

**THE SAENGER
THEATRE RENEWAL
PROJECT**

142 North Rampart Street
New Orleans, LA

Client
Saenger Theatre Redevelopment Company
200 West Loop South, Suite
1040 Houston TX 77027

Architect
MARTINEZ+JOHNSON
ARCHITECTURE

1412 Eye St., NW
Washington, DC 20005
202.333.4480

Structural Engineer
Shawn J. Franke, P.E.
549 Heimer Road San
Antonio TX 78232
210.979.7900

Theatre Consultant
Schuler Shook
123 Third Street North #210
Minneapolis, MN 55401
612.333.5559

Acoustical Engineer
Akustiks
93 North Main Street South
Norwalk, CT 06584
202.299.1904

MEP Engineer
JBA Consulting Engineers, Inc.
3525 N. Causeway Blvd. Suite
500 Metairie, LA 70002
504.830.0139

Civil Engineer
Linfield, Hunter, & Junius, Inc.
3608 18th Street Suite 200
Metairie, LA 70002
504.333.5339

Architectural Historian
EHT Traceries, Inc.
1121 Fifth Street NW
Washington, DC 20001
202.393.1199

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| DATE: | No.: | ISSUE: |
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| 02.19.10 | 1 | PERMIT SET |
| 04.02.10 | 2 | GMP CONTRACT SET |

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| 11.11.10 | | CONTRACT SET |

SHEET TITLE:
**SINGLE LINE DIAGRAM
NOTES AND SCHEDULES**

E-5.00

09.0384

FEEDER SCHEDULE

| FDR. NO. | DESCRIPTION | CONDUIT AND WIRE SIZE (75° C CU 600V) (105° C 15 & 5KV) | CONDUIT AND WIRE (75° AL 600V, 105° AL 5 & 15KV) (AA-8000 COMPACT STRANDING) |
|----------|---|---|--|
| 1 | FIRE PUMP | 2" - 3 #1 & 1 #1 GRND | N/A |
| 2 | SIGN FEEDER | 1 1/4" - #2 & 1 #8 GRND | N/A |
| P1 | 15KVA XFMR 480V PRIMARY FEEDER (25A MOCP) | 1" - 3 #6 & 1 #10 GRND | N/A |
| P2 | 30KVA XFMR 480V PRIMARY FEEDER (45A MOCP) | 1 1/4" - 3 #4 & 1 #8 GRND | N/A |
| P3 | 45KVA XFMR 480V PRIMARY FEEDER (70A MOCP) | 1 1/2" - 3 #1 & 1 #6 GRND | N/A |
| P4 | 75KVA XFMR 480V PRIMARY FEEDER (110A MOCP) | 2" - 3 #2/0 & 1 #6 GRND | 2" - 3 #4/0 & 1 #6 CU GRND |
| P5 | 112.5KVA XFMR 480V PRIMARY FEEDER (175A MOCP) | 2 1/2" - 3 #4/0 & 1 #4 GRND | 3" - 3 #300KCM & 1 #4 CU GRND |
| P6 | 150KVA XFMR 480V PRIMARY FEEDER (225A MOCP) | 4" - 3 #500KCM & 1 #3 GRND | 4" - 3 #750KCM & 1 #3 CU GRND |
| P7 | 225KVA XFMR 480V PRIMARY FEEDER (350A MOCP) | (2) 3" EA. W/ 3 #250KCM & 1 #2 GRND | (2) 3" EA. W/ 3 #400KCM & 1 #2 CU GRND |
| P8 | 300KVA XFMR 480V PRIMARY FEEDER (450A MOCP) | (3) 3" EA. W/ 3 #300KCM & 1 #1/0 GRND | (3) 3" EA. W/ 3 #400KCM & 1 #3/0 GRND |
| P9 | 500KVA XFMR 480V PRIMARY FEEDER (800A MOCP) | (4) 4" EA. W/ 3 #350KCM & 1 #3/0 GRND | (4) 4" EA. W/ 3 #500KCM & 1 #250 KCM |
| P10 | 750KVA XFMR 480V PRIMARY FEEDER (1200A MOCP) | (6) 4" EA. W/ 3 #300KCM & 1 #4/0 GRND | (6) 4" EA. W/ 3 #400KCM & 1 #350 KCM |
| P11 | 1000KVA XFMR 480V PRIMARY FEEDER (1600A MOCP) | 1" - 4 #6 & 1 #8 GRND | N/A |
| S1 | 15KVA XFMR 208V SECONDARY FEEDER (60A MOCP) | 1 1/2" - 4 #1 & 1 #6 GRND | N/A |
| S2 | 30KVA XFMR 208V SECONDARY FEEDER (100A MOCP) | 2" - 4 #1/0 & 1 #6 GRND | 2" - 4 #3/0 & 1 #6 CU GRND |
| S3 | 45KVA XFMR 208V SECONDARY FEEDER (150A MOCP) | 2 1/2" - 4 #4/0 & 1 #2 GRND | 3" - 4 #300 KCM & 1 #2 CU GRND |
| S4 | 75KVA XFMR 208V SECONDARY FEEDER (225A MOCP) | (2) 2" - EA W/ 4 #3/0 & 1 #1/0 GRND | (2) 2 1/2" EA W/ #250KCM & 1 #3/0 GRND |
| S5 | 112.5KVA XFMR 208V SECONDARY FEEDER (400A MOCP) | (2) 3" EA W/ 4 #350KCM & 1 #2/0 GRND | (2) 4" EA W/ 4 #500KCM & 1 #4/0 GRND |
| S6 | 150KVA XFMR 208V SECONDARY FEEDER (600A MOCP) | (3) 3" EA W/ 4 #300KCM & 1 #2/0 GRND | (3) 4" EA W/ 4 #400KCM & 1 #250 KCM GRND |
| S7 | 225KVA XFMR 208V SECONDARY FEEDER (800A MOCP) | (3) 4" EA W/ 4 #400KCM & 1 #3/0 GRND | (3) 4" EA W/ 4 #600KCM & 1 #250KCM GRND |
| S8 | 300KVA XFMR 208V SECONDARY FEEDER (1200A MOCP) | (5) 4" EA W/ 4 #400KCM & 1 #250KCM GRND | (5) 4" EA W/ 4 #600KCM & 1 #400 KCM GRND |
| S9 | 500KVA XFMR 208V SECONDARY FEEDER (1600A MOCP) | (8) 4" EA W/ 4 #500KCM & 1 #500KCM GRND | (8) 4" EA W/ 4 #750KCM & 1 #750KCM GRND |
| S10 | 750KVA XFMR 208V SECONDARY FEEDER (3000A MOCP) | (11) 4" EA W/ 4 #500KCM & 1 #750KCM GRND | (11) 4" EA W/ 4 #750KCM & 1 #750KCM CU GRND |
| S11 | 1000KVA XFMR 208V SECONDARY FEEDER (4000A MOCP) | 1 1/4" - 3 #3 & 1 #6 GRND | N/A |
| S12 | 85A, 3 WIRE FEEDER | 1 1/4" - 3 #2 & 1 #6 GRND | N/A |
| S13 | 95A, 3 WIRE FEEDER | 1 1/2" - 3 #1/0 & 1 #6 GRND | 2" - 3 #3/0 & 1 #6 CU GRND |
| S14 | 150A, 3 WIRE FEEDER | 2" - 3 #3/0 & 1 #4 GRND | 2" - 3 #250KCM & 1 #4 CU GRND |
| S15 | 200A, 3 WIRE FEEDER | 3" - 3 #250KCM & 1 #3 GRND | 3" - 3 #350KCM & 1 #3 CU GRND |
| S16 | 250A, 3 WIRE FEEDER | | |

NOTICE

- EMERGENCY FEEDERS SHALL BE PROTECTED PER NEC 700.9(D)

NOTES

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|---|--|
| 1. CONNECT TO GENERATOR BATTERY CHARGER AND GENERATOR ACCESSORIES. | 10. REFER TO DRAWING AV-004 FOR ADDITIONAL REQUIREMENTS FOR AV SYSTEM WIRING. |
| 2. CONDUIT AND WIRE PER MANUFACTURER. | 11. 3" - 3 #4/0, 2 #4/0 N, 1 #2 GRND & 1 #300 KCM ISO. GRND. |
| 3. GROUND PER NEC 250.30. | 12. 2" - 3 #1, 1 #3/0 N, 1 #2 GRND & 1 #3/0 ISO. GRND. |
| 4. PROVIDE J-BOX FOR CONNECTION TO BLOCK HEATER/JACKET HEATER. | 13. 3" - 3 #4/0, 2 #4/0 N, 1 #1/0 GRND & 1 #300 KCM ISO. GRND. |
| 5. 400A, 3P 4W 200% FUSIBLE DISCONNECT WITH 400A, LPJ FUSES. LOCATE WITHIN 10'-0" OF TRANSFORMER. | 14. 200A, 3P FUSIBLE DISCONNECT SWITCH WITH 200A LPJ FUSES. LOCATE WITHIN 10'-0" OF TRANSFORMER. FURNISH WITH EQ & IG BUS. |
| 6. CONDUIT AND WIRE TO GENERATOR ANNUNCIATOR PANEL. SIZED PER MANUFACTURER. | 15. PROVIDE ELECTRONIC TRIP CIRCUIT BREAKER. |
| 7. TO GENERATOR START CIRCUIT CONDUIT AND WIRE PER MANUFACTURER. | 16. EACH BREAKER SHALL BE IN A SEPERATRE ENCLOSURE WITHIN THE GENERATOR HOUSING. |
| 8. CABLE SHALL BE INSTALLED IN A CABLE TRAY 36"x6". INSTALLATION SHALL BE SUPERVISED, INSPECTED AND APPROVED BY A PYROTENAX FACTORY REPRESENTATIVE. CONTRACTOR SHALL SUBMIT DOCUMENTS FOR MANUAL INDICATING INSTALLATION IS IN COMPLIANCE WITH MANUFACTURER'S REQUIREMENTS. | 17. METERING PROVISIONS UTILITY COMPANY REQUIREMENTS. |
| 9. MI CABLE TO CONDUIT/WIRE TRANSFER BOX SIZE PER NEC, UTILITY CO & PYROTENAX REQUIREMENTS. | 18. CONDUIT & WIRE PER UTILITY CO. REQUIREMENTS. |
| | 19. PROVIDE GROUNDING ELECTRODE PER NEC 250-52 (A)(1)(2), (3) & (8). |
| | 20. TO MSHA GROUNDING ELECTRODES. |
| | 21. TO FIRE ALARM FOR ELEVATOR SHUNT. |

FEEDER SCHEDULE CONT.

| FDR. NO. | DESCRIPTION | CONDUIT AND WIRE SIZE (75° C CU 600V) (105° C 15 & 5KV) | CONDUIT AND WIRE (75° AL 600V, 105° AL 5 & 15KV) (AA-8000 COMPACT STRANDING) |
|----------|--------------------------------|--|--|
| 40 | 40A, DISTRIBUTION FEEDER | 3/4" - 4 #8 & 1 #10 GRND | N/A |
| 41 | 55A, DISTRIBUTION FEEDER | 1" - 4 #6 & 1 #8 GRND | N/A |
| 42 | 70A, DISTRIBUTION FEEDER | 1 1/4" - 4 #4 & 1 #8 GRND | N/A |
| 43 | 130A, DISTRIBUTION FEEDER | 1 1/2" - 4 #1 & 1 #6 GRND | N/A |
| 44 | 150A, DISTRIBUTION FEEDER | 2" - 4 #1/0 & 1 #6 GRND | 2" - 4 #3/0 & 1 #6 CU GRND |
| 45 | 175A, DISTRIBUTION FEEDER | 2" - 4 #2/0 & 1 #6 GRND | 2 1/2" - 4 #4/0 & 1 #6 CU GRND |
| 46 | 200A, DISTRIBUTION FEEDER | 2" - 4 #3/0 & 1 #6 GRND | 3" - 4 #250KCM & 1 #6 CU GRND |
| 47 | 225A, DISTRIBUTION FEEDER | 2 1/2" - 4 #4/0 & 1 #4 GRND | 3" - 4 #300KCM & 1 #4 CU GRND |
| 48 | 250A, DISTRIBUTION FEEDER | 3" - 4 #250KCM & 1 #4 GRND | 3" - 4 #350KCM & 1 #4 CU GRND |
| 49 | 310A, DISTRIBUTION FEEDER | 3" - 4 #350KCM & 1 #3 GRND | 4" - 4 #500KCM & 1 #3 CU GRND |
| 50 | 380A, DISTRIBUTION FEEDER | 4" - 4 #500KCM & 1 #2 GRND | 3" - 4 #750KCM & 1 #2 CU GRND |
| 51 | 400A PARALLEL FEEDER | (2) 2" EA. W/ 4 #3/0 & 1 #2 GRND | (2) 3" EA. W/ 4 #250KCM & 1 #2 CU GRND |
| 52 | 500A PARALLEL FEEDER | (2) 3" EA. W/ 4 #250KCM & 1 #2 GRND | (2) 3" EA. W/ 4 #350KCM & 1 #2 CU GRND |
| 53 | 600A PARALLEL FEEDER | (2) 3" EA. W/ 4 #350KCM & 1 #1 GRND | (2) 4" EA. W/ 4 #500KCM & 1 #2/0 GRND |
| 54 | 800A PARALLEL FEEDER | (3) 3" EA. W/ 4 #300KCM & 1 #1/0 GRND | (3) 4" EA. W/ 4 #400KCM & 1 #3/0 GRND |
| 55 | 1000A PARALLEL FEEDER | (3) 4" EA. W/ 4 #400KCM & 1 #2/0 GRND | (3) 4" EA. W/ 4 #600KCM & 1 #4/0 GRND |
| 56 | 1200A PARALLEL FEEDER | (4) 3" EA. W/ 4 #350KCM & 1 #3/0 GRND | (4) 4" EA. W/ 4 #500KCM & 1 #250KCM GRND |
| 57 | 1500A PARALLEL FEEDER | (4) 4" EA. W/ 4 #500KCM & 1 #4/0 GRND | (4) 4" EA. W/ 4 #750KCM & 1 #350KCM GRND |
| 58 | 1600A PARALLEL FEEDER | (5) 4" EA. W/ 4 #400KCM & 1 #4/0 GRND | (5) 4" EA. W/ 4 #600KCM & 1 #350KCM GRND |
| 59 | 2000A PARALLEL FEEDER | (6) 4" EA. W/ 4 #400KCM & 1 #250KCM GRND | (6) 4" EA. W/ 4 #600KCM & 1 #400KCM GRND |
| 60 | 2500A PARALLEL FEEDER | (7) 4" EA. W/ 4 #500KCM & 1 #350KCM GRND | (7) 4" EA. W/ 4 #750KCM & 1 #600KCM GRND |
| 61 | 3000A PARALLEL FEEDER | (8) 4" EA. W/ 4 #500KCM & 1 #400KCM GRND | (8) 4" EA. W/ 4 #750KCM & 1 #600KCM GRND |
| 62 | 3500A PARALLEL FEEDER | (10) 4" EA. W/ 4 #500KCM & 1 #500KCM GRND | (10) 4" EA. W/ 4 #750KCM & 1 #500KCM CU GRND |
| 63 | 4000A PARALLEL FEEDER | (8) 4" EA. W/ 4 #500KCM & 1 #500KCM GRND | (8) 4" EA. W/ 4 #750KCM & 1 #500KCM CU GRND |
| 64 | 4000A PARALLEL MI CABLE FEEDER | (8) SETS OF PYROTENAX SYSTEM 1850 CABLE EACH SET SHALL BE 4 #350KCM. | 8 |

NOTES:

- SOME FEEDERS MAY NOT BE USED ON THIS PROJECT.
- VOLTAGE DROP MAY REQUIRE THE USE OF A LARGER AMPACITY FEEDER.
- "A" FEEDERS INDICATE DOUBLE NEUTRAL CONDUCTORS, INCREASE CONDUIT SIZE PER NEC CHAPTER 9.
- "B" FEEDERS INDICATE DOUBLE NEUTRAL CONDUCTORS, INCREASE CONDUIT SIZE PER NEC CHAPTER 9.
- "C" FEEDERS INDICATE ADDED ISOLATED GROUND CONDUCTOR (SIZE SAME AS EQUIPMENT GROUND). INCREASE CONDUIT SIZE PER NEC CHAPTER 9.
- MOTOR FEEDERS & DIMMER FEEDERS SHALL BE COPPER ONLY.
- MEDIUM VOLTAGE FEEDER AMPACITIES BASED UPON 3 CIRCUITS, UNDERGROUND DUCT BANK.

EQUIPMENT SCHEDULE

| ITEM | DESCRIPTION |
|------|---|
| 1 | DRY-TYPE TRANSFORMER 480V, 3Ø, 3W, DELTA TO 208Y/120V, 3Ø, 4W WYE, 115°C RISE, 220°C CLASS INSULATION AND KVA SIZE AS SHOWN. |
| 2 | HARMONIC MITIGATING DRY-TYPE TRANSFORMER 480V, 3Ø, 3W, DELTA TO 208Y/120V, 3Ø, 4W WYE, 115°C RISE, 220°C CLASS INSULATION AS MANUFACTURED BY PQI OR POWERSMITH, KVA RATING AS SHOWN. |
| 3 | HARMONIC MITIGATING DRY-TYPE TRANSFORMER 480V, 3Ø, 3W, DELTA TO 208Y/120V, 3Ø, 4W WYE, 115°C RISE, 220°C CLASS INSULATION AS MANUFACTURED BY PQI OR POWERSMITH, KVA RATING AS SHOWN, WITH ELECTROSTATIC SHIELD. |
| 4 | INSULATED CASE CIRCUIT BREAKER WITH GFP, SEE SPECIFICATIONS. |
| 5 | EMERGENCY/STANDBY GENERATOR. PROVIDE WITH DUAL STARTER AND DOUBLE BATTERY CAPACITY, 350 GALLON BASE MOUNTED FUEL TANK. |
| 6 | DRY TYPE TRANSFORMER 480V 1Ø 2W - 120/240V 1 Ø 3W TO 5KVA, 115°C RISE. |
| 7 | FUSED COORDINATION SWITCH, BUSSMAN OR EQUAL |

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