Name: W05_E-604.DGN

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

KABUL, AFGHANISTAN
MINISTRY OF INTERIOR COMPLEX
MINISTRY OF INTERIOR HEADQUARTERS
FY2011

SITE DISTRIBUTION
PANELBOARD SDP11, SDP12, AND SDP13
ONE-LINE DIAGRAM

SHEET NUMBER
E-604

K:\MissionProjects\mil\AED\w05_FY11_MOI\HQ_MOI\6.0 Engineering & Design\6.1 CADD Drawings\Con_Docs\CAD_Sheets\Electrical\W05_E-604.dgn
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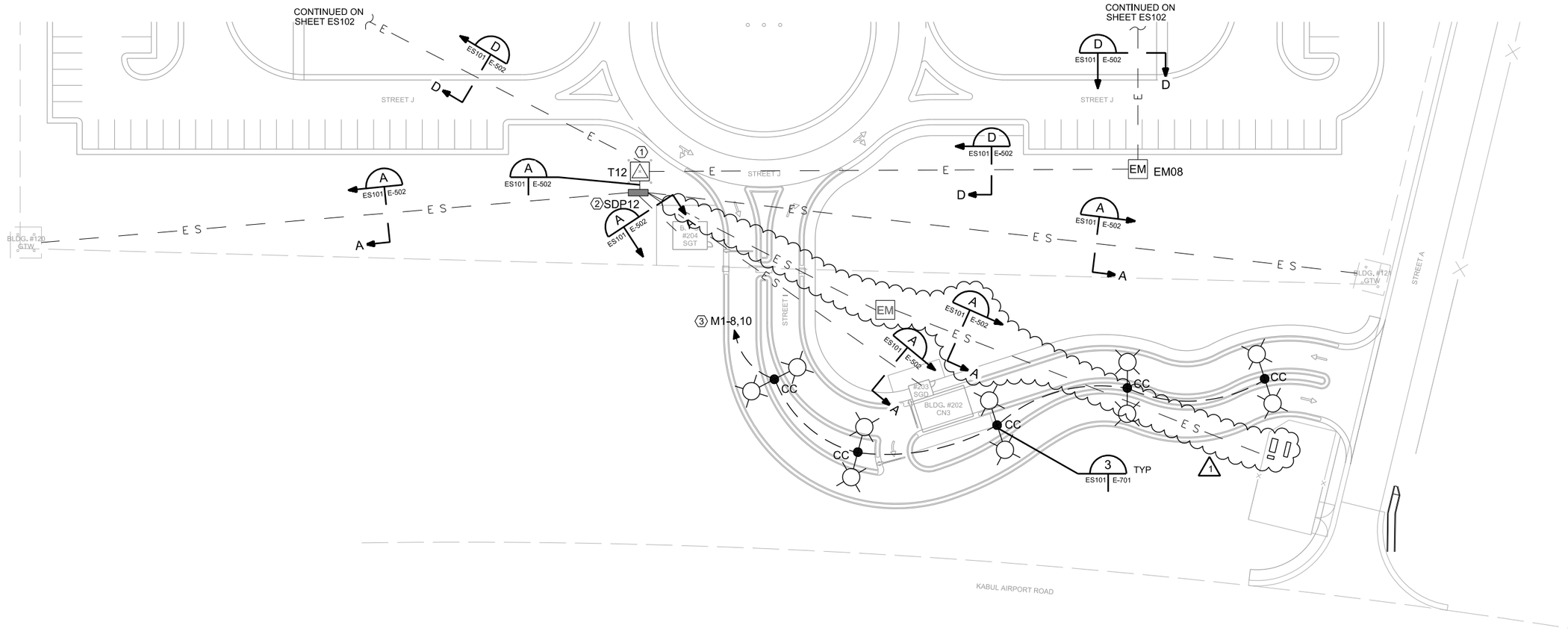


1 PARTIAL ELECTRICAL SITE PLAN

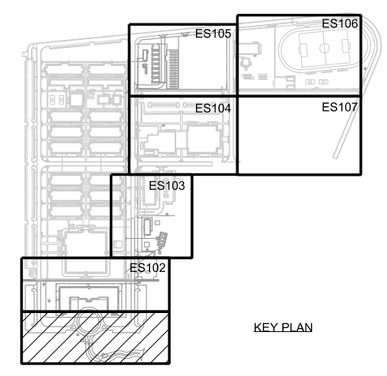
ES100 | ES101 SCALE: 1:400

SHEET GENERAL NOTES:

1. SEE SHEET ES100 FOR ELECTRICAL LEGEND.
2. SEE SHEET E-501 FOR ELECTRICAL MANHOLE/HANDHOLE DETAILS.
3. SEE SHEET E-502 FOR DUCT BANK DETAILS.
4. SEE SHEETS E-601, E-602, E-603, AND E-604 FOR ELECTRICAL ONE-LINE DIAGRAMS.
5. SEE CIVIL SHEETS FOR EXACT MANHOLE, HANDHOLE, AND TRANSFORMER LOCATIONS.
6. SEE SHEET E-701 FOR LIGHTING FIXTURE SCHEDULE, LIGHT POLE DETAILS, AND LIGHTING CONTROL DIAGRAM.

SHEET KEY NOTES:

1. SEE DETAIL 3 ON SHEET E-503 FOR TRANSFORMER PAD DETAIL.
2. SEE DETAIL 4 ON SHEET E-503 FOR PANEL MOUNTING DETAIL.
3. 2-16mm^2, 1-6mm^2 GND, IN 1-100mm^2 C. BRANCH CIRCUIT FED FROM PANEL M1 IN GATE HOUSE 204.
4. THE CONTRACTOR SHALL PROVIDE DAILY FUEL TO THE SANITARY SEWER SEPTIC TANK GENERATOR FROM THE TIME THE CONTRACTOR MOBILIZES ON SITE UNTIL SUCH TIME THAT PERMANENT POWER FROM THE SITE DISTRIBUTION SYSTEM IS PROVIDED TO THE SEPTIC TANK PUMP SYSTEM AND THE PUMP SYSTEM IS FULLY FUNCTIONAL UNDER THE PERMANENT ELECTRICAL SERVICE.



KEY PLAN

0 4m 8m 12m 16m 24m 32m
SCALE: 1:400

US Army Corps of Engineers
Kansas City District

1	AMENDMENT #0001 - INCORPORATION OF SEPTIC TANK GENERATOR	11/15/11	SFP
	DESCRIPTION	DATE	APPR
	SVM		

Designed by: S. PACZOSA
Date: OCTOBER 2011
Drawn by: J. LOCKWOOD
Drawing code: F-141-95-01
Checked by: D. WINKEL
Plot scale: 1:400
Submitted by: S. BURNS
CADD File Name: W05_ES101.DGN

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

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FY2011

PARTIAL ELECTRICAL SITE PLAN

SHEET NUMBER
ES101

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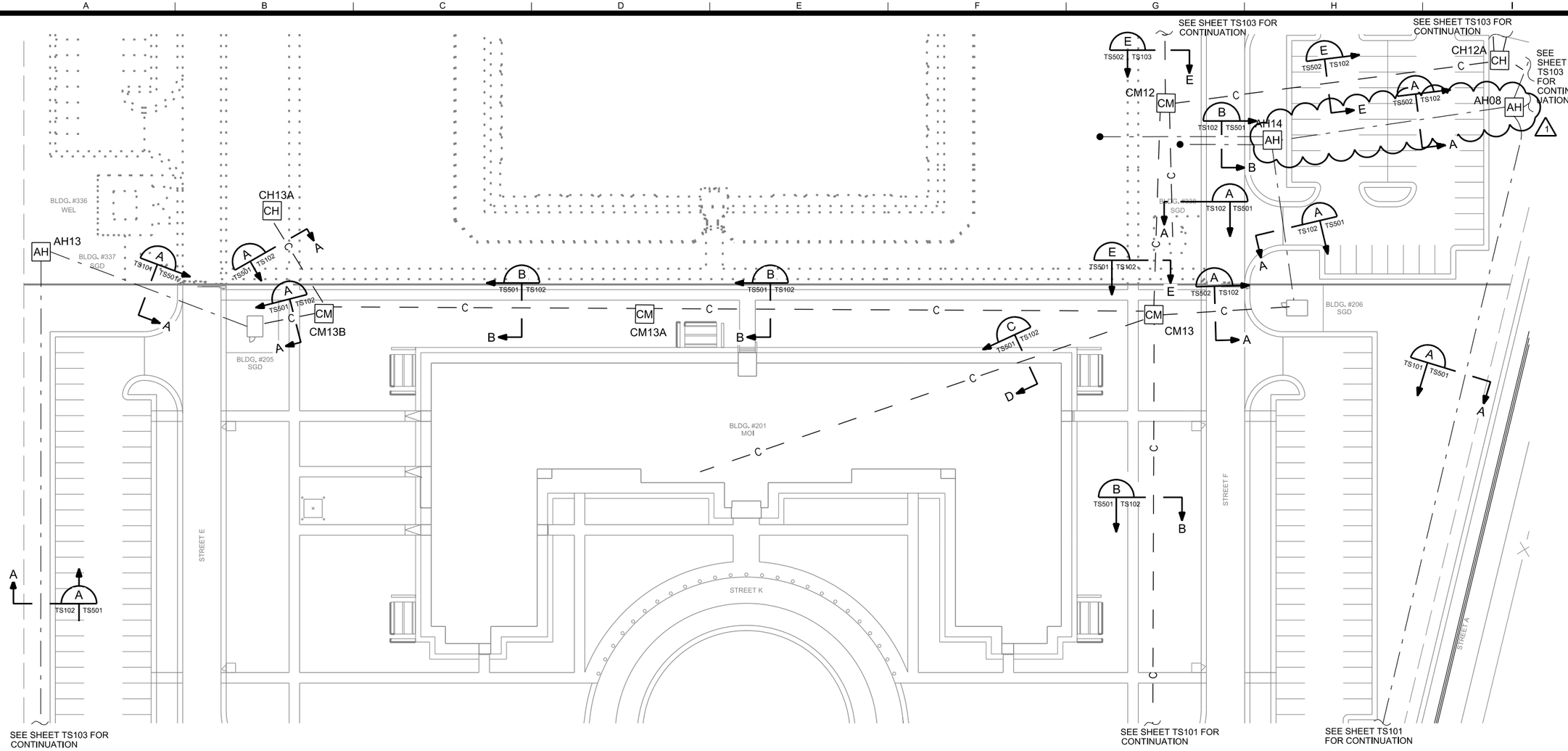
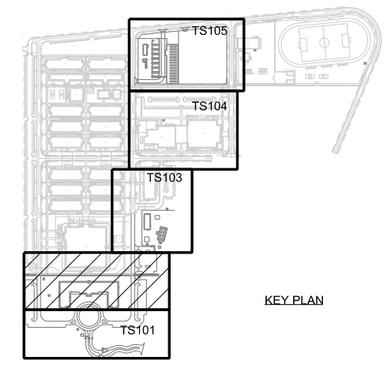


SHEET GENERAL NOTES:

1. SEE SHEET TS100 FOR TELECOMMUNICATIONS SITE LEGEND.
2. SEE SHEET T-501 FOR COMMUNICATIONS MANHOLE/HANDHOLE DETAILS.
3. SEE SHEET T-502 FOR COMMUNICATIONS DUCT BANK DETAILS.
4. SEE SHEET T-601 FOR COMMUNICATIONS SITE DISTRIBUTION ONE-LINE DIAGRAM.



KEY PLAN

0 4m 8m 12m 16m 24m 32m

SCALE: 1:400

US Army Corps of Engineers
Kansas City District

SYM	DESCRIPTION	DATE	APPR
1	AMENDMENT #0001 - ALARM CONDUIT REROUTING	11/04/11	SFP

Designed by: S. PALZOSA
Date: OCTOBER 2011
Drawn by: J. LOCKWOOD
Drawing code: F-141-85-01
Checked by: D. WINKEL
Plot scale: 1:400
Submitted by: S. BURNS
CADD File Name: W05_TS102.DGN

U.S. ARMY ENGINEER DISTRICT
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FY2011

PARTIAL COMMUNICATIONS SITE PLAN

SHEET NUMBER

TS102

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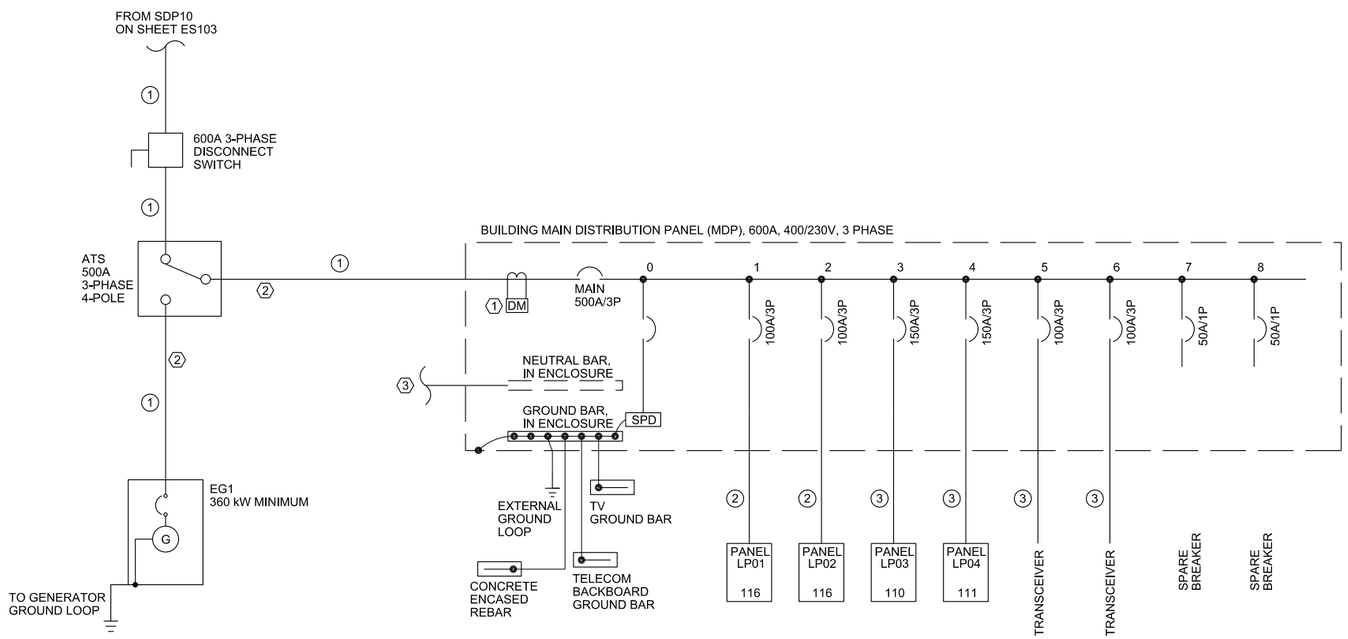


1 ELECTRICAL ONE-LINE DIAGRAM

COM_E-601 | COM_E-601 SCALE: NO SCALE

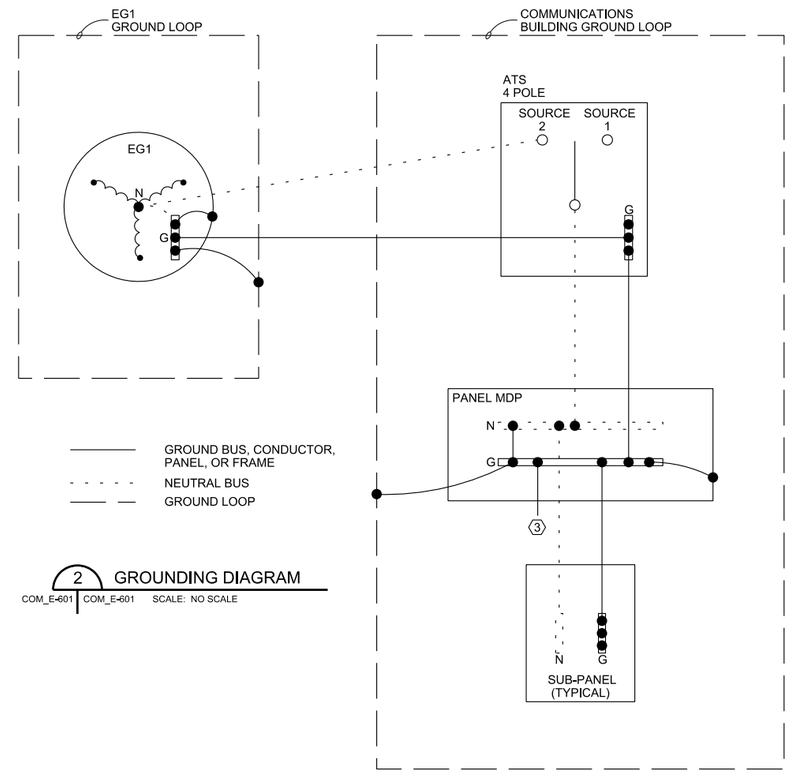
SHEET GENERAL NOTES:

1. SEE SHEETS COM_E-602 AND COM_E-603 FOR PANEL SCHEDULES.
2. SEE SITE ELECTRICAL ONE-LINE DIAGRAM ON SHEET WO5_E-603 FOR ELECTRICAL SERVICE FEEDER INFORMATION.

SHEET KEY NOTES:

1. DIGITAL METER MONITORING AMPS, VOLTS, AND KWH. SELECTOR SWITCH SHALL BE PROVIDED WITH EACH METER TO READ ALL 3 PHASES.
2. UTILITY GROUNDING. SEE DETAIL 2 THIS SHEET.
3. TO NEUTRAL BAR IN EACH INDIVIDUAL SUB-FED PANEL.

ID#	Feeder Schedule
1	2 SETS OF ((4)-240mm², 1-70mm² GND, IN 100mm² CONDUIT) (2) 100mm² SPARE CONDUITS
2	(4)-50mm², 1-25mm² GND, IN 100mm² CONDUIT
3	(4)-70mm², 1-25mm² GND, IN 100mm² CONDUIT
4	
5	
6	



2 GROUNDING DIAGRAM

COM_E-601 | COM_E-601 SCALE: NO SCALE

US Army Corps of Engineers
Kansas City District

	DATE	APPR
1 AMENDMENT #0001 - UPDATE TO FEEDER SCHEDULE	11/15/11	SFP

SYM	DESCRIPTION

Designed by: S. PACZOSA
Date: NOVEMBER 2011
Drawing code: F-141-85-01
Drawn by: J. LOCKWOOD
Plot scale: 1:1
Checked by: D. MINKEL
Submitted by: S. BURNS
CADD File Name: W05_COM_E-601.dgn

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

KABUL, AFGHANISTAN
MINISTRY OF INTERIOR COMPLEX
ENTRY CONTROL POINTS
FY2011

ELECTRICAL ONE-LINE DIAGRAMS

SHEET NUMBER
COM
E-601

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LIGHT FIXTURE SCHEDULE

TYPE	BASIS OF DESIGN MANUFACTURER AND MODEL INFORMATION	LAMPS NO.	LAMPS TYPE	LAMPS WATTS	VOLT	INPUT WATTS	INPUT VA	MOUNTING	FIXTURE CHARACTERISTICS
A	HOLOPHANE # WRSM4XTACLO42EP1 230V 50HZ	2	T8	32	230V 50Hz	62	65	SURFACE OR PENDANT MOUNTED AS NOTED ON PLANS	FLUORESCENT WRAPAROUND LUMINAIRE, SURFACE/PENDANT MOUNTED 355mm X 1220mm WITH ELECTRONIC BALLAST, COLD ROLLED STEEL HOUSING, PRISMATIC WRAPAROUND ACRYLIC LENS, AND ALUMINUM SPECULAR REFLECTOR.
A1	HOLOPHANE # WRSM4XTACLO42EP1 230V 50HZ WITH EMERGENCY BATTERY PACK	2	T8	32	230V 50Hz	66	69	SURFACE OR PENDANT MOUNTED AS NOTED ON PLANS	FLUORESCENT WRAPAROUND LUMINAIRE, SURFACE/PENDANT MOUNTED 355m X 1220mm WITH ELECTRONIC BALLAST, COLD ROLLED STEEL HOUSING, PRISMATIC WRAPAROUND ACRYLIC LENS, AND ALUMINUM SPECULAR REFLECTOR. LUMINAIRE SHALL CONTAIN EMERGENCY BATTERY BALLAST. SEE NOTE 1.
B	LITHONIA # WP 2 32 DO 230V 50HZ	2	T8	32	230V 50Hz	62	65	WALL MOUNTED 2.5 METERS AFF	FLUORESCENT WALL BRACKET LUMINAIRE 182mm X 1219mm WITH 20 GAUGE COLD ROLLED STEEL HOUSING, HIGH-IMPACT ACRYLIC DIFFUSER. CONTAINS ELECTRONIC BALLAST.
B1	LITHONIA # WP 2 32 DO 230V 50HZ	2	T8	32	230V 50Hz	66	69	WALL MOUNTED 2.5 METERS AFF	FLUORESCENT WALL BRACKET LUMINAIRE 182mm X 1219mm WITH 20 GAUGE COLD ROLLED STEEL HOUSING, HIGH-IMPACT ACRYLIC DIFFUSER. LUMINAIRE SHALL CONTAIN EMERGENCY BATTERY ELECTRONIC BALLAST. SEE NOTE 1.
C	LITHONIA # VRI 2 32 230V 50HZ	2	T8	32	230V 50Hz	62	65	SURFACE OR PENDANT MOUNTED AS NOTED ON PLANS	FLUORESCENT ENCLOSED INDUSTRIAL LUMINAIRE, SURFACE/PENDANT MOUNTED, 206mm X 1270mm WITH ACRYLIC LENS, IMPACT RESISTANT FIBERGLASS REINFORCED POLYESTER HOUSING WITH COLD ROLLED STEEL ENCLOSED WIRE WAY AND ELECTRONIC BALLAST.
C1	LITHONIA # VRI 2 32 230V 50HZ	2	T8	32	230V 50Hz	66	69	PENDANT SURFACE OR PENDANT MOUNTED AS NOTED ON PLANS	FLUORESCENT ENCLOSED INDUSTRIAL LUMINAIRE, SURFACE/PENDANT MOUNTED, 206mm X 1270mm WITH ACRYLIC LENS, IMPACT RESISTANT FIBERGLASS REINFORCED POLYESTER HOUSING WITH COLD ROLLED STEEL ENCLOSED WIRE WAY AND ELECTRONIC BALLAST. FIXTURE SHALL CONTAIN EMERGENCY ELECTRONIC BATTERY BALLAST. SEE NOTE 1.
D	KENALL # CD 4 1/1 2 32 RS 1 (230V 50HZ) 1/1 1	2	T8	32	230V 50Hz	62	65	CORNER MOUNT BETWEEN CEILING AND WALL	FLUORESCENT ENCLOSED CORRECTIONAL LUMINAIRE, 1200mm X 200mm WITH PRISMATIC ACRYLIC LENS, COLD ROLLED STEEL HOUSING TAMPER PROOF HARDWARE, AND ELECTRONIC BALLAST.
E	LITHONIA # LQM S W 3 R 230V 50HZ EL N	-	LED	-	230V 50Hz	5	5	CEILING OR WALL MOUNTED AS NOTED ON PLANS	LED EXIT SIGN WITH RED LETTERS ON WHITE FACE, IMPACT RESISTANT THERMOPLASTIC HOUSING, 6" TALL LETTERS, KNOCKOUT DIRECTIONAL CHEVRON ARROWS, AND EMERGENCY BATTERY PACK. REFER TO PLANS FOR CHEVRON ARROWS AND NUMBER OF FACES REQUIRED.
G	LITHONIA # 2GT8 2 32 A12 230V 50HZ	2	T8	32	230V 50Hz	62	65	RECESSED / CEILING MOUNTED	FLUORESCENT TROFFER LUMINAIRE, RECESSED MOUNTED IN SUSPENDED CEILING, 1200mm X 600mm WITH PATTERN #12 ACRYLIC LENS, COLD ROLLED STEEL HOUSING, AND ELECTRONIC BALLAST.
G1	LITHONIA # 2GT8 2 32 A12 230V 50HZ	2	T8	32	230V 50Hz	66	69	RECESSED / CEILING MOUNTED	FLUORESCENT TROFFER LUMINAIRE, RECESSED MOUNTED IN SUSPENDED CEILING, 1200mm X 600mm WITH PATTERN #12 ACRYLIC LENS, COLD ROLLED STEEL HOUSING, AND ELECTRONIC BALLAST. LUMINAIRE SHALL CONTAIN EMERGENCY BATTERY BALLAST. SEE NOTE 1.
G3	LITHONIA # 2GT8 3 32 A12 230V 50HZ	3	T8	32	230V 50Hz	88	90	RECESSED / CEILING	FLUORESCENT TROFFER LUMINAIRE, RECESSED MOUNTED IN SUSPENDED CEILING, 1200mm X 600mm WITH PATTERN #12 ACRYLIC LENS, COLD ROLLED STEEL HOUSING, AND ELECTRONIC BALLAST.
H	LITHONIA # TWH 70M 230V 50HZ LPI	1	METAL HALIDE	70	230V 50Hz	95	103	WALL MOUNTED 2.5 METERS AFG	OUTDOOR METAL HALIDE WALL PACK LUMINAIRE WITH SPECULAR ANODIZED ALUMINUM REFLECTOR,SEALED AND GASKETED PRISMATIC BOROSILICATE GLASS REFRACTOR, CORROSION-RESISTANT DIE-CAST ALUMINUM HOUSING WITH CORROSION-RESISTANT EXTERNAL HARDWARE.
H1	LITHONIA # ELA DDB T OMC H2012	2	MR11	20	12V	30	30	WALL MOUNTED 2.5 METERS AFG	OUTDOOR HALOGEN LUMINAIRE WITH TWIN LAMPHEADS, DIE-CAST ALUMINUM BODY, CAST BRONZE KNUCKLE AND TEMPERED GLASS LENS. LUMINAIRE SHALL BE POWERED BY REMOTE 12-VOLT EMERGENCY BATTERY PACK.
L	LITHONIA # PGR 70M 230V 50HZ HEB DN	1	METAL HALIDE	70	230V 50Hz	95	103	SURFACE MOUNTED	OUTDOOR METAL HALIDE CIRCULAR LUMINAIRE WITH DIE-CAST ALUMINUM HOUSING WITH SILICONE GASKET, INJECTION-MOLDED, UV STABILIZED, ACRYLIC LOWER ASSEMBLY, SEMI-SPECULAR ALUMINUM REFLECTOR, PRECISION INJECTION-MOLDED PRISMATIC ACRYLIC REFRACTOR.

GENERAL NOTES:

A. CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND CATALOG NUMBERS ONLY. FIRST READ THE CHARACTERISTICS, NOTES, AND SPECIFICATIONS IN CONJUNCTION WITH THE CATALOG NUMBER TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.
B. VERIFY CEILING CONDITIONS AND COORDINATE MOUNTING HARDWARE AND TRIM NEEDED TO SUIT CEILING CONDITIONS PRIOR TO ORDERING.
C. VERIFY QUANTITIES, MODEL NUMBERS AND DESCRIPTIONS WITH MANUFACTURER PRIOR TO PLACING ORDER.
D. VERIFY FINISH AND COLOR WITH COR PRIOR TO PLACING ORDER.
E. REFER TO ARCHITECTURAL DRAWINGS AND DETAILS FOR EXACT LOCATIONS, MOUNTING HEIGHTS AND ADDITIONAL MOUNTING INFORMATION. CONTACT COR IMMEDIATELY IF THERE ARE DISCREPANCIES BETWEEN THE ARCHITECTURAL AND ELECTRICAL LIGHTING PLANS.
F. REFER TO DIVISION 26 SPECIFICATIONS FOR LAMP AND BALLASTS REQUIREMENTS.
G. REFER TO LIGHTING PLANS FOR CONTROL INFORMATION.

1

SHEET NOTES

1. PROVIDE EMERGENCY BATTERY PACK WITH AUTOMATIC POWER FAILURE DEVICE, TEST SWITCH OPERABLE FROM OUTSIDE OF THE FIXTURE, PILOT LIGHT VISIBLE FROM OUTSIDE THE FIXTURE, AND FULLY AUTOMATIC SOLID-STATE CHARGER IN A SELF-CONTAINED POWER PACK. PROVIDE SELF-TESTING MODULE INTEGRAL TO THE FIXTURE. CHARGER SHALL BE EITHER TRICKLE, FLOAT, CONSTANT CURRENT OR CONSTANT POTENTIAL TYPE, OR A COMBINATION OF THESE. BATTERY SHALL BE SEALED ELECTROLYTE TYPE. BATTERIES FOR FLUORESCENT FIXTURES SHALL HAVE CAPACITY AS REQUIRED TO SUPPLY POWER TO 2 LAMPS PER EMERGENCY FIXTURE FOR 90 MINUTES AT A MINIMUM OF 1100 LUMENS PER FIXTURE OUTPUT. BATTERY SHALL OPERATE UNATTENDED AND REQUIRE NO MAINTENANCE, INCLUDING NO ADDITIONAL WATER, FOR A PERIOD OF NOT LESS THAN 5 YEARS. EMERGENCY BALLASTS PROVIDED WITH FIXTURES CONTAINING SOLID-STATE BALLASTS SHALL BE FULLY COMPATIBLE WITH THE SOLID-STATE BALLASTS. SELF-TESTING MODULE FOR EXIT SIGNS AND EMERGENCY LIGHTING EQUIPMENT SHALL PERFORM CONTINUOUS MONITORING OF CHARGER OPERATION AND BATTERY VOLTAGE WITH VISUAL INDICATION OF NORMAL OPERATION AND OF MALFUNCTION; MONTHLY DISCHARGE CYCLING OF BATTERY WITH MONITORING OF TRANSFER CIRCUIT FUNCTION, BATTERY CAPACITY AND EMERGENCY LAMP OPERATION WITH VISUAL INDICATION OF MALFUNCTION; AND MANUAL TEST SWITCH TO SIMULATE A DISCHARGE TEST CYCLE. SELF-TESTING MODULE SHALL HAVE LOW VOLTAGE BATTERY DISCONNECT (LVD) AND BROWN-OUT PROTECTION CIRCUIT.

US Army Corps of Engineers
Kansas City District

SYM	DESCRIPTION	DATE	APPR.
1	VARIOUS REVISIONS TO LIGHTING FIXTURE SCHEDULE	11/15/11	BJM

Designed by: B. MCKENZIE
Date: 10/26/2011
Drawn by: B. MCKENZIE
Drawing code: F-141-85-01
Checked by: P. AUSTIN
Plot scale: 1:1
Submitted by: D. STORM
CADD File Name: w05_COM_E-701.dgn

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

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FY2011

LIGHT FIXTURE SCHEDULE

SHEET NUMBER
COM
E-701

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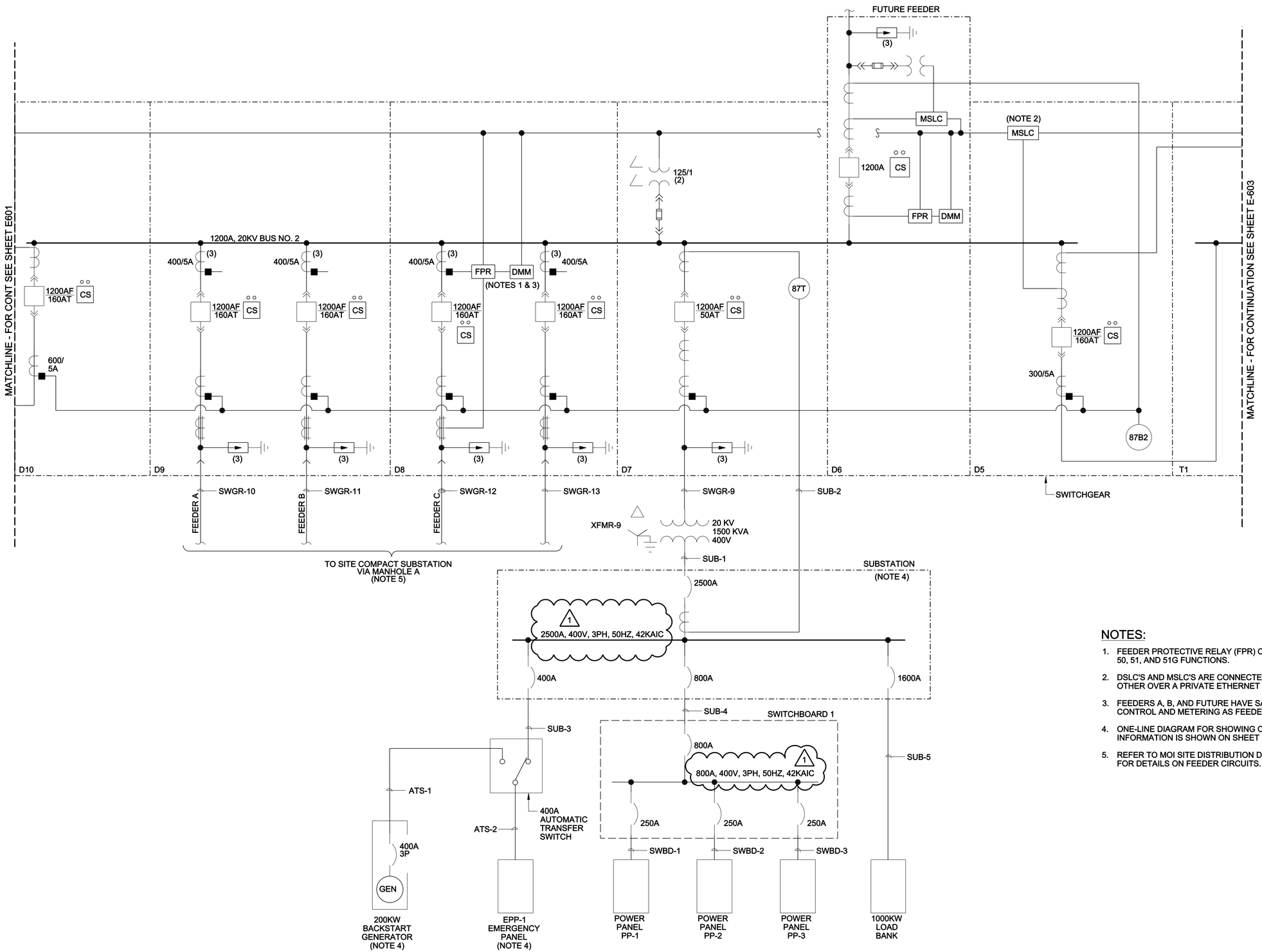

NOTES:

1. FEEDER PROTECTIVE RELAY (FPR) COVERS 50, 51, AND 51G FUNCTIONS.
2. DSLC'S AND MSLC'S ARE CONNECTED TO EACH OTHER OVER A PRIVATE ETHERNET NETWORK.
3. FEEDERS A, B, AND FUTURE HAVE SAME RELAY, CONTROL AND METERING AS FEEDER C.
4. ONE-LINE DIAGRAM FOR SHOWING CIRCUITING INFORMATION IS SHOWN ON SHEET E-605.
5. REFER TO MOI SITE DISTRIBUTION DRAWINGS FOR DETAILS ON FEEDER CIRCUITS.

SWITCHGEAR ONE-LINE DIAGRAM

US Army Corps of Engineers
Kansas City District

SYM	DESCRIPTION	DATE	APPR
1	REVISED BUS CALL OUTS	11/15/11	JFK

Designed by: AJK
Drawn by: NEH
Checked by:
Date: 10/26/2011
Drawing code: F-141-95-01
Plot scale: 1
CADD File Name: W05_PWR_E-602.dgn
Submitted by: D. STORM

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

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MINISTRY OF INTERIOR COMPLEX
MINISTRY OF INTERIOR HEADQUARTERS
FY2011

POWER OPERATIONS BUILDING
SWITCHGEAR ONE-LINE DIAGRAM
SHEET 2 OF 3

SHEET NUMBER
PWR
E-602

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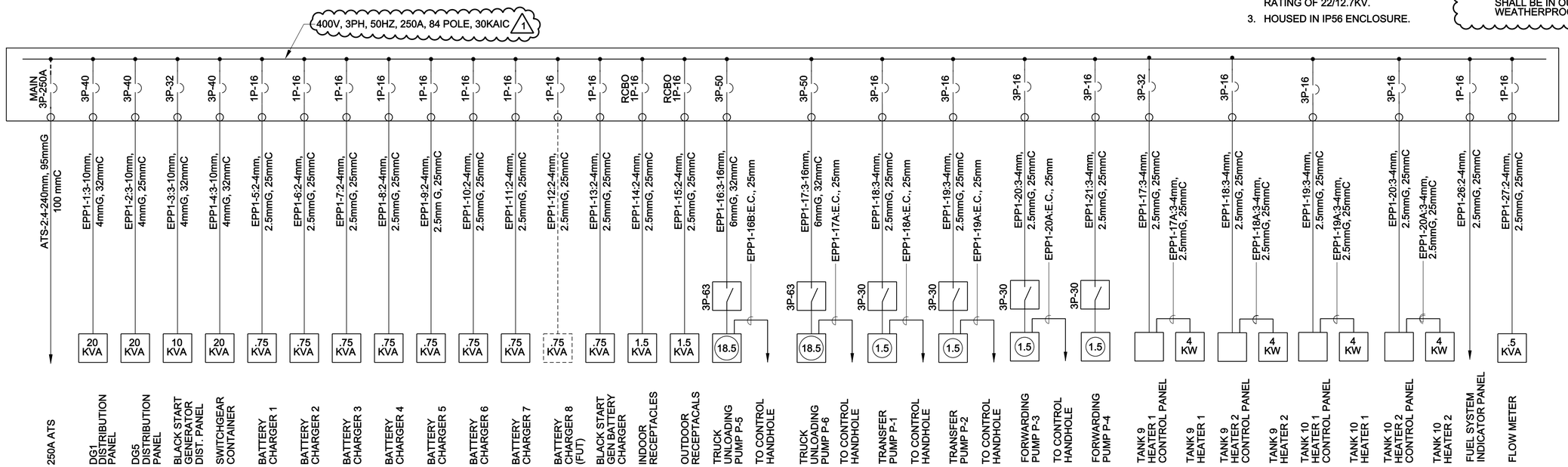
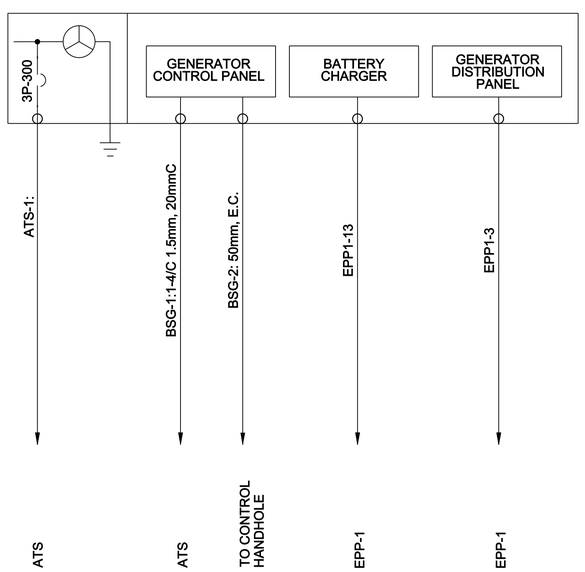
NOTES:

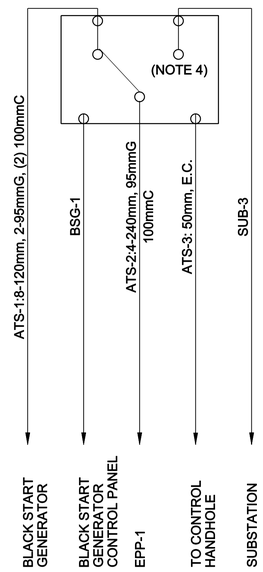
1. DO NOT PROVIDE SPARE BREAKERS FOR EMERGENCY POWER.
2. THE THREE PHASE CONDUCTORS SHALL HAVE A MINIMUM VOLTAGE RATING OF 22/12.7KV.
3. HOUSED IN IP56 ENCLOSURE.
4. ATS SHALL BE 4 POLE TYPE, AND SHALL BE RATED FOR 400V, 3PH, 50HZ, 400A, 42KAIC.
5. LOAD BANK AND TRANFORMER SHALL BE IN OUTDOOR/ WEATHERPROOF ENCLOSURES



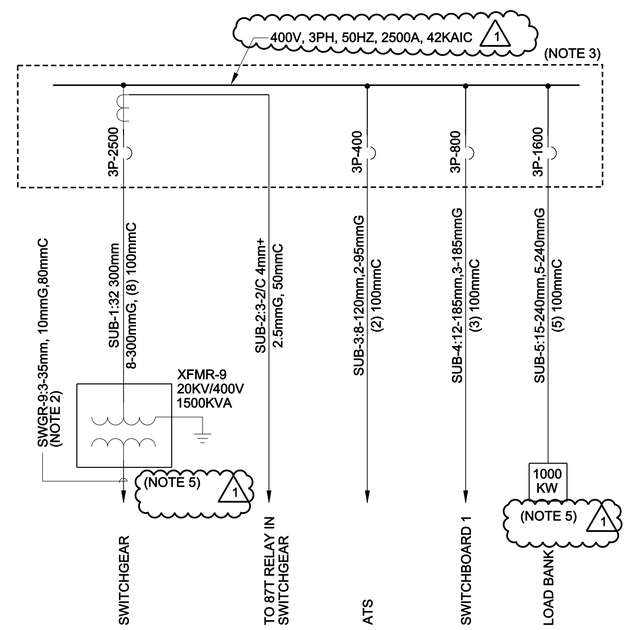
POWER PANEL EPP-1 ONE-LINE DIAGRAM



BLACK START GENERATOR ONE-LINE DIAGRAM



AUTOMATIC TRANSFER SWITCH ONE-LINE DIAGRAM



SUBSTATION ONE-LINE DIAGRAM

US Army Corps of Engineers
Kansas City District

SYM	DESCRIPTION	DATE	APPR
1	REVISED BUS CALLOUTS, ADDED NOTE 4 AND 5	11/15/11	JFK

Designed by: JFK
Date: 10/26/2011
Drawn by: RSW
Drawing code: F-141-85-01
Checked by: PEER
Plot scale: 1:1
Submitted by: SECTION-CHIEF
CADD File Name: W05_PWR-E-605

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POWER OPERATIONS BUILDING
EMERGENCY POWER PANEL
ONE-LINE DIAGRAM

SHEET NUMBER
PWR
E-605

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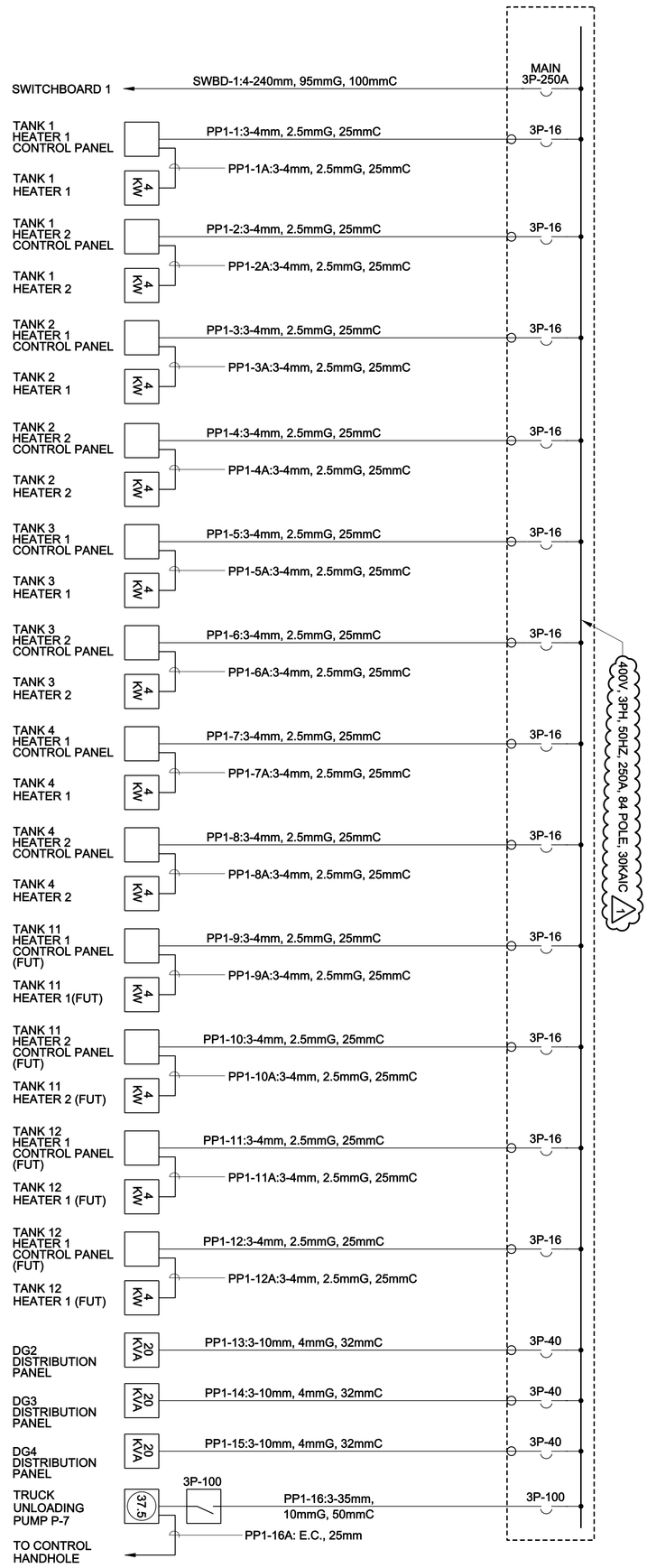
POWER PANEL PP-1 ONE-LINE DIAGRAM



NOTES:

1. PROVIDE THE FOLLOWING SPARE BREAKER IN PANEL: 1-3P-40A, 2: 3P-16A, 10: 1P-20A.

SHEET NUMBER
PWR E-606

KABUL, AFGHANISTAN
MINISTRY OF INTERIOR COMPLEX
MINISTRY OF INTERIOR HEADQUARTERS
FY2011

POWER OPERATIONS BUILDING
POWER PANEL
ONE-LINE DIAGRAM

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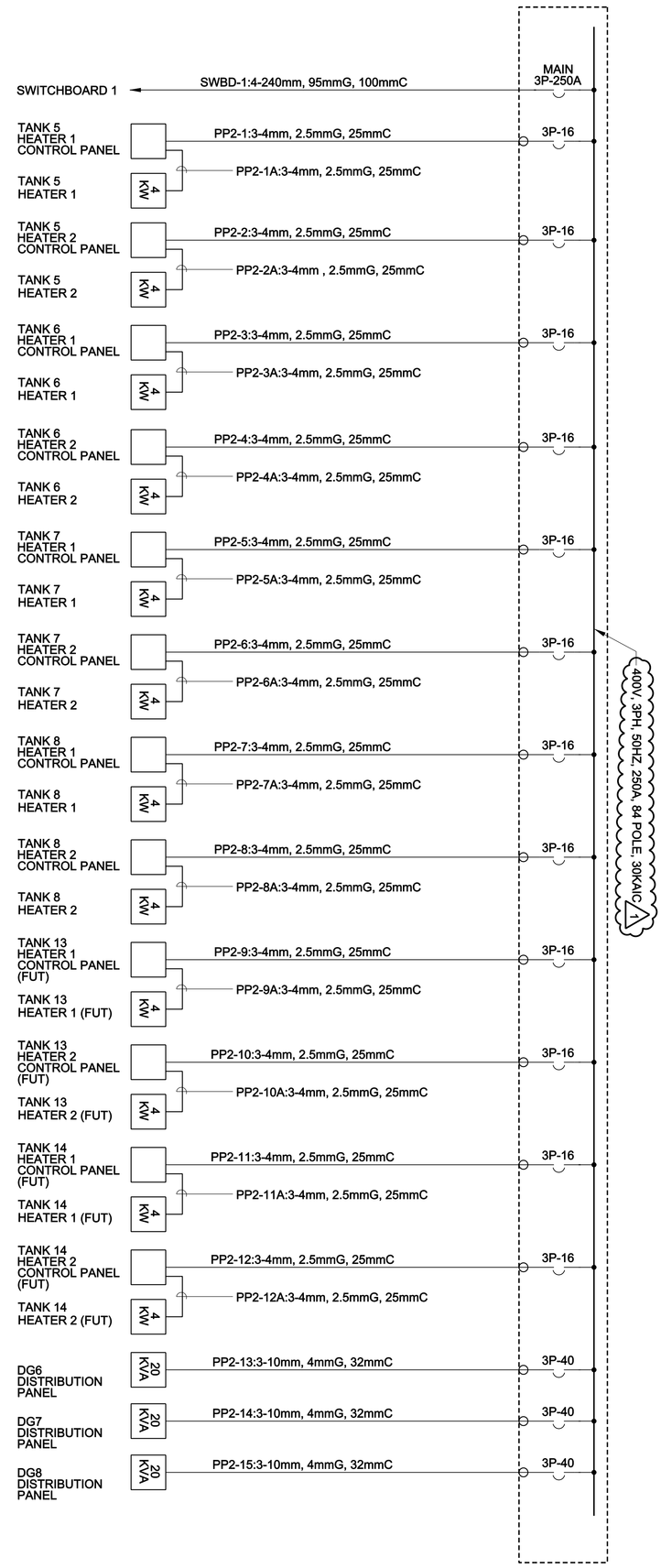
Designed by: JK	Date: 10/26/2011
Drawn by: RSW	Drawing code: F-141-85-01
Checked by: PEER	Plot scale: 1:1
Submitted by: SECTION-CHIEF	CADD File Name: W05_PWR-E-606.dgn

SYM	DESCRIPTION	DATE	APPR
1	REVISED BUS CALLOUT	11/15/11	JFK

US Army Corps of Engineers Kansas City District.



POWER PANEL PP-2 ONE-LINE DIAGRAM

NOTES:

1. PROVIDE THE FOLLOWING SPARE BREAKER IN PANEL: 1-3P-40A, 2: 3P-16A, 10: 1P-20A.

SHEET NUMBER
PWR
E-607

KABUL, AFGHANISTAN
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MINISTRY OF INTERIOR HEADQUARTERS
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POWER OPERATIONS BUILDING
EMERGENCY POWER PANEL
ONE-LINE DIAGRAM

U.S. ARMY ENGINEER DISTRICT
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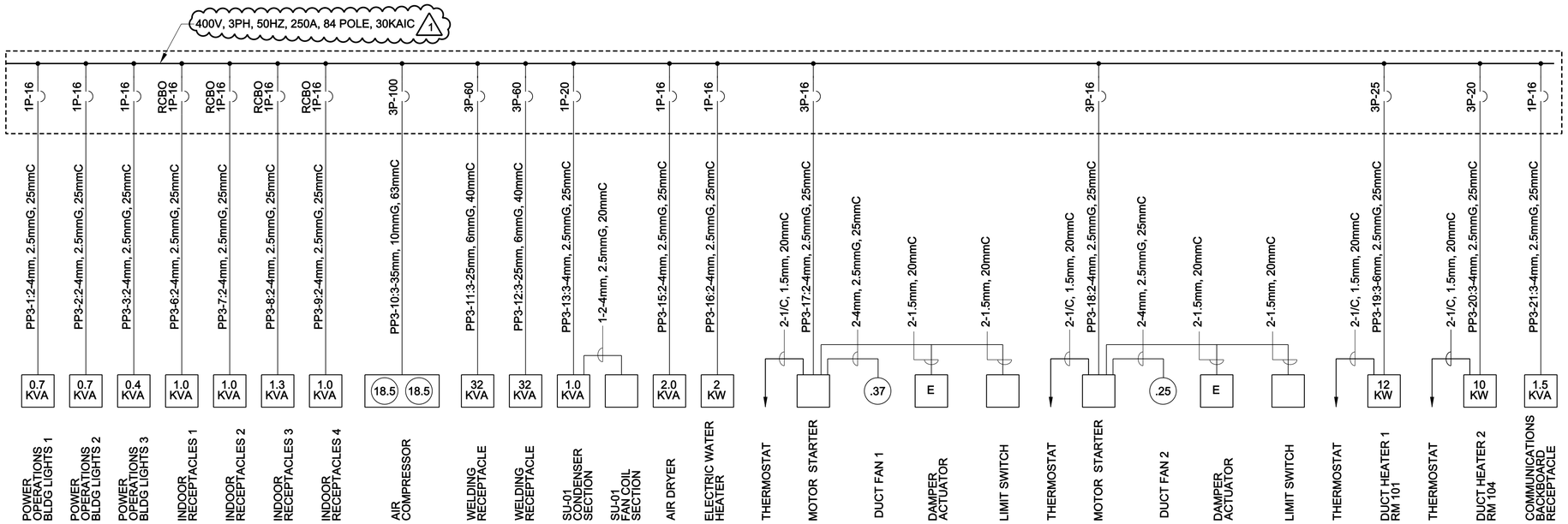
Designed by: JK	Date: 10/26/2011
Drawn by: RSW	Drawing code: F-141-85-01
Checked by: PEER	Plot scale: 1:1
Submitted by: SECTION-CHIEF	CADD File Name: W05_PWR-E-607.dgn

SYM	DESCRIPTION	DATE	APPR
1	REVISED BUS CALLOUTS AND NOTE 4	11/15/11	JFK

U.S. Army Corps of Engineers
Kansas City District



POWER PANEL PP-3 ONE-LINE DIAGRAM

NOTES:

1. PROVIDE THE FOLLOWING SPARE BREAKER IN PANEL: 1:3P-40A, 2: 3P-16A, 10: 1P-20A.

US Army Corps of Engineers
Kansas City District

SYM	DESCRIPTION	DATE	APPR
1	REVISED BUS CALLOUT	11/15/11	JFK

Designed by: JK
Date: 10/28/2011
Drawn by: RSW
Drawing code: F-141-85-01
Checked by: PEER
Plot scale: 1:1
Submitted by: SECTION-CHIEF
CADD File Name: W05_PWR-E-608.dgn

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FY2011

POWER OPERATIONS BUILDING
POWER PANEL
ONE-LINE DIAGRAM

SHEET NUMBER
PWR
E-608

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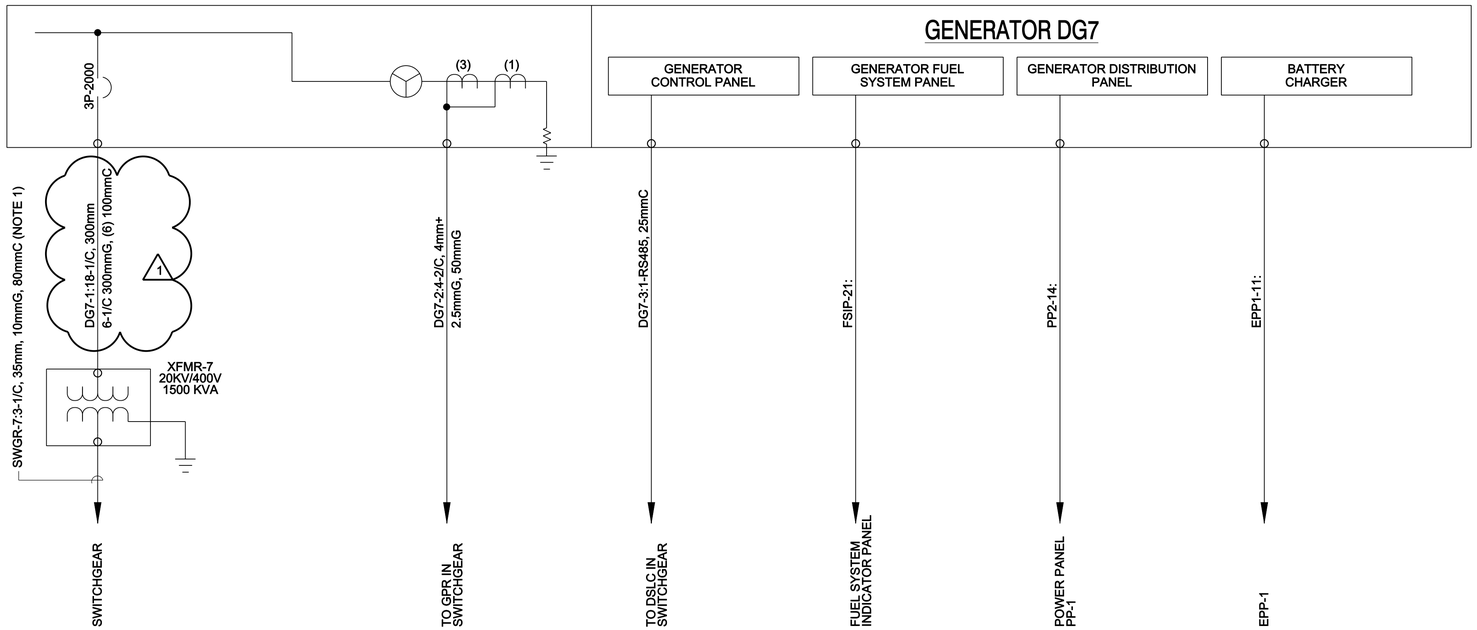
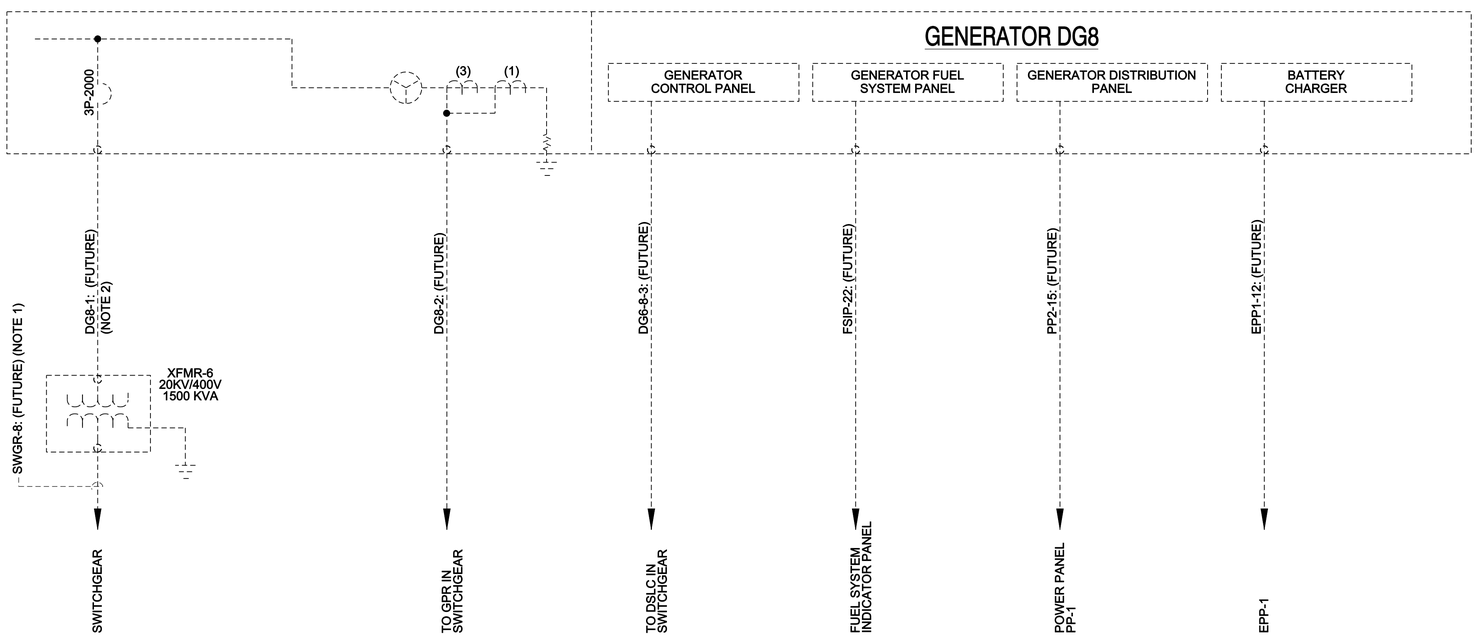


GENERATOR DG7 ONE-LINE DIAGRAM



GENERATOR DG8 ONE-LINE DIAGRAM (FUTURE)

NOTES:

1. THE THREE PHASE CONDUCTORS SHALL HAVE A MINIMUM VOLTAGE RATING OF 22/12.7KV.
2. UNDERGROUND CONDUITS FOR DG8 TO BE INSTALLED AS INDICATED ON PLAN DRAWINGS AND DUCTBANK SECTIONS.

US Army Corps of Engineers
Kansas City District

SYM	DESCRIPTION	DATE	APPR
1	REVISED WIRE SIZE	11/15/11	JFK

Designed by: AJK
Drawn by: RSW
Checked by:
Submitted by: D. STORM
Date: NOVEMBER 2011
Drawing code: F-141-85-01
Plot scale: 1
CADD File Name: W05_PWR_E-613.dgn

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NATIONAL POLICE COMMAND CENTER
FY2011

POWER OPERATIONS BUILDING
GENERATOR ONE-LINE DIAGRAMS

SHEET NUMBER
PWR
E-613

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LIGHT FIXTURE SCHEDULE

TYPE	BASIS OF DESIGN MANUFACTURER AND MODEL INFORMATION	LAMPS NO.	LAMPS TYPE	LAMPS WATTS	VOLT	INPUT WATTS	INPUT VA	MOUNTING	FIXTURE CHARACTERISTICS
A	HOLOPHANE # WRSM4XTACLO42EP1 230V 50HZ	2	T8	32	230V 50Hz	62	65	SURFACE OR PENDANT MOUNTED AS NOTED ON PLANS	FLUORESCENT WRAPAROUND LUMINAIRE, SURFACE/PENDANT MOUNTED 355mm X 1220mm WITH ELECTRONIC BALLAST, COLD ROLLED STEEL HOUSING, PRISMATIC WRAPAROUND ACRYLIC LENS, AND ALUMINUM SPECULAR REFLECTOR.
A1	HOLOPHANE # WRSM4XTACLO42EP1 230V 50HZ WITH EMERGENCY BATTERY PACK	2	T8	32	230V 50Hz	66	69	SURFACE OR PENDANT MOUNTED AS NOTED ON PLANS	FLUORESCENT WRAPAROUND LUMINAIRE, SURFACE/PENDANT MOUNTED 355m X 1220mm WITH ELECTRONIC BALLAST, COLD ROLLED STEEL HOUSING, PRISMATIC WRAPAROUND ACRYLIC LENS, AND ALUMINUM SPECULAR REFLECTOR. LUMINAIRE SHALL CONTAIN EMERGENCY BATTERY BALLAST. SEE NOTE 1.
B	LITHONIA # WP 2 32 DO 230V 50HZ	2	T8	32	230V 50Hz	62	65	WALL MOUNTED 2.5 METERS AFF	FLUORESCENT WALL BRACKET LUMINAIRE 182mm X 1219mm WITH 20 GAUGE COLD ROLLED STEEL HOUSING, HIGH-IMPACT ACRYLIC DIFFUSER. CONTAINS ELECTRONIC BALLAST.
B1	LITHONIA # WP 2 32 DO 230V 50HZ	2	T8	32	230V 50Hz	66	69	WALL MOUNTED 2.5 METERS AFF	FLUORESCENT WALL BRACKET LUMINAIRE 182mm X 1219mm WITH 20 GAUGE COLD ROLLED STEEL HOUSING, HIGH-IMPACT ACRYLIC DIFFUSER. LUMINAIRE SHALL CONTAIN EMERGENCY BATTERY ELECTRONIC BALLAST. SEE NOTE 1.
C	LITHONIA # VRI 2 32 230V 50HZ	2	T8	32	230V 50Hz	62	65	SURFACE OR PENDANT MOUNTED AS NOTED ON PLANS	FLUORESCENT ENCLOSED INDUSTRIAL LUMINAIRE, SURFACE/PENDANT MOUNTED, 206mm X 1270mm WITH ACRYLIC LENS, IMPACT RESISTANT FIBERGLASS REINFORCED POLYESTER HOUSING WITH COLD ROLLED STEEL ENCLOSED WIRE WAY AND ELECTRONIC BALLAST.
C1	LITHONIA # VRI 2 32 230V 50HZ	2	T8	32	230V 50Hz	66	69	PENDANT SURFACE OR PENDANT MOUNTED AS NOTED ON PLANS	FLUORESCENT ENCLOSED INDUSTRIAL LUMINAIRE, SURFACE/PENDANT MOUNTED, 206mm X 1270mm WITH ACRYLIC LENS, IMPACT RESISTANT FIBERGLASS REINFORCED POLYESTER HOUSING WITH COLD ROLLED STEEL ENCLOSED WIRE WAY AND ELECTRONIC BALLAST. FIXTURE SHALL CONTAIN EMERGENCY ELECTRONIC BATTERY BALLAST. SEE NOTE 1.
D	KENALL # CD 4 1/1 2 32 RS 1 (230V 50HZ) 1/1 1	2	T8	32	230V 50Hz	62	65	CORNER MOUNT BETWEEN CEILING AND WALL	FLUORESCENT ENCLOSED CORRECTIONAL LUMINAIRE, 1200mm X 200mm WITH PRISMATIC ACRYLIC LENS, COLD ROLLED STEEL HOUSING TAMPER PROOF HARDWARE, AND ELECTRONIC BALLAST.
E	LITHONIA # LQM S W 3 R 230V 50HZ EL N	-	LED	-	230V 50Hz	5	5	CEILING OR WALL MOUNTED AS NOTED ON PLANS	LED EXIT SIGN WITH RED LETTERS ON WHITE FACE, IMPACT RESISTANT THERMOPLASTIC HOUSING, 6" TALL LETTERS, KNOCKOUT DIRECTIONAL CHEVRON ARROWS, AND EMERGENCY BATTERY PACK. REFER TO PLANS FOR CHEVRON ARROWS AND NUMBER OF FACES REQUIRED.
G	LITHONIA # 2GT8 2 32 A12 230V 50HZ	2	T8	32	230V 50Hz	62	65	RECESSED / CEILING MOUNTED	FLUORESCENT TROFFER LUMINAIRE, RECESSED MOUNTED IN SUSPENDED CEILING, 1200mm X 600mm WITH PATTERN #12 ACRYLIC LENS, COLD ROLLED STEEL HOUSING, AND ELECTRONIC BALLAST.
G1	LITHONIA # 2GT8 2 32 A12 230V 50HZ	2	T8	32	230V 50Hz	66	69	RECESSED / CEILING MOUNTED	FLUORESCENT TROFFER LUMINAIRE, RECESSED MOUNTED IN SUSPENDED CEILING, 1200mm X 600mm WITH PATTERN #12 ACRYLIC LENS, COLD ROLLED STEEL HOUSING, AND ELECTRONIC BALLAST. LUMINAIRE SHALL CONTAIN EMERGENCY BATTERY BALLAST. SEE NOTE 1.
G3	LITHONIA # 2GT8 3 32 A12 230V 50HZ	3	T8	32	230V 50Hz	88	90	RECESSED / CEILING	FLUORESCENT TROFFER LUMINAIRE, RECESSED MOUNTED IN SUSPENDED CEILING, 1200mm X 600mm WITH PATTERN #12 ACRYLIC LENS, COLD ROLLED STEEL HOUSING, AND ELECTRONIC BALLAST.
H	LITHONIA # TWH 70M 230V 50HZ LPI	1	METAL HALIDE	70	230V 50Hz	95	103	WALL MOUNTED 2.5 METERS AFG	OUTDOOR METAL HALIDE WALL PACK LUMINAIRE WITH SPECULAR ANODIZED ALUMINUM REFLECTOR,SEALED AND GASKETED PRISMATIC BOROSILICATE GLASS REFRACTOR, CORROSION-RESISTANT DIE-CAST ALUMINUM HOUSING WITH CORROSION-RESISTANT EXTERNAL HARDWARE.
H1	LITHONIA # ELA DDB T OMC H2012	2	MR11	20	12V	30	30	WALL MOUNTED 2.5 METERS AFG	OUTDOOR HALOGEN LUMINAIRE WITH TWIN LAMPHEADS, DIE-CAST ALUMINUM BODY, CAST BRONZE KNUCKLE AND TEMPERED GLASS LENS. LUMINAIRE SHALL BE POWERED BY REMOTE 12-VOLT EMERGENCY BATTERY PACK.
L	LITHONIA # PGR 70M 230V 50HZ HEB DN	1	METAL HALIDE	70	230V 50Hz	95	103	SURFACE MOUNTED	OUTDOOR METAL HALIDE CIRCULAR LUMINAIRE WITH DIE-CAST ALUMINUM HOUSING WITH SILICONE GASKET, INJECTION-MOLDED, UV STABILIZED, ACRYLIC LOWER ASSEMBLY, SEMI-SPECULAR ALUMINUM REFLECTOR, PRECISION INJECTION-MOLDED PRISMATIC ACRYLIC REFRACTOR.

GENERAL NOTES:

A. CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND CATALOG NUMBERS ONLY. FIRST READ THE CHARACTERISTICS, NOTES, AND SPECIFICATIONS IN CONJUNCTION WITH THE CATALOG NUMBER TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.
B. VERIFY CEILING CONDITIONS AND COORDINATE MOUNTING HARDWARE AND TRIM NEEDED TO SUIT CEILING CONDITIONS PRIOR TO ORDERING.
C. VERIFY QUANTITIES, MODEL NUMBERS AND DESCRIPTIONS WITH MANUFACTURER PRIOR TO PLACING ORDER.
D. VERIFY FINISH AND COLOR WITH COR PRIOR TO PLACING ORDER.
E. REFER TO ARCHITECTURAL DRAWINGS AND DETAILS FOR EXACT LOCATIONS, MOUNTING HEIGHTS AND ADDITIONAL MOUNTING INFORMATION. CONTACT COR IMMEDIATELY IF THERE ARE DISCREPANCIES BETWEEN THE ARCHITECTURAL AND ELECTRICAL LIGHTING PLANS.
F. REFER TO DIVISION 26 SPECIFICATIONS FOR LAMP AND BALLASTS REQUIREMENTS.
G. REFER TO LIGHTING PLANS FOR CONTROL INFORMATION.

1

SHEET NOTES

1. PROVIDE EMERGENCY BATTERY PACK WITH AUTOMATIC POWER FAILURE DEVICE, TEST SWITCH OPERABLE FROM OUTSIDE OF THE FIXTURE, PILOT LIGHT VISIBLE FROM OUTSIDE THE FIXTURE, AND FULLY AUTOMATIC SOLID-STATE CHARGER IN A SELF-CONTAINED POWER PACK. PROVIDE SELF-TESTING MODULE INTEGRAL TO THE FIXTURE. CHARGER SHALL BE EITHER TRICKLE, FLOAT, CONSTANT CURRENT OR CONSTANT POTENTIAL TYPE, OR A COMBINATION OF THESE. BATTERY SHALL BE SEALED ELECTROLYTE TYPE. BATTERIES FOR FLUORESCENT FIXTURES SHALL HAVE CAPACITY AS REQUIRED TO SUPPLY POWER TO 2 LAMPS PER EMERGENCY FIXTURE FOR 90 MINUTES AT A MINIMUM OF 1100 LUMENS PER FIXTURE OUTPUT. BATTERY SHALL OPERATE UNATTENDED AND REQUIRE NO MAINTENANCE, INCLUDING NO ADDITIONAL WATER, FOR A PERIOD OF NOT LESS THAN 5 YEARS. EMERGENCY BALLASTS PROVIDED WITH FIXTURES CONTAINING SOLID-STATE BALLASTS SHALL BE FULLY COMPATIBLE WITH THE SOLID-STATE BALLASTS. SELF-TESTING MODULE FOR EXIT SIGNS AND EMERGENCY LIGHTING EQUIPMENT SHALL PERFORM CONTINUOUS MONITORING OF CHARGER OPERATION AND BATTERY VOLTAGE WITH VISUAL INDICATION OF NORMAL OPERATION AND OF MALFUNCTION; MONTHLY DISCHARGE CYCLING OF BATTERY WITH MONITORING OF TRANSFER CIRCUIT FUNCTION, BATTERY CAPACITY AND EMERGENCY LAMP OPERATION WITH VISUAL INDICATION OF MALFUNCTION; AND MANUAL TEST SWITCH TO SIMULATE A DISCHARGE TEST CYCLE. SELF-TESTING MODULE SHALL HAVE LOW VOLTAGE BATTERY DISCONNECT (LVD) AND BROWN-OUT PROTECTION CIRCUIT.

US Army Corps of Engineers
Kansas City District

SYM	DESCRIPTION	DATE	APPR.
1	VARIOUS REVISIONS TO LIGHTING FIXTURE SCHEDULE	11/15/11	BJM

Designed by: M. LEFHOLZ
Date: 10/26/2011
Drawn by: B. MCKENZIE
Drawing code: F-141-85-01
Checked by: P. AUSTIN
Plot scale: 1:1
Submitted by: D. STORM
CADD File Name: w05_PWR_E-701.dgn

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FY2011

LIGHT FIXTURE SCHEDULE

SHEET NUMBER
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