Tobin Center
for the
Performing Arts

San Antonio, TX

Technical Report II
Electrical Existing Conditions & Design Criteria

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Executive Summary

This report provides an in-depth analysis of the Tobin Center for the Performing Arts' electrical system. It shall include the following:

- Electrical design criteria based on the building type
- Examines the as-designed electrical system
- Evaluates the existing system's design and performance based on the criteria
- Suggested potential changes to improve system and building performance

Load values were calculated, as information referenced requirements from IBC 2012, NEC 2011 and currently designed systems. Quantitative data collected included normal, emergency power, and optional back-up power loads. Qualitative information included special occupancy requirements, special equipment, special/communications systems, building services, and CPS Energy rate schedule choices.

Based on the design criteria and evaluation, the existing electrical system is appropriate for the building type. Due to the complexity of the Tobin Center's system, the various loads were appropriately distributed between the two main switchboards and their designated distribution panels. This was an effective approach, especially in regards to the high demand of general and theatrical lighting, as well as HAVC and other special equipment. Having optional-back up power, such as a UPS, is possible but unnecessary, for its runtime is too short for life safety and emergency situations. Energy cost savings and reduction techniques include the awareness of demand management, demand shifting, and cogeneration. In the long run, these techniques will improve system performance, reduce energy consumption, and have longer lifespans.

Aiming towards LEED Silver, low initial cost is unlikely. This is mostly due to the increase use of LEDs for performance, various theater lighting, controls systems, and high efficiency HVAC and specialty equipment. This supports long term ownership cost, power quality, and flexible system designs and functions.

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I. Building Overview

Location & Site:	100 Auditorium Circle, San Antonio, TX 78205
Building Occupant Name:	Tobin Center for the Performing Arts
Occupancy Type:	Assembly Group A-1 (primary)
Size:	172,970 GSF
Stories:	6 + 1 Basement

II. Project Team

Owner:	Bexar County Performing Arts Center Foundation
Owner's Rep:	The Projects Group Zachry Consturction Corporation Marmon Mok
Construction Manager:	Linbeck
Architect of Record/Front of House (Prime):	LMN Architects
CA Lead/Back of House (Assoc./LEED Consulting):	Marmon Mok
Landscape Architect:	Mesa Design Group
Historic Preservation Consultant:	Fisher Heck Architects
Civil Engineer:	Pape-Dawson Engineers, Inc.
Structural Engineer:	Walter P. Moore (Prime/Front of House) Alpha Consulting Engineers (Assoc./Back of House)

1.0 Electrical System Criteria and Scope of Work

The section describes the development of the electrical systems criteria and scope of work, including possible building systems and electrical requirements.

1.1 Preliminary Electrical Load Calculation

Assume the following load approximations:

Table 1: Load approximation assumptions	***Demand Factor assumptions***
Lighting: 1.39 W/ft^2 (ASHRAE 90.1 2010)	Lighting: 125%
Receptacles: 1.0 W/ft^2	Receptacles: 10kVA 100%, rest 50%
HVAC: 4.0 W/ft^2	HVAC:100%
Other: 1.0 W/ft^2	Other: 100%

Based on the load approximation and demand factor assumptions, the following preliminary building loads are listed:

- Lighting: 240 kVA
- Receptacles: 173 kVA
- HVAC: 692 kVA
- Other: 173 kVA
- **Total: 1278 kVA**

1.2 Power Company and Preliminary Rate Schedule

CPS Energy (formerly, City Public Service) is the power company that supplies power to the San Antonio, TX area. It is the nation's largest municipally owned energy utility providing both natural gas and electric service. They serve customers in Bexar County, which is where the Tobin Center is located.

CPS Energy Homepage: http://www.cpsenergy.com/
General Service: http://www.cpsenergy.com/files/Rate_GeneralService030110.pdf

Table 2: Preliminary Rate Schedule

$8.25	Service Availability Charge
Energy Charge	
$0.0695	Per KWH for the first 1600 KWH*
$0.0325	Per KWH for all additional KWH
Peak Capacity Charge	
$0.0175	Summer Billing (June-September) Per KWH for all KWH in excess of 600 KWH
$0.0100	Non-Summer Billing (October-May) Per kwh for all KWH in excess of 600 KWH
**200 KWH are added for each KW of Billing Demand in excess of 5 KW*	

1.3 Preliminary Building Utilization Voltage

The building utilization voltage will be 480/277V with the voltages shown below serving each of the following loads:

Table 3: Load Voltages

Lighting	277V
Receptacle	120V
Mechanical	480V
Special Equipment	
Elevators	480V
Information Technology Equipment	120V
Audio/Visual	120V

1.4 Emergency Power Requirements

Emergency power shall be provided by a diesel generator at 480/277V. Considered as occupancy type Assembly A-1, the following shall adhere to the requirements based on the 2012 International Building Code:

[303.2 Assembly Group A-1]
Assembly uses, usually with fixed seating, intended for the production and viewing of the performing arts or motion pictures including, but not limited to:
Motion picture theaters, symphony and concert halls, television and radio studios admitting an audience, and theaters

[2702.2.1 Group A Occupants]
Emergency power shall be provided for emergency voice/alarm communication systems in Group A occupancies in accordance with Section 907.5.2.2.4

[2702.2.2 Smoke Control Systems]
Standby power shall be provided for smoke control systems in accordance with Section 909.11.

[2702.2.3 Exit Signs]
Emergency power shall be provided for means of egress illumination in accordance with Section 1011.6.3.

[2702.2.4 Means of Egress Illumination]
Emergency power shall be provided for means of egress illumination in accordance with Section 1006.3.

[2702.2.5 Accessible Means of Egress Elevators]
Standby power shall be provided for elevators that are part of an accessible means of egress in accordance with Section 1007.4.

[2702.2.6 Accessible Means of Egress Platform Lifts]
Standby power in accordance with this section or ASME A 18.1 shall be provided for platforms lifts that are part of an accessible means egress in accordance with Section 1007.5.

[2702.2.7 Horizontal Sliding Doors]
Standby power shall be provided for horizontal sliding doors in accordance with Section 1008.1.4.3

[2702.2.19 Elevators]
Standby power for elevators shall be provided as set forth in Sections 3003.1, 3007.9, and 3008.9.

[2702.2.20 Smokeproof Enclosures]
Standby power shall be provided for smokeproof enclosures as required by Section 909.20.6.2. Other emergency power requirements were researched

1.5 Special Occupancy Requirements

Article 520 in Chapter 5 of the National Electric Code (NEC) Book 2011 addresses special occupancy requirements for the Tobin Center.

Article 520
Theaters, Audience Areas of Motion Picture and Television Studios, Performance Areas and Similar Locations

1.6 Special Equipment

Chapter 6 of the NEC 2011 addresses Special Equipment. The following is a list of potential special equipment that could be included in the Tobin Center.

Table 4: Potential Special Equipment

Article 605	Office Furnishings (Consisting of Lighting Accessories and Wired Partitions
Article 620	Elevators
Article 640	Audio Signal Processing, Amplification, & Reproduction Equipment
Article 645	Information Technology Equipment
Article 695	Fire Pumps

1.7 Priority Assessment

Based on the building type and use, Table 5 provides a priority assessment (low/medium/high) for the following characteristics:

Table 5: Priority Assessment

Reliability	Medium
Power Quality	High
Redundancy	Low
Initial Cost (low initial cost)	Medium
Long Term Ownership Cost	High
Flexibility	High

1.8 Optional Backup Power

The following loads may desire backup power by either a generator (eliminates the headache of long-term power outages) or a UPS (short term power):

Table 6: Optional Backup Power

Generator	Electrical and Mechanical Room Lighting
	Electrical and Mechanical Room HVAC
	Total: 1 W/ft^2
UPS	Telecommunication equipment
	Total: 2 W/ft^2

1.9 Special/Communications Systems

The following special/communications systems may be potential for the Tobin Center:

- Telephone/Data
- Fire Alarm
- CATV
- Overhead Paging/Intercom
- Access Control
- Security – Intrusion Detection, Video Surveillance

2012 International Building Code, Section 907 Fire Alarm and Detection Systems

[907.2.1 Group A, IBC 2012]
A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies where the occupant load due to the assembly occupancy is 300 or more.
Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification applications will activate throughout the notification zones upon sprinkler water flow.

[907.2.1.1 System Initiation in Group A Occupancies with an Occupant Load of 1,000 or More, IBC 2012]
Activation of the fire alarm in Group A occupancies with an occupant load of 1,000 or more shall initiate a signal using an emergency voice/alarm communications system in accordance with Section 907.5.2.2.
Exception: Where approved, the prerecorded announcement is allowed to be manually deactivated for a period of time, not to exceed 3 minutes, for the sole purpose of allowing a live voice announcement from an approved, constantly attended location.

[907.5 Occupant Notification Systems, IBC 2012]
A fire alarm system shall annunciate at the fire alarm control unit and shall initiate occupant notification upon activation, in accordance with Sections 907.5.1 through 907.5.2.3.4. Where a fire alarm system is required by another section of this code, it shall be activated by:

- Automatic fire detectors
- Automatic sprinkler system water flow devices
- Manual fire alarm boxes
- Automatic fire-extinguishing systems

1.10 Other Building Services

Other building services may be required for the special/communications systems for the Tobin Center:

- Telephone
- Data
- CATV

1.11 Major Equipment

Typical major equipment used in this type of building includes:

- Electrical Equipment
- Mechanical Equipment
- Transformers
- Switchboards
- Distribution Panels
- Generator (if necessary)

Due to the complexity of the building and the required loads needed for it to run, a significant amount of space will be needed to house electrical and mechanical equipment, in particular.

2.0 Electrical System as Currently Designed

This section provides understanding and descriptions of the electrical systems as currently designed. It includes actual building loads, equipment, and building systems.

2.1 Actual Connected Building Load

Two main switchboards, MSB-1 and MSB-2, exist. The actual connected building load analysis is as follows:

Electrical Load Analysis: MSB-1
System Voltage – 480/277V, 3-Phase, 4 Wire + Ground
4000A, 480/277V, 3-Phase, 4 Wire + Ground, 150 kAIC

Load Description	Connected Load – KVA	Demand Factor	Demand Load	
			KVA	Amperes
Company Switches	1260.0	0.55	688.0	827
Dimmer Racks	3500.0	0.30	1061.0	1276
Relay Panels	576.0	0.31	181.0	218
HVAC Loads	275.0	1.00	275.0	331
Audio/Visual Loads	237.0	0.52	123.2	148
Elevators (4 Total)	391.0	0.85	332.4	400
N.E.C. Demand Load - Total			2660.5	3200
Service Entrance Design			3325.5	4000
Spare Capacity (20.0%)			665.0	800

Electrical Load Analysis: MSB-2
System Voltage – 480/277V, 3-Phase, 4 Wire + Ground
3000A, 480/277V, 3-Phase, 4 Wire + Ground, 150 kAIC

Load Description	Connected Load – KVA	Demand Factor	Demand Load	
			KVA	Amperes
Theatrical Panelboards	360.0	0.40	145.4	175
Theatrical Rigging Motors	445.0	1.00	445.0	535
HVAC Loads	600.0	1.00	600.0	722
Receptacles	325.0	0.52	167.5	201
Lighting	520.0	1.25	650.0	782
Elevators (3 Total)	95.0	0.90	85.5	103
Kitchen	225.0	0.65	146.3	176
N.E.C. Demand Load - Total			2239.7	2694
Service Entrance Design			2494.2	3000
Spare Capacity (10.2%)			254.5	306

2.2 Power Company and Rate Schedule

CPS Energy (formerly, City Public Service) is the power company that supplies power to the San Antonio, TX area. The service voltage is 13.8 kV, and the building utilization voltage is 480/277V.

Table 7: Rate

$8.25	Service Availability Charge
Energy Charge	
$0.0695	Per KWH for the first 1600 KWH*
$0.0325	Per KWH for all additional KWH
Peak Capacity Charge	
$0.0175	Summer Billing (June-September) Per KWH for all KWH in excess of 600 KWH
$0.0100	Non-Summer Billing (October-May) Per kwh for all KWH in excess of 600 KWH
*200 KWH are added for each KW of Billing Demand in excess of 5 KW	

2.3 Building Utilization Voltage

The utility service voltage is 13.8 kV for (4) four transformers. The building utilization voltage at 480/277V is fed into (2) main switchboards, MSB-1 and MSB-2. The following is a breakdown of service.

Table 8: MSB-1: serves transformers T1, T3, T4, T5, and T6

Transformer	*Serves*	*Electrical Characteristics*
T1	Switchboard DPl-1	2000-Amp MCB, 200% Neutral, 208/120V, 3-Phase, 4W+Gnd.
T3	Distribution Panel DPl-3	800-Amp MCB, 200% Neutral, 208/120V, 3-Phase, 4W Iso. Gnd. + Gnd
T4	Switchboard DPL-4	1600 Amp MCB, 200% Neutral, 208/120V, 3-Phase, 4W+Gnd.
T5	Switchboard DPL-5	1600 Amp MCB, 200% Neutral, 218/126V, 3-Phase, 4W+Gnd.
T6	Switchboard DPL-6	1600 Amp MCB, 200% Neutral, 218/126V, 3-Phase, 4W+Gnd.

Table 9: MSB-2: serves transformers T2 and T7

Transformer	*Serves*	*Electrical Characteristics*
T2	Switchboard DPL-2	1600 Amp MCB, 200% Neutral, 208/120V, 3-Phase, 4W+Gnd.
T7	Distribution Panel DPL-DS	400 Amp, 208/120V, 3-Phase, 4W+Gnd. *Note: This is a step-down voltage from distribution panelboard DPH-DS at 480/277V.*

Table 10: Load Breakdown

Lighting	120V
Receptacles	120V
Mechanical	
AHU	480V
Cooling Towers	480V
Hydronic Pumps	480V
Hot Water Boilers	120V
Exhaust Fans	480V & 120V
Fan Coil	120V

VAV	120V
Constant Air Volume Units	120V
Air Conditioning Indoor Units	208V
Air Conditioning Outdoor Units	480V
Electrical Water Heaters	277V
Gas Water Heaters	120V
Air Compressor	480V
Hot Water Circulating Pump	120V
Sub Soil Sump Pumps	480V
Sewage Ejector Pumps	480V
Jockey Pump	480V
Water Booster Pump	480V
Special Equipment	
Company Switches	208/120V
Dimmer Racks	218/126V
Relay Panels	208/120V
Audio/Visual	208/120V
Elevators	480/277V
Theatrical Panelboards	208/120V
Theatrical Rigging Motors	208/120V
Make-Up Air Unit	480V

2.4 Emergency Power System Loads

The emergency power system is supplied by a diesel generator (G1) at 250kW/312.5kVA, 0.8 power factor, 480/277V. There is a voltage step-down to 208Y/120V at transformer TELTS, which serves house emergency lighting transfer system, two (2) large hall emergency lighting transfer system, and studio theater emergency lighting transfer system. Power from this generator is supplied to two (2) automatic transfer switches (ATS).

DISTRIBUTION PANEL 'DPL-ELTS' Voltage – 208/120V, 3-Phase, 4 Wire + Ground	
Load	**VA**
EMER. LTG. XFR. SYSTEM 'ELTS-LH1'	1435
-	1435
-	1435
EMER. LTG. XFR. SYSTEM 'ELTS-DRA1'	1520
-	1520
-	1520
EMER. LTG. XFR. SYSTEM 'EELTS-LH2'	0
-	0
-	0
EMER. LTG. XFR. SYSTEM 'ELTS-ST'	170
-	170
-	170
TOTAL	**9,375**

Emergency/Life Safety automatic transfer switch ATS-LS, at 100A, 480/277V, 3-Phase, SN, 4W+Gnd., serves emergency/life safety lighting panel HLS. This steps down to 208Y/120V at transformer TLS, which serves emergency/life safety lighting panel LLS.

PANEL 'HLS' Voltage – 480/277V, 3-Phase, 4 Wire + Ground	
Load	**VA**
STEP/CORRIDOR 140/VEST/LOBBY LIGHTING	1354
STAIRS LIGHTING	2400
CORRIDOR LIGHTING	1139
STR/TOILETS/MECH/ELEC LIGHTING	1197
EAST/WEST/SOUTH PATERRE LIGHTING	560
LEVEL 3 STAIRS/VEST/RESTRM. LIGHTING	625
WEST CORE/TOILET/ELEC. 331 LIGHTING	293
EAST CORE/SHELL/VEST. 308 LIGHTING	168
EXTERIOR ENTRY (1ST FL.) LIGHTING	75
MULTI.RM.166/RECEIV.RM.170 LIGHTING	449
EAST/WEST LANDING (4TH & 5TH FL) LIGHTING	240
EXTERIOR WEST WALKWAY LIGHTING (1ST FL)	588
EXTERIOR EAST WALKWAY LIGHTING (1ST FL)	588
EXTERIOR LIGHTING	1336
VESTBIBULE P01/P03 LIGHTING	192
DRESSING RM./TOILET RM.LIGHTING	200
TRANSFORMER 'TLS'	2759
-	1976
-	1366
TOTAL	**17,505**

PANEL 'LLS' Voltage – 208/120V, 3-Phase, 4 Wire + Ground	
Load	**VA**
ELEVATOR #1 CAB LIGHTS	128
ELEVATOR #2 CAB LIGHTS	128
ELEVATOR #3 CAB LIGHTS	128
ELEVATOR #4 CAB LIGHTS	128
ELEVATOR #5 CAB LIGHTS	128
ELEVATOR #7 CAB LIGHTS	128
DIMMING RACK 'DPA1' CONTROLLER	500
EXTERIOR DECORATIVE LIGHTING	750
EXTERIOR LIGHTING	375
FIRE ALARM CONTROL PANEL	1500
RECEPTACLES – SECURITY OFFICE 006	720
RECEPTACLES – SECURITY OFFICE 006	360
ELEVATOR #1 ROOF VENT	500
ELEVATOR #2 ROOF VENT	500
TOTAL	**6,101**

Legally required automatic transfer switch ATS-EM, at 200A, 480/277V, 3-Phase, SN, 4W+Gnd., serves legally required standby panel HEM to elevators #1, #2, and #3.

PANEL 'HEM' Voltage – 480/277V, 3-Phase, 4 Wire + Ground	
Load	**VA**
ELEVATOR #1	11085
-	11085
-	11085
ELEVATOR #4	9422
-	9422
-	9422
ELEVATOR #2	11085
-	11085
-	11085
EF-5	945
-	945
-	945
TOTAL	**97,611**

2.5 Special Occupancy Requirements

The following special occupancy requirements were found in the building drawings, based on Chapter 5 of the NEC:

Article 518 Assembly Occupancies
Article 620 Theaters, Performance Areas, and Similar Locations

2.6 Special Equipment

The following special equipment was found on the building drawings and specifications, based on Chapter 6 of the NEC:

Article 600 Electric Signs and Outline Lighting
Article 620 Elevators
Article 640 Audio Signal Processing, Amplification, and Reproduction Equipment
Article 645 Information Technology Equipment
Article 695 Fire Pumps

2.7 GENERAL EQUIPMENT

The network consists of (4) four submersible, dry-type main service transformers, each rated at 13.8 kV, 480/277V, 3-phase, 4 wires + ground. They are sized, controlled and engineered by the local utility company, CPS. The main service from these transformers is provided through two (2) indoor, surface-mounted, single-ended main switchboards, MSB, located in the main electrical room of the basement.

- MSB-1: 4000A, 480/277V, 3-Phase, 4 Wire + Ground, 150 kAIC
- MSB-2: 3000A, 480/277V, 3-Phase, 4 Wire + Ground, 150 kAIC

Both are 480/277V, 3-phase, 4 wires + ground, 150 kAIC, with NEMA 1 enclosure, and they provide a neutral bus, ground bus and an external surge protection device (SPD). The main circuit breaker is provided with ground-fault protection and L.S.G. electronic trip unit.

MSB-**1** distribution steps down to transformers T1, T3, T4, T5, and T6.

- T1: 780 kVA, steps down to 208Y/120V, 3-phase, 4 wires + ground, type K-13
- T3: 225 kVA, steps down to 208Y/120V, 3-phase, 4 wires + ground, type K-13
- T4: 500 kVA, steps down to 208Y/120V, 3-phase, 4 wires + ground, type K-13
- T5: 500 kVA, steps down to 218Y/126V, 3-phase, 4 wires + ground, type K-13
- T6: 500 kVA, steps down to 218Y/126V, 3-phase, 4 wires + ground, type K-13

MSB-2 distribution steps down to transformers T2 and T7.

- T2: 500 kVA, steps down to 208Y/120V, 3-phase, 4 wires + ground, type K-13
- T7: 112.5 kVA, steps down to 208Y/120V, 3-phase, 4 wires + ground

Table 11: Panelboard Enclosures [Flush- and Surface Mounted Cabinets, MCB & MLO, copper]

Indoor Dry and Clean Locations	NEMA 250, Type 1
Outdoor Locations	NEMA 250, Type 3R
Kitchen or Wash-Down Areas	NEMA 250, Type 4X
Other Wet or Damp Indoor Locations	NEMA 250, Type 4
Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids	NEMA 250, Type 5

Phase, Neutral and Ground Buses are hard-drawn copper with 98% conductivity. Equipment ground bus is adequate for feeder and branch-circuit equipment grounding conductors. Isolated ground bus is adequate for branch circuit isolated ground conductors. Extra-capacity neutral bus is rated 200% of phase bus and UL listed as suitable for nonlinear loads. Split bus are vertical buses divided into individual vertical sections.

Table 12: Conductor Material Applications

Service Entrance & Feeders	Copper (standard for all conductor sizes)
Branch Circuits	Copper (standard for all conductor sizes)

Table 13: Conductor Insulation and Wiring Methods

Service Entrance & Feeders:	Type XHHW, single conductors in raceway
Feeders	Type THHN-THWN, single conductors in raceway
Feeders concealed in ceilings, walls, partitions and crawlspaces	Type THHN-THWN, single conductors in raceway
Feeders concealed in concrete, below SOG & underground	Type THHN-THWN, single conductors in raceway
Exposed branch circuits, including crawlspaces	Type THHN-THWN, single conductors in raceway
Branch circuits concealed in ceilings, walls, and partitions	Type THHN-THWN, single conductors in EMT raceway, metal-clad cable, type MC, may be used for branch circuits, but all home-runs and conduit grid and junction box system above the ceiling shall be in EMT conduit, maximum Type MC cable length shall not exceed 20 feet
Branch circuits, concealed in concrete, below SOG and underground	Type THHN-THWN, single conductors in raceway
Cord Drops and Portable Appliance Connections	Type SO, hard service cord with stainless-steel, wire-mesh, strain relief device at terminations to suit application
Class 1 Control Circuits	Type THHN-THWN, in raceway
Class 2 Control Circuits	Type THHN-THWN, in raceway

Table 14: Main Feeders from MSB-1

Type	**Feeder**
Switchboard DPL-1	3 sets, 3-600 kCMIL, 1#3/0 Ground in each of (3) 4" conduit
Distribution Panel DPL-3	3-600 kCMIL, 1#3 Ground in 4" conduit
Switchboard DPL-4	2 sets, 3-600 kCMIL, 1#2/0 Ground in each of (2) 4" conduit
Switchboard DPL-5	2 sets, 3-600 kCMIL, 1#1/0 Ground in each of (2) 4" conduit
Switchboard DPL-6	2 sets, 3-600 kCMIL, 1#1/0 Ground in each of (2) 4" conduit
600V/400A/3P/NF/N1 Disconnect Switch	3-350 kCMIL, 1#4 Ground in 3" conduit
600V/200A/3P/NF/N1 Disconnect Switch	3#4/0, 1#6 Ground in 2 ½" conduit
Panel ELEV	2 sets, 3-350 kCMIL, 1#1 Ground in each of (2) 3" conduit
20" Copper Ground Bus Bar	#4/0 bare copper ground conductor

Table 15: Main Feeders from MSB-2

Type	Feeder
Fire Pump Controller	3#3/0, 1#4/0 Ground in 2 ½" conduit (underground)
Switchboard DPL-2	2 sets, 3-600 kCMIL, 1#1/0 Ground in each of (2) 4" conduit
To ATS-LS	4#2, 1#8 Ground in 1 ½" conduit
To ATS-EM	4#3/0, 1#6 Ground in 2" conduit
Distribution Panelboard DPH-DS	4-350 kCMIL, 1#4 Ground in 3" conduit
To Panel LPH-M1	4-600 kCMIL, 1#3 Ground in 4" conduit
To Panel LPH-M2	4#4/0, 1#4 Ground in 2 ½" conduit
To Panel LPH-M3	4-600 kCMIL, 1#3 Ground in 4" conduit
To Panel LPH-BA	4#2, 1#6 Ground in 1 ½" conduit
To Panel LPH-1A	4#2, 1#6 Ground in 1 ½" conduit
To PanelLPH-1B	4#2, 1#6 Ground in 1 ½" conduit
To Panel LPH-2A	4#2, 1#6 Ground in 1 ½" conduit
To Panel LPH-3A	4#2, 1#6 Ground in 1 ½" conduit
To Panel LPH-4A	4#2, 1#6 Ground in 1 ½" conduit
To Panel LPH-BB	4#2, 1#6 Ground in 1 ½" conduit
600V/600A/3P/SN/N1 Fused Disconnect Switch with (3) 500A Fuses	2 sets, 3-350 kCMIL, 1#1 Ground in each of (2) 3" conduit
400A/600V/3P/NF/N1 Disconnect Switch	3-350 kCMIL, 1#4 Ground in 3" conduit
20" Copper Ground Bus Bar	#4/0 bare copper ground conductor

Table 16: Receptacles

Straight Blade Receptacles	
Convenience Receptacles	125V, 20A, comply with NEMA WD 1, NEMA WD 6 configuration 5-20R and UL 498
Isolated-Ground, Duplex Convenience Receptacles	125V, 20A, comply with NEMA WD 1, NEMA WD 6 configuration 5-20R and UL 498
Tamper-Resistant Convenience Receptacles	125V, 20A, comply with NEMA WD 1, NEMA WD 6 configuration 5-20R and UL 498
GFCI Receptacles	
Duplex GFCI Receptacles	Straight blade, feed through type, comply with NEMA WD , NEMA WD 6, UL 498, Class A, and include indicator light that is lighted when device is tripped
TVSS Receptacles	
Duplex TVSS Convenience Rec.	Straight blade, 125V, 20A, NEMA WD 6 configuration 5-20R
Isolated-Ground Duplex Convenience Rec.	Straight blade, 125V, 20A, NEMA WD 6 configuration 5-20R
Twist Locking Receptacles	
Single Convenience Receptacles	125V, 20A, comply with NEMA WD 1, NEMA WD 6 configuration LS-20R and UL 498
Isolated –Ground Single Convenience Receptacles	125V, 20A, comply with NEMA WD1, NEMA WD 6 configuration L5-20R, and UL 498

Table 17: Switches and Receptacles Faceplates

Plate-Securing Screws	Metal with head color to match plate finish
Material for finished spaces	Steel with white baked enamel, suitable for field painting or smooth, high-impact thermoplastic 0.035" thick, satin-finished stainless steel
Material for unfinished spaces	Smooth, high-impact thermoplastic
Material for damp locations	Thermoplastic with spring-loaded lift cover, and listed and labeled for use in "wet locations"
Wet-Location, Weatherproof Cover Plates	NEMA 250, complying with type 3R weather-resistant, die-cast aluminum or thermoplastic with lockable cover

Table 18: Manual Motor Starters

Fractional Horsepower Manual Starter: NEMA ICS, AC general-purpose Class A manually operated, single pole, full voltage controller for fractional horsepower induction motors, with thermal overload unit, green pilot light, NO auxiliary contact and toggle operator
Motor Starting Switch: NEMA ICS 2, AC general-purpose Class A manually operated [single] [2] pole, full voltage controller for fractional horsepower induction motors, without thermal overload unit, red pilot light NO auxiliary contact, and pushbutton operator
Enclosure: ANSI/NEMA ICS 6, Type 1

2.8 Optional Back-Up Loads

The Tobin Center does not have an optional back-up power system.

2.9 Special/Communications Systems

The following special/communications systems are implemented into the design of the Tobin Center. They comply with the NEC 2008 Edition and AIA guidelines.

- Telephone/Data
- CATV
- Access Control
- Fire Alarm
- Overhead Paging/Intercom
- Security – Video Surveillance

2.10 Other Building Services

Telecom Service Entrance Room 053 has six (6) racks. Racks #1-3, #5 and #6 has space reserved for owner provided equipment. Rack #4 includes a fiber optic distribution unit and a voice cross connect.

2.11 Electrical and Communications Systems Spaces

The following electrical and communications systems spaces total to 7,064SF of 172,970SF total building. Therefore, these spaces account for 2.8% of the total square footage of the Tobin Center.

Lift Electrical Room (P11): 347 SF
Central Plant, where panels are (P04): 78 SF
Telecom (015): 163 SF
Main Electrical Room (063) : 1164 SF
Emergency Electrical Room (064): 159 SF
Electrical Room (065): 138 SF
Telecomm Service Entry (053): 299 SF
Electrical Room (035): 1155 SF
Telecomm (021): 83 SF
A/V Storage (171): 247 SF
Electrical Distribution Room (246): 198 SF
Electrical Room (331): 200 SF
Telecomm Room (314): 95 SF
Electrical Room (331): 200 SF
A/V Storage (333): 74 SF
Control Room (311): 310 SF

2.12 Energy Cost Savings and Energy Reduction Techniques

This project aims to achieve and is on track for LEED Silver for new construction. However, the project does not require that, if they slip a level. It is registered with the US Green Building Council as a LEED NCv2.2 project.

There is no exotic energy saving techniques designed into the building's electrical system. The only newer technology is the use of displacement cooling/air distribution. It allows all the conditioned air to be distributed near the patrons. As it warms, it rises to the top of the auditorium volume. Additionally, central dimming controls have been implanted in this building.

3.0 Evaluation of Criteria vs. Current Design

This section compares the as-designed systems to the criteria developed from Part 1: Electrical System Criteria and Scope of Work. This evaluation helps to suggest potential improvements and/or changes in the electrical system and overall building performance.

3.1 Building Load

Based on the calculations in parts 1 & 2, the estimated loads are less than the actual loads. It was expected for the actual lighting load to be much higher than what was estimated. LED technology reduces power consumption. However, theatrical lighting still remains traditional; therefore, no advanced technology currently supports the needs of theatrical productions. This is why they have high wattage consumption and are very expensive. Receptacle loads are somewhat similar to the actual connected load. HVAC and other loads, particularly special equipment, were underestimated. This was most likely due to the specific load types needed to be carried on the electrical system.

Table 19: Estimated Load vs. Actual Load

	Estimated Loads	**Actual Loads**
Lighting	240 kVA	650 kVA
Receptacles	173 kVA	167.5 kVA
HVAC	692 kVA	875 kVA
Other	173 kVA	3207.8 kVA

3.2 Power Company Rate Schedule

CPS Energy provides several different electric rates for commercial customers. Current rates include the following: (1) commercial general service electric rate, (2) large lighting and power electric rate, and (3) extra-large power service electric rate. The extra-large power service electric rate could be a possible alternative. Unlike the general service electric rate, it specifically pertains to premises whose monthly load is greater than 1,000 kW. If the general service rate were to be used, most likely charges would end up going back to the company, and charges would be altered to address the extra-large power rates.

3.3 Building Utilization Voltage

The building utilization voltage of 480/277V seems to be the most effective choice for energy consumption and efficiency. Referring back to the load breakdown in Table 10, majority of the loads run at 208/120V, whereas some at 480/277V. Although 208/120V seems fitting, it would not be in this case. This is because, with a building this size, wire sizes and energy consumption can be reduced. This is important because CPS Energy is producing 3 phases of power at very high voltages to aid transmission over long distances. Receptacles are to be operated on 120V. The mechanical system should also be run at 480/277V because if it were run at low voltage of 208/120V, it would be too costly to run, especially with the amount of equipment required. These factors support why power quality is a high priority.

3.4 Emergency Power System

The fuel source for the generator is No. 2 Diesel/Ultra Low Sulfur No. 2 Diesel, and the size of the generator is reasonable for the connected building loads. There are no noted discrepancies between identified code requirements in Part 1with the as-designed conditions. Based on the as-designed system, having the generator, emergency/life safety and legally required automatic transfer switches on the emergency power system is effective.

Based on further research, there is potential for a centralized emergency lighting inverter, as well. EON Model EL3, for example, has several benefiting factors:

- Offers more security and versatility to meet illumination requirements, especially for life safety
- Design flexibility
- Single point operation and maintenance
- Premium power and voltage regulation
- Generator compatibility
- Utility expense reduction

If this was to be implemented into the electrical system, it could be included on MSB-2 in the main electrical room. If not, there is space for growth capacity for future expansion.

EON Model EL3: http://www.controlledpwr.com/brochureFiles/109/EON_Brochure.pdf

3.5 General Equipment

The general equipment supplying power throughout the building is appropriate. Having two switchboards was effective, in a sense that each held certain loads. This supports the priority assessment of flexibility being high. If switchgear was used, certain features may cause it to preclude the use of special equipment. Switchboards not only provide a flexible system, but they are much cheaper than switchgears.

The four (4) main service transformers are owned by CPS Energy, and therefore, cannot be changed, unless otherwise stated by the power company.

The main service transformers each have a K-13 rating, which is most effective in handling harmonic loads. Having K-factor transformers reduce the heating effects of harmonic currents, in which they can withstand harmonic content while operating within the temperature limits of its insulating system. Having K-13 rated transformers maybe somewhat costly, but it allows for long-term usage. Perhaps, if the transformers were K-20 rated, harmonic loads would be even further reduced. However, even though initial cost is not of highest priority, this still would be too costly.

Conductors, conduit, and receptacles adhere to the requirements in the NEC 2011.

3.6 Optional Back-Up Power & UPS System

The current system does not have optional back-up power. This was unexpected, but logical. All emergency lighting power comes from the generator, and the elevators and emergency/life safety lighting comes from the automatic transfer switches.

A UPS would be suggested, but it is unnecessary. Not only will it be an added expense, but it has a relatively short runtime. This would not be beneficial if power was to go out in the building, and people are trying to evacuate, especially when encountering access control and security systems. The generator, in this case, is more reliable.

3.7 Cost Reduction Techniques

Since the building is on track to LEED Silver, cost reduction is not that high of a priority. It is in the Owner's interest to have more efficient transformers and higher quality equipment overall, especially when reducing power consumption. If this is what is desired, cost increases as quality increases. However, future costs will be reduced because equipment will have a longer lifespan with minor maintenance issues.

3.8 Potential System Integration

System integration throughout the building is reasonably integrated. There exists a BAS system that only runs the HVAC systems. Theatrical lighting and other certain building lighting, such as the exterior decorative color changing LEDs in the veil and the LEDs inside the balcony fronts, are on a central lighting control system.

Potential system integration could be an Energy Management System (EMS), which is similar to a BAS, but may have special emphasis on energy metering/monitoring. This would be beneficial, especially since the building is located in San Antonio, TX. Based on a temperature profile of San Antonio, the average high temperatures throughout the year are high, typically 63°F-96°F but can reach temperatures over 100°F (Figure 1). With temperatures this high, it is important for there to be occupant comfort and low energy use.

Figure 1: Monthly Temperatures for San Antonio, TX

With EMS, information is provided about energy and environmental conditions, as well as recommendations to fine-tune the optimization of energy efficiency and site operations. It presents sustainable savings opportunities through the use of intelligent controls of more than HVAC, including lighting, generators, refrigeration and coolers, and kitchen equipment. Additionally, it provides metering and submetering, as well as enhanced monitoring of system and overall building performance.

Although EMS has potential, BAS is the most efficient and appropriate system, especially for a performing arts building. Lighting control for theatrical lighting, in particular, has to be independent because it is constantly changing depending on the performance needs.

3.9 Energy Cost Savings & Energy Reduction Techniques

CPS Energy has a Demand Response program that helps reduce demand for energy during peak usage periods. In return, they provide generous incentives that make it worth the effort. It's designed to reduce peak load growth by incentivizing customers to shave off peak loads, especially during summer days.

Additionally, other energy cost savings and reduction techniques include:

Table 20: Energy Cost Savings & Reduction Techniques

Demand Management:	Controlling which equipment is running at certain times will have a positive effect on the demand
Demand Shifting:	More sophistication, such as thermal storage
Cogeneration:	Peak shaving

References

"Average Weather for San Antonio, TX - Temperature and Precipitation." *Average Weather for San Antonio, TX - Temperature and Precipitation*. N.p., n.d. Web. 07 Oct. 2013.

Controlled Power Company. "EON Model EL3 Centralized Emergency Lighting Inverters." N.p., n.d. Web.

Earley, Mark W., Jeffrey S. Sargent, Christopher D. Coache, and Richard J. Roux. *National Electrical Code Handbook*. Quincy, MA: National Fire Protection Association, 2011. Print.

"International Code Council." *International*. N.p., n.d. Web. 07 Oct. 2013.

Appendix A
Single Line Diagrams
&
Electrical Schedules

ELECTRICAL LOAD ANALYSIS: MSB-1

BASED ON 130,000 SQ. FT.

SYSTEM VOLTAGE - 480Y/277V, 3 PHASE, 4 WIRE + GND.

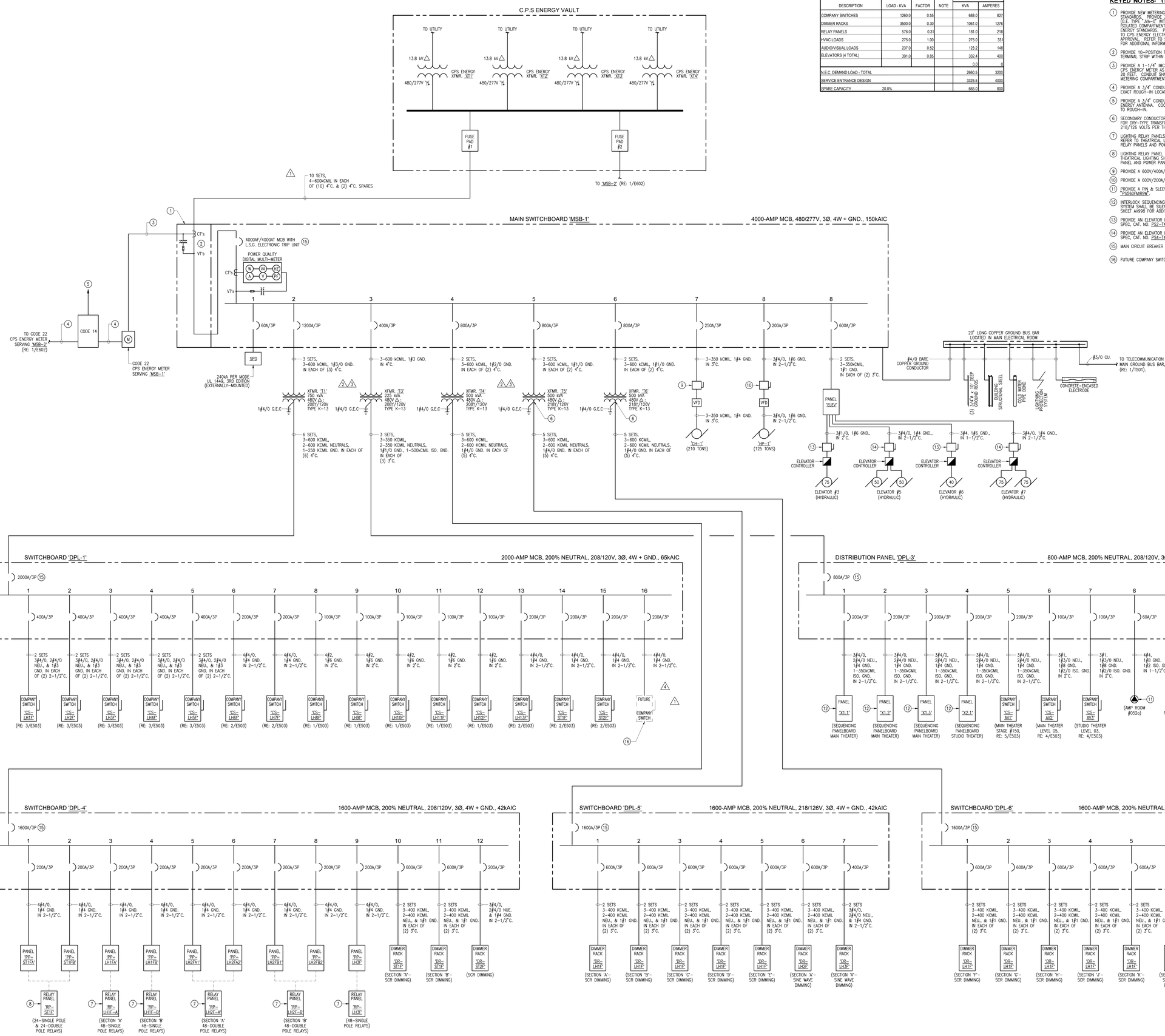
LOAD DESCRIPTION	CONNECTED LOAD - KVA	DEMAND FACTOR	SEE NOTE	DEMAND LOAD KVA	DEMAND LOAD AMPERES
COMPANY SWITCHES	1260.0	0.55		688.0	827
DIMMER RACKS	3500.0	0.30		1061.0	1276
RELAY PANELS	576.0	0.31		181.0	218
HVAC LOADS	275.0	1.00		275.0	331
AUDIO/VISUAL LOADS	237.0	0.52		123.2	148
ELEVATORS (4 TOTAL)	391.0	0.85		332.4	400
				0.0	0
N.E.C. DEMAND LOAD - TOTAL				2660.5	3200
SERVICE ENTRANCE DESIGN				3325.5	4000
SPARE CAPACITY 20.0%				665.0	800

GENERAL NOTES: (THIS SHEET ONLY)

1. WIRE AND CONDUIT SIZES SHALL BE CONTINUOUS ON THE LINE AND LOAD SIDE OF EQUIPMENT DISCONNECT SWITCHES, VFD's, CIRCUIT BREAKERS, AND COMBINATION MOTOR STARTERS.

KEYED NOTES: (THIS SHEET ONLY)

1. PROVIDE NEW METERING COMPARTMENT PER C.P.S. ENERGY ELECTRIC SERVICE STANDARDS. PROVIDE 3000:5 CT's (G.E. TYPE "JCD-0") AND VOLTAGE TRANSFORMERS (G.E. TYPE "JVA-0" WITH FUSES). SWITCHBOARD SHALL BE CONSTRUCTED WITH AN ISOLATED COMPARTMENT WITH PROVISIONS FOR METERING EQUIPMENT PER CPS ENERGY STANDARDS. PROVIDE MANUFACTURER'S PRODUCT DATA AND SUBMITTALS TO CPS ENERGY ELECTRIC SERVICE AND METERING DIVISION FOR THEIR REVIEW AND APPROVAL. REFER TO SECTION 1822 OF ELECTRIC SERVICE STANDARDS BOOK FOR ADDITIONAL INFORMATION.
2. PROVIDE 10-POSITION TERMINAL STRIP MOUNTED IN VERTICAL POSITION. INSTALL TERMINAL STRIP WITHIN CT AND VT ISOLATED COMPARTMENT.
3. PROVIDE A 1-1/4" IMC CONDUIT FROM SWITCHBOARD METERING COMPARTMENT TO CPS ENERGY METER AS INDICATED. MAXIMUM DISTANCE OF CONDUIT RUN SHALL BE 20 FEET. CONDUIT SHALL BE INSTALLED CONTINUOUS FROM THE SWITCHBOARD METERING COMPARTMENT TO THE CPS ENERGY METER.
4. PROVIDE A 3/4" CONDUIT WITH PULL STRING FOR TOTALIZED METERING. COORDINATE EXACT ROUGH-IN LOCATION WITH CPS ENERGY PRIOR TO ROUGH-IN.
5. PROVIDE A 3/4" CONDUIT WITH PULL STRING TO EXTERIOR OF BUILDING FOR CPS ENERGY ANTENNA. COORDINATE EXACT ROUGH-IN LOCATION WITH CPS ENERGY PRIOR TO ROUGH-IN.
6. SECONDARY CONDUCTORS SHALL BE CONNECTED TO THE +5% TAP ABOVE NORMAL FOR DRY-TYPE TRANSFORMER. SECONDARY VOLTAGE SHALL BE SET AT APPROXIMATELY 218/126 VOLTS PER THE THEATRICAL CONSULTANT'S RECOMMENDATION.
7. LIGHTING RELAY PANELS SERVED BY POWER PANELS "LP-1HF" THROUGH "LP-7HF". REFER TO THEATRICAL LIGHTING SHEET "TL 004" FOR ADDITIONAL INFORMATION. LIGHTING RELAY PANELS AND POWER PANELS SERVE THE LARGE HALL THEATER.
8. LIGHTING RELAY PANEL SERVED BY POWER PANEL "LP-ST1F" AND "LP-ST2F". REFER TO THEATRICAL LIGHTING SHEET "TL 008" FOR ADDITIONAL INFORMATION. LIGHTING RELAY PANEL AND POWER PANELS SERVE THE STUDIO THEATER.
9. PROVIDE A 600V/400A/3P/NF/N1 DISCONNECT SWITCH.
10. PROVIDE A 600V/200A/3P/NF/N1 DISCONNECT SWITCH.
11. PROVIDE A PIN & SLEEVE RECEPTACLE EQUAL TO LEGRAND/PASS & SEYMOUR, CAT. NO. "PS460FMRDW".
12. INTERLOCK SEQUENCING PANELBOARD WITH FIRE ALARM AND CONTROL SYSTEM. AUDIO SYSTEM SHALL BE SILENCED/MUTED UPON ACTIVATION OF A FIRE ALARM. REFER TO SHEET A6998 FOR ADDITIONAL INFORMATION REGARDING SEQUENCING PANELBOARD.
13. PROVIDE AN ELEVATOR POWER MODULE SWITCH EQUAL TO COOPER BUSSMAN QUICK-SPEC, CAT. NO. PS2-T4B-R1-K-G-B-F3.
14. PROVIDE AN ELEVATOR POWER MODULE SWITCH EQUAL TO COOPER BUSSMAN QUICK-SPEC, CAT. NO. PS4-T4B-R1-K-G-B-F3.
15. MAIN CIRCUIT BREAKER SHALL BE 100% RATED FOR THE AMPACITY INDICATED.
16. FUTURE COMPANY SWITCH PROVIDED UNDER SEPARATE PROJECT. (4)



1 ELECTRICAL SINGLE LINE DIAGRAM
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TOBIN CENTER FOR THE PERFORMING ARTS

Submittal

CONFORMED CONSTRUCTION DOCUMENTS #2

Revisions

No.	Date	By	Description
1	10/31/11		CONFORMED CONSTRUCTION DOCS #1
2	11/16/11		COSA REVIEW COMMENTS
3	12/05/11		CPR #007
4	03/06/12		CPR #011

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LMN Proj No 07036.01
Date 6/1/2012

Sheet Title

ELECTRICAL SINGLE LINE DIAGRAM

Sheet Number

E601

ELECTRICAL LOAD ANALYSIS: MSB-2

BASED ON 130,000 SQ. FT.

SYSTEM VOLTAGE - 480Y/277V, 3 PHASE, 4 WIRE + GND.

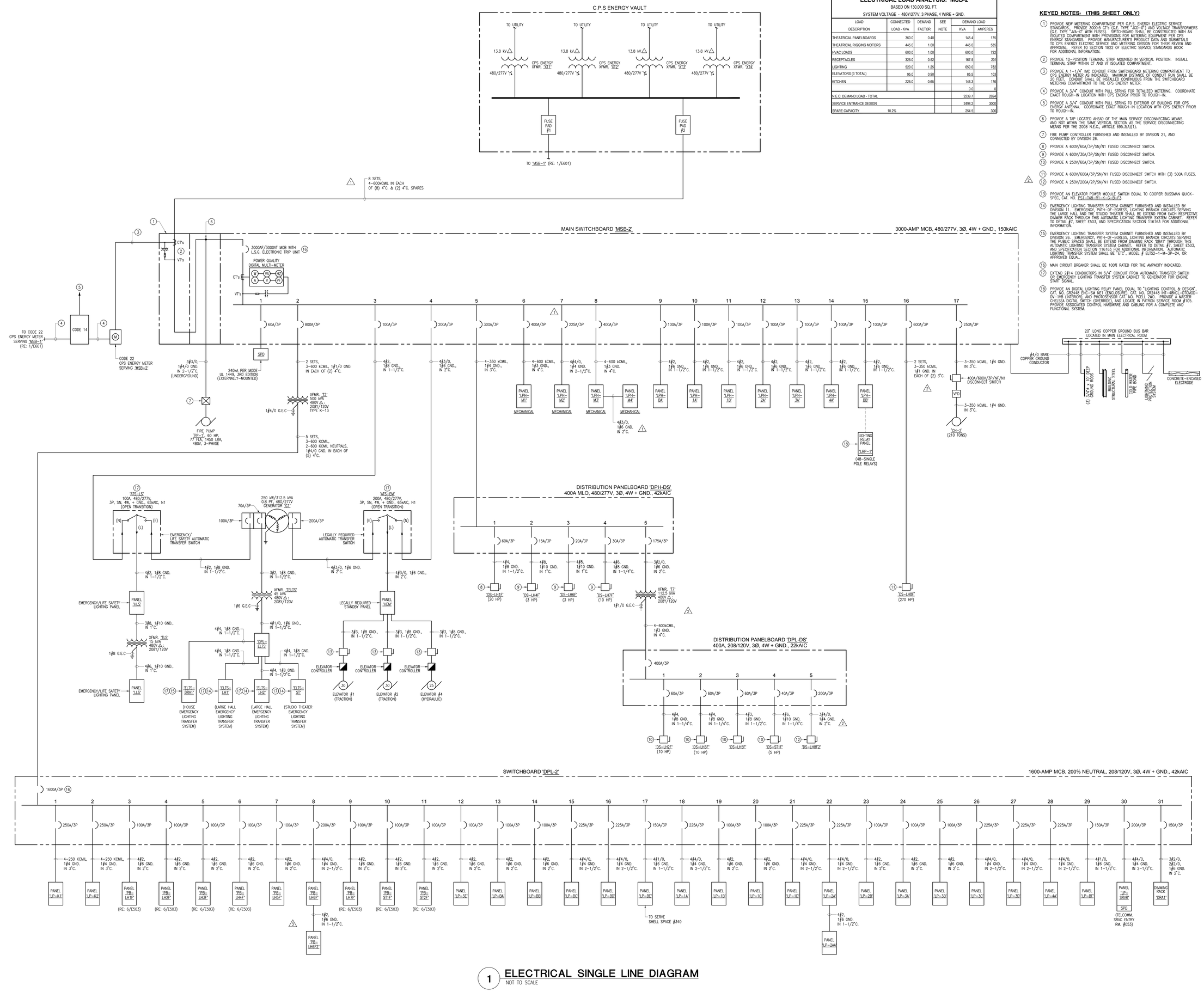
LOAD DESCRIPTION	CONNECTED LOAD - KVA	DEMAND FACTOR	SEE NOTE	DEMAND LOAD KVA	DEMAND LOAD AMPERES
THEATRICAL PANELBOARDS	360.0	0.40		145.4	175
THEATRICAL RIGGING MOTORS	445.0	1.00		445.0	535
HVAC LOADS	600.0	1.00		600.0	722
RECEPTACLES	325.0	0.52		167.5	201
LIGHTING	520.0	1.25		650.0	782
ELEVATORS (3 TOTAL)	95.0	0.90		85.5	103
KITCHEN	225.0	0.65		146.3	176
				0.0	0
N.E.C. DEMAND LOAD - TOTAL				2239.7	2694
SERVICE ENTRANCE DESIGN				2494.2	3000
SPARE CAPACITY 10.2%				254.5	306

GENERAL NOTES: (THIS SHEET ONLY)

1. WIRE AND CONDUIT SIZES SHALL BE CONTINUOUS ON THE LINE AND LOAD SIDE OF EQUIPMENT DISCONNECT SWITCHES, VFD's, CIRCUIT BREAKERS, AND COMBINATION MOTOR STARTERS.

KEYED NOTES: (THIS SHEET ONLY)

1. PROVIDE NEW METERING COMPARTMENT PER C.P.S. ENERGY ELECTRIC SERVICE STANDARDS. PROVIDE 3000:5 CT's (G.E. TYPE "JCD-0") AND VOLTAGE TRANSFORMERS (G.E. TYPE "JVM-0" WITH FUSES). SWITCHBOARD SHALL BE CONSTRUCTED WITH AN ISOLATED COMPARTMENT WITH PROVISIONS FOR METERING EQUIPMENT PER CPS ENERGY STANDARDS. PROVIDE MANUFACTURER'S PRODUCT DATA AND SUBMITTALS TO CPS ENERGY ELECTRIC SERVICE AND METERING DIVISION FOR THEIR REVIEW AND APPROVAL. REFER TO SECTION 1822 OF ELECTRIC SERVICE STANDARDS BOOK FOR ADDITIONAL INFORMATION.
2. PROVIDE 10-POSITION TERMINAL STRIP MOUNTED IN VERTICAL POSITION. INSTALL TERMINAL STRIP WITHIN CT AND VT ISOLATED COMPARTMENT.
3. PROVIDE A 1-1/4" IMC CONDUIT FROM SWITCHBOARD METERING COMPARTMENT TO CPS ENERGY METER AS INDICATED. MAXIMUM DISTANCE OF CONDUIT RUN SHALL BE 20 FEET. CONDUIT SHALL BE INSTALLED CONTINUOUS FROM THE SWITCHBOARD METERING COMPARTMENT TO THE CPS ENERGY METER.
4. PROVIDE A 3/4" CONDUIT WITH PULL STRING FOR TOTALIZED METERING. COORDINATE EXACT ROUGH-IN LOCATION WITH CPS ENERGY PRIOR TO ROUGH-IN.
5. PROVIDE A 3/4" CONDUIT WITH PULL STRING TO EXTERIOR OF BUILDING FOR CPS ENERGY ANTENNA. COORDINATE EXACT ROUGH-IN LOCATION WITH CPS ENERGY PRIOR TO ROUGH-IN.
6. PROVIDE A TAP LOCATED AHEAD OF THE MAIN SERVICE DISCONNECTING MEANS AND NOT WITHIN THE SAME VERTICAL SECTION AS THE SERVICE DISCONNECTING MEANS PER THE 2008 N.E.C., ARTICLE 695.3(A)(1).
7. FIRE PUMP CONTROLLER FURNISHED AND INSTALLED BY DIVISION 21, AND CONNECTED BY DIVISION 26.
8. PROVIDE A 600V/60A/3P/SN/N1 FUSED DISCONNECT SWITCH.
9. PROVIDE A 600V/30A/3P/SN/N1 FUSED DISCONNECT SWITCH.
10. PROVIDE A 250V/60A/3P/SN/N1 FUSED DISCONNECT SWITCH.
11. PROVIDE A 600V/600A/3P/SN/N1 FUSED DISCONNECT SWITCH WITH (3) 500A FUSES.
12. PROVIDE A 250V/200A/2P/SN/N1 FUSED DISCONNECT SWITCH.
13. PROVIDE AN ELEVATOR POWER MODULE SWITCH EQUAL TO COOPER BUSSMAN QUICK-SPEC, CAT. NO. PS1-146-R1-C-G-B-F3
14. EMERGENCY LIGHTING TRANSFER SYSTEM CABINET FURNISHED AND INSTALLED BY DIVISION 11. EMERGENCY, PATH-OF-EGRESS, LIGHTING BRANCH CIRCUITS SERVING THE LARGE HALL AND THE STUDIO THEATER SHALL BE EXTEND FROM EACH RESPECTIVE DIMMER RACK THROUGH THIS AUTOMATIC LIGHTING TRANSFER SYSTEM CABINET. REFER TO DETAIL #7, SHEET E503, AND SPECIFICATION SECTION 116163 FOR ADDITIONAL INFORMATION.
15. EMERGENCY LIGHTING TRANSFER SYSTEM CABINET FURNISHED AND INSTALLED BY DIVISION 26. EMERGENCY, PATH-OF-EGRESS, LIGHTING BRANCH CIRCUITS SERVING THE PUBLIC SPACES SHALL BE EXTEND FROM DIMMING RACK "DRA1" THROUGH THIS AUTOMATIC LIGHTING TRANSFER SYSTEM CABINET. REFER TO DETAIL #7, SHEET E503, AND SPECIFICATION SECTION 116163 FOR ADDITIONAL INFORMATION. AUTOMATIC LIGHTING TRANSFER SYSTEM SHALL BE "ETC", MODEL # ELTS2-1-M-3P-24, OR APPROVED EQUAL.
16. MAIN CIRCUIT BREAKER SHALL BE 100% RATED FOR THE AMPACITY INDICATED.
17. EXTEND 2#14 CONDUCTORS IN 3/4" CONDUIT FROM AUTOMATIC TRANSFER SWITCH OR EMERGENCY LIGHTING TRANSFER SYSTEM CABINET TO GENERATOR FOR ENGINE START SIGNAL.
18. PROVIDE AN DIGITAL LIGHTING RELAY PANEL EQUAL TO "LIGHTING CONTROL & DESIGN", CAT. NO. GR2448 ENC-SM NE1 (ENCLOSURE), CAT. NO. GR2448 INT-48NCL-DTCMOD-DV-1VB (INTERIOR), AND PHOTOSENSOR CAT. NO. PCELL 2WO. PROVIDE A MASTER CHELSEA DIGITAL SWITCH (OVERRIDE), AND LOCATE IN PATRON SERVICE ROOM #105. PROVIDE ASSOCIATED CONTROL HARDWARE AND CABLING FOR A COMPLETE AND FUNCTIONAL SYSTEM.



1 ELECTRICAL SINGLE LINE DIAGRAM
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LMN Proj No 07036.01
Date 6/1/2012

Sheet Title:

ELECTRICAL SINGLE LINE DIAGRAM

Sheet Number

E602

MAIN SWITCHBOARD 'MSB-1'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : *4000A | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : | MOUNTING : SURFACE
LOCATION : | BUSSING : 4000A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 480/277V, 3PH, 4W | PROVIDE : NEUTRAL BUS, GROUND BUS
SCHEDULE DATE : 10/27/11 | INTERRUPTING : 150 kAIC RMS SYM | EXTERNAL SPD DEVICE

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	60	3	SURGE PROTECTIVE DEVICE		-	A	-	234,200	TRANSFORMER 'T1'	**1200	3	2
					-	B	-	234,200				
					-	C	-	234,200				
3	400	3	TRANSFORMER 'T3'	65,000	-	A	-	131,282	TRANSFORMER 'T4'	800	3	4
				65,000	-	B	-	132,615				
				65,960	-	C	-	131,872				
5	800	3	TRANSFORMER 'T5'	142,198	-	A	-	124,998	TRANSFORMER 'T6'	800	3	6
				142,198	-	B	-	124,998				
				142,198	-	C	-	124,998				
7	250	3	CHILLER 'CH-1'	50,000	6	A	6	42,000	HEAT PUMP 'HP-1'	175	3	8
				50,000	6	B	6	42,000				
				50,000	6	C	6	42,000				
9	600	3	PANEL 'ELV1'	137,981	8	A			BUSSED SPACE			10
				137,981	8	B						
				137,981	8	C						
11			BUSSED SPACE			A			BUSSED SPACE			12
						B						
						C						
13			BUSSED SPACE			A			BUSSED SPACE			14
						B						
						C						
15			BUSSED SPACE			A			BUSSED SPACE			16
						B						
						C						
17			BUSSED SPACE			A			BUSSED SPACE			18
						B						
						C						

	PANEL	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS
PHASE A	92,000	835,659	0	927,659	946,661	3,418
PHASE B	92,000	836,992	0	928,992	948,011	3,422
PHASE C	92,000	837,209	0	929,209	948,233	3,423
TOTAL	276,000	0	0	2,785,860	2,842,895	3,421

NOTES :
* PROVIDE CIRCUIT BREAKER WITH GROUND-FAULT PROTECTION AND L.S.G.
ELECTRONIC TRIP UNIT.
** PROVIDE CIRCUIT BREAKER WITH GROUND-FAULT PROTECTION.

GOETTING & ASSOCIATES R1.0

SWITCHBOARD 'DPL-1'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : *2000A | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : | MOUNTING : SURFACE
LOCATION : | BUSSING : 2000A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : 200% NEUTRAL BUS,
SCHEDULE DATE : 10/27/11 | INTERRUPTING : 65 kAIC RMS SYM | GROUND BUS

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	400	3	COMPANY SWITCH 'CS-LH1F'	28,800	2	A	2	28,800	COMPANY SWITCH 'CS-LH2F'	400	3	2
				28,800	2	B	2	28,800				
				28,800	2	C	2	28,800				
3	400	3	COMPANY SWITCH 'CS-LH3F'	28,800	2	A	2	28,800	COMPANY SWITCH 'CS-LH4F'	400	3	4
				28,800	2	B	2	28,800				
				28,800	2	C	2	28,800				
5	400	3	COMPANY SWITCH 'CS-LH5F'	24,000	2	A	2	12,000	COMPANY SWITCH 'CS-LH6F'	200	3	6
				24,000	2	B	2	12,000				
				24,000	2	C	2	12,000				
7	200	3	COMPANY SWITCH 'CS-LH7F'	12,000	2	A	2	6,000	COMPANY SWITCH 'CS-LH8F'	100	3	8
				12,000	2	B	2	6,000				
				12,000	2	C	2	6,000				
9	100	3	COMPANY SWITCH 'CS-LH9F'	6,000	2	A	2	6,000	COMPANY SWITCH 'CS-LH10F'	100	3	10
				6,000	2	B	2	6,000				
				6,000	2	C	2	6,000				
11	100	3	COMPANY SWITCH 'CS-LH11F'	6,000	2	A	2	6,000	COMPANY SWITCH 'CS-LH12F'	100	3	12
				6,000	2	B	2	6,000				
				6,000	2	C	2	6,000				
13	200	3	COMPANY SWITCH 'CS-LH13F'	12,000	2	A	2	12,000	COMPANY SWITCH 'CS-ST1F'	200	3	14
				12,000	2	B	2	12,000				
				12,000	2	C	2	12,000				
15	200	3	COMPANY SWITCH 'CS-ST2F'	12,000	2	A	2	5,000	COMPANY SWITCH 'CS-PLZ'	200	3	16
				12,000	2	B	2	5,000				
				12,000	2	C	2	5,000				
17			BUSSED SPACE			A			BUSSED SPACE			18
						B						
						C						
19			BUSSED SPACE			A			BUSSED SPACE			20
						B						
						C						

	PANEL	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS
PHASE A	234,200	0	0	234,200	234,200	1,952
PHASE B	234,200	0	0	234,200	234,200	1,952
PHASE C	234,200	0	0	234,200	234,200	1,952
TOTAL	702,600	0	0	702,600	702,600	1,952

NOTES :
* PROVIDE 100% RATED CIRCUIT BREAKER.

GOETTING & ASSOCIATES R1.0

SWITCHBOARD 'DPL-3'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : 800A | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : | MOUNTING : SURFACE
LOCATION : | BUSSING : 800A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : 200% NEUTRAL BUS,
SCHEDULE DATE : 10/27/11 | INTERRUPTING : 35 kAIC RMS SYM | ISO. GROUND BUS, GROUND BUS

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	200	3	AV SEQUENCING PANEL 'X1.1'	6,000	-	A	-	7,000	AV SEQUENCING PANEL 'X1.2'	200	3	2
				6,000	-	B	-	7,000				
				6,740	-	C	-	6,240				
3	200	3	AV SEQUENCING PANEL 'X1.3'	7,500	-	A	-	7,000	AV SEQUENCING PANEL 'X2.1'	200	3	4
				7,500	-	B	-	7,000				
				8,740	-	C	-	6,740				
5	200	3	COMPANY SWITCH 'MAIN THEATER' (STAGE #150)	12,500	2	A	2	6,000	COMPANY SWITCH 'MAIN THEATER' (LEVEL 5)	100	3	6
				12,500	2	B	2	6,000				
				12,500	2	C	2	6,000				
7	100	3	COMPANY SWITCH 'STUDIO THEATRE' (LEVEL 3)	6,000	2	A	2	4,000	PIN & SLEEVE RECEPTACLE (AMP ROOM)	60	3	8
				6,000	2	B	2	4,000				
				6,000	2	C	2	4,000				
9	60	3	PIN & SLEEVE RECEPTACLE (CONTROL ROOM)	4,000	2	A	2	5,000	COMPANY SWITCH 'CS-AV-PLZ'	200	3	10
				4,000	2	B	2	5,000				
				4,000	2	C	2	5,000				
11			BUSSED SPACE			A			BUSSED SPACE			12
						B						
						C						
13			BUSSED SPACE			A			BUSSED SPACE			14
						B						
						C						

	PANEL	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS
PHASE A	37,500	27,500	0	65,000	65,000	542
PHASE B	37,500	27,500	0	65,000	65,000	542
PHASE C	37,500	28,460	0	65,960	65,960	550
TOTAL	112,500	0	0	195,960	195,960	544

NOTES :

GOETTING & ASSOCIATES R1.0

AUDIO VISUAL SYSTEM SEQUENCING PANEL 'X1.1'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : 225A | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : 1 | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : 200% NEUTRAL BUS, GND. BUS
SCHEDULE DATE : 09/13/11 | INTERRUPTING : 10 kAIC RMS SYM | ISOLATED GROUND BUS

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	EQUIPMENT RACK R1.1, RM. 198	500	2	A	2	500	EQUIPMENT RACK R1.1, RM. 198	20	1	2
3	20	1	EQUIPMENT RACK R1.1, RM. 198	500	2	B	2	500	EQUIPMENT RACK R1.1, RM. 198	20	1	4
5	20	1	EQUIPMENT RACK R1.1, RM. 198	500	2	C	2	500	EQUIPMENT RACK R1.1, RM. 198	20	1	6
7	20	1	EQUIPMENT RACK R1.1, RM. 198	500	2	A	2	500	EQUIPMENT RACK R1.1, RM. 198	20	1	8
9	20	1	EQUIPMENT RACK R1.1, RM. 198	500	2	B	2	500	EQUIPMENT RACK R1.1, RM. 198	20	1	10
11	20	1	EQUIPMENT RACK R1.1, RM. 198	500	2	C	2	500	EQUIPMENT RACK R1.1, RM. 198	20	1	12
13	20	1	EQUIPMENT RACK R1.1, RM. 052	500	2	A	2	500	EQUIPMENT RACK R1.1, RM. 052	20	1	14
15	20	1	EQUIPMENT RACK R1.1, RM. 052	500	2	B	2	500	EQUIPMENT RACK R1.1, RM. 052	20	1	16
17	20	1	EQUIPMENT RACK R1.1, RM. 052	500	2	C	2	500	EQUIPMENT RACK R1.1, RM. 052	20	1	18
19	20	1	EQUIPMENT RACK R1.1, RM. 052	500	2	A	2	500	EQUIPMENT RACK R1.1, RM. 052	20	1	20
21	20	1	EQUIPMENT RACK R1.1, RM. 052	500	2	B	2	500	EQUIPMENT RACK R1.1, RM. 052	20	1	22
23	20	1	EQUIPMENT RACK R1.1, RM. 052	500	2	C	2	500	EQUIPMENT RACK R1.1, RM. 052	20	1	24
25	20	1	RECEPTACLE RM. P08, AV BOX A1.11	500	2	A	2	500	RECEPTACLE RM. P08, AV BOX A1.11	20	1	26
27	30	1	RECEPTACLE RM. 197, AV BOX A1.12	500	2	B	2	500	RECEPTACLE RM. 197, AV BOX A1.12	20	1	28
29	20	1	RECEPTACLE RM. 021, AV BOX R6.0	500	2	C	2	500	RECEPTACLE RM. 193, AV BOX A2.6, A2.7	20	1	30
31	20	1	RECEPTACLE RM. 190, AV BOX A2.5	500	2	A	2	500	RECEPTACLE RM. 190, AV BOX A2.3	20	1	32
33	20	1	RECEPTACLE RM. 190, AV BOX A2.4	500	2	B	2	500	RECEPTACLE RM. 204, AV BOX A3.3	20	1	34
35	20	1	RM. 380, AV BOX A2.18, A2.19	500	2	C	2	500	RM. 452, AV BOX A2.23, A2.24	20	1	36
37	20	1	SPARE		2	A	2		SPARE	20	1	38
39	20	1	SPARE		2	B	2		SPARE	20	1	40
41	20	1	RM. 114, AV BOX T3.1, T3.2	500	2	C	2	240	SEQUENCER POWER SUPPLY	10	1	42

	PANEL	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS
PHASE A	6,000	0	0	6,000	6,000	50
PHASE B	6,000	0	0	6,000	6,000	50
PHASE C	6,740	0	0	6,740	6,740	56
TOTAL	18,740	0	0	18,740	18,740	52

NOTES :
1 SEQUENCING PANEL PROVIDED BY DIVISION 2900000, AND CONNECTED BY DIVISION 2600000.
PANEL IS INDICATED FOR LOADING PURPOSES ONLY.

GOETTING & ASSOCIATES R1.0

AUDIO VISUAL SYSTEM SEQUENCING PANEL 'X1.2'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : 225A | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : 1 | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : 200% NEUTRAL BUS, GND. BUS
SCHEDULE DATE : 09/13/11 | INTERRUPTING : 10 kAIC RMS SYM | ISOLATED GROUND BUS

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	RECEPTACLE RM. 071, AV BOX A1.5	500	2	A	2	500	RECEPTACLE RM. 071, AV BOX A1.5	20	1	2
3	20	1	RECEPTACLE RM. P06, AV BOX A1.6	500	2	B	2	500	RECEPTACLE RM. 190, AV BOX A2.2	20	1	4
5	20	1	RECEPTACLE RM. 190, AV BOX A2.2	500	2	C	2	500	RECEPTACLE RM. 190, AV BOX A1.1	20	1	6
7	20	1	RECEPTACLE RM. 150, AV BOX A1.1	500	2	A	2	500	RECEPTACLE RM. 150, AV BOX A1.2	20	1	8
9	20	1	RECEPTACLE RM. 150, AV BOX A1.2	500	2	B	2	500	RECEPTACLE RM. 150, AV BOX A1.3	20	1	10
11	20	1	RECEPTACLE RM. 150, AV BOX A1.4	500	2	C	2	500	RM 150, AV BOX R1.10, R1.11	20	1	12
13	20	1	RM 150, AV BOX R1.12, R1.13	500	2	A	2	500	RECEPTACLE RM. 166, AV BOX A3.2	20	1	14
15	20	1	RECEPTACLE RM. 171, AV BOX R6.1	500	2	B	2	500	RECEPTACLE RM. 224, AV BOX A2.8	20	1	16
17	20	1	RECEPTACLE RM. 226, AV BOX A2.9	500	2	C	2	500	RECEPTACLE RM. 226, AV BOX A2.11	20	1	18
19	20	1	RECEPTACLE RM. 224, AV BOX A2.10	500	2	A	2	500	RECEPTACLE RM. 225, AV BOX A2.12	20	1	20
21	20	2	CATWALK RECEPTACLE - RELAY 227	604	2	B	2	500	RECEPTACLE RM. 305, AV BOX A2.14	20	1	22
23	20	1	RECEPTACLE RM. 303, AV BOX A2.15	500	2	C	2	500	RECEPTACLE RM. 305, AV BOX A2.16	20	1	24
25	30	1	RECEPTACLE RM. 303, AV BOX A2.17	500	2	A	2	500	RECEPTACLE RM. 150, AV BOX A1.7	20	1	26
27	30	1	RECEPTACLE RM. 405, AV BOX A2.21	500	2	B	2	500	RECEPTACLE RM. 403, AV BOX A2.20	20	1	28
29	20	1	RECEPTACLE RM. 071, AV BOX W1.0	500	2	C	2	500	RECEPTACLE RM. 404, AV BOX A2.22	20	1	30
31	20	1	RECEPTACLE RM. 071, AV BOX W1.0	500	2	A	2	500	-	20	1	32
33	20	1	RECEPTACLE RM. 071, AV BOX W1.0	500	2	B	2	500	-	20	1	34
35	20	1	RECEPTACLE RM. 071, AV BOX W1.0	500	2	C	2	500	-	20	1	36
37	20	1	RECEPTACLE RM. 071, AV BOX W1.0	500	2	A	2	500	-	20	1	38
39	20	1	RECEPTACLE RM. 071, AV BOX W1.0	500	2	B	2	500	-	20	1	40
41	20	1	SPARE		2	C	2	240	SEQUENCER POWER SUPPLY	10	1	42

	PANEL	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS
PHASE A	7,000	0	0	7,000	7,000	58
PHASE B	7,000	0	0	7,000	7,000	58
PHASE C	6,240	0	0	6,240	6,240	52
TOTAL	20,240	0	0	20,240	20,240	56

NOTES :
1 SEQUENCING PANEL PROVIDED BY DIVISION 2900000, AND CONNECTED BY DIVISION 2600000.
PANEL IS INDICATED FOR LOADING PURPOSES ONLY.

GOETTING & ASSOCIATES R1.0

AUDIO VISUAL SYSTEM SEQUENCING PANEL 'X1.3'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : 225A | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : 1 | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : 200% NEUTRAL BUS, GND. BUS
SCHEDULE DATE : 09/13/11 | INTERRUPTING : 10 kAIC RMS SYM | ISOLATED GROUND BUS

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	30	1	STG GRD, MN SPK, HOUSE LFT, AV BOX C1.1	500	2	A	2	500	STG GRD, MN SPK, HOUSE LFT, AV BOX C1.1	30	1	2
3	30	1	STG GRD, MN SPK, HOUSE LFT, AV BOX C1.1	500	2	B	2	500	STG GRD, MN SPK, HOUSE LFT, AV BOX C1.1	30	1	4
5	30	1	STG GRD, MN SPK, HOUSE LFT, AV BOX C1.1	500	2	C	2	500	STG GRD, MN SPK, HOUSE RGT, AV BOX C1.2	30	1	6
7	30	1	STG GRD, MN SPK, HOUSE RGT, AV BOX C1.2	500	2	A	2	500	STG GRD, MN SPK, HOUSE RGT, AV BOX C1.2	30	1	8
9	30	1	STG GRD, MN SPK, HOUSE RGT, AV BOX C1.2	500	2	B	2	500	STG GRD, MN SPK, HOUSE RGT, AV BOX C1.2	30	1	10
11	30	1	STG GRD, MN SPK, CNTR TOP, AV BOX C1.3	500	2	C	2	500	STG GRD, MN SPK, CNTR TOP, AV BOX C1.3	30	1	12
13	30	1	STG GRD, MN SPK, CNTR TOP, AV BOX C1.3	500	2	A	2	500	STG GRD, MN SPK, CNTR BTM, AV BOX C1.4	30	1	14
15	30	1	STG GRD, MN SPK, CNTR BTM, AV BOX C1.4	500	2	B	2	500	STG GRD, MN SPK, CNTR BTM, AV BOX C1.4	20	1	16
17	20	1	BOX FILL SPK, HOUSE LFT TOP, AV BOX C10.1	500	2	C	2	500	BOX FILL SPK, HOUSE LFT MDL, AV BOX C10.2	20	1	18
19	20	1	BOX FILL SPK, HOUSE LFT BTM, AV BOX C10.3	500	2	A	2	500	BOX FILL SPK, HOUSE RGT TOP, AV BOX C10.4	20	1	20
21	20	1	BOX FILL SPK, HOUSE RGT MDL, AV BOX C10.5	500	2	B	2	500	BOX FILL SPK, HOUSE RGT BTM, AV BOX C10.6	20	1	22
23	20	1	ANN SPK, HOUSE LFT TOP, AV BOX C12.1	500	2	C	2	500	ANN SPK, HOUSE LFT MDL, AV BOX C12.2	20	1	24
25	30	1	ANN SPK, HOUSE LFT BTM, AV BOX C12.3	500	2	A	2	500	ANN SPK, HOUSE RGT TOP, AV BOX C12.4	20	1	26
27	30	1	ANN SPK, HOUSE RGT MDL, AV BOX C12.5	500	2	B	2	500	ANN SPK, HOUSE RGT BTM, AV BOX C12.6	20	1	28
29	30	2	SUBWOOFERS, AV BOX C2.1	1,000	2	C	2	1,000	SUBWOOFERS, AV BOX C2.1	30	2	30
31	-	-		1,000	2	A	2	1,000	-	-	-	32
33	30	2	SUBWOOFERS, AV BOX C2.2	1,000	2	B	2	1,000	SUBWOOFERS, AV BOX C2.2	30	2	34
35	-	-		1,000	2	C	2	1,000	-	-	-	36
37	20	1	IR EMITTERS, AV BOX T1.1, T1.2, T1.3	500	2	A	2		SPARE	30	1	38
39	20	1	IR EMITTERS, AV BOX T1.4, T1.5, T1.6	500	2	B	2		SPARE	20	1	40
41	20	1	FORE STAGE GRD, AV BOX A1.9, T1.7	500	2	C	2	240	SEQUENCER POWER SUPPLY	10	1	42

	PANEL	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS
PHASE A	7,500	0	0	7,500	7,500	63
PHASE B	7,500	0	0	7,500	7,500	63
PHASE C	8,740	0	0	8,740	8,740	73
TOTAL	23,740	0	0	23,740	23,740	66

NOTES :
1 SEQUENCING PANEL PROVIDED BY DIVISION 2900000, AND CONNECTED BY DIVISION 2600000.
PANEL IS INDICATED FOR LOADING PURPOSES ONLY.

GOETTING & ASSOCIATES R1.0

AUDIO VISUAL SYSTEM SEQUENCING PANEL 'X2.1'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : 225A | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : 1 | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : 200% NEUTRAL BUS, GND. BUS
SCHEDULE DATE : 10/27/11 | INTERRUPTING : 10 kAIC RMS SYM | ISOLATED GROUND BUS

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	RECEPTACLE RM. 130, AV BOX B1.1	500	2	A	2	500	RECEPTACLE RM. 130, AV BOX B1.2	20	1	2
3	20	1	RECEPTACLE RM. 130, AV BOX B1.1	500	2	B	2	500	RECEPTACLE RM. 130, AV BOX B1.2	20	1	4
5	20	1	RECEPTACLE RM. 130, AV BOX B1.3	500	2	C	2	500	RECEPTACLE RM. 130, AV BOX B1.4	20	1	6
7	20	1	RECEPTACLE RM. 130, AV BOX B1.5	500	2	A	2	500	RECEPTACLE RM. 130, AV BOX B1.5	20	1	8
9	20	1	RECEPTACLE RM. 130, AV BOX B1.6	500	2	B	2	500	RECEPTACLE RM. 130, AV BOX B1.7	20	1	10
11	20	1	RECEPTACLE RM. 130, AV BOX B2.1	500	2	C	2	500	RECEPTACLE RM. 130, AV BOX B2.2	20	1	12
13	20	1	RECEPTACLE RM. 130, AV BOX B2.3	500	2	A	2	500	RECEPTACLE RM. 130, AV BOX B2.3	20	1	14
15	20	1	RECEPTACLE RM. 130, AV BOX B2.3	500	2	B	2	500	RECEPTACLE RM. 130, AV BOX B2.3	20	1	16
17	20	1	RECEPTACLE RM. 130, AV BOX B2.4	500	2	C	2	500	RECEPTACLE RM. 130, AV BOX B2.5	20	1	18
19	20	1	RECEPTACLE RM. 130, AV BOX B2.5	500	2	A	2	500	RECEPTACLE RM. 130, AV BOX B2.5	20	1	20
21	20	1	RECEPTACLE RM. 130, AV BOX B2.5	500	2	B	2	500	RECEPTACLE RM. 130, AV BOX B2.6	20	1	22
23	20	1	RECEPTACLE RM. 311	500	2	C	2	500	RECEPTACLE RM. 311	20	1	24
25	20	1	RECEPTACLE RM. 311, EQUIP. RACK R2.1	500	2	A	2	500	RECEPTACLE RM. 311, EQUIP. RACK R2.1	20	1	26
27	20	1	RECEPTACLE RM. 311, EQUIP. RACK R2.1	500	2	B	2	500	RECEPTACLE RM. 311, EQUIP. RACK R2.1	20	1	28
29	20	1	RECEPTACLE RM. 311, EQUIP. RACK R2.1	500	2	C	2	500	RECEPTACLE RM. 311, EQUIP. RACK R2.1	20	1	30
31	20	1	SPARE	500	2	A	2	500	SPARE	20	1	32
33	20	1	SPARE	500	2	B	2	500	SPARE	20	1	34
35	20	1	SPARE	500	2	C	2	500	SPARE	20	1	36
37	20	1	SPARE	500	2	A	2	500	SPARE	20	1	38
39	20	1	IR EMITTERS RM. 130, AV BOX T2.2, T2.4	500	2	B	2	500	IR EMITTERS RM. 130, AV BOX T2.1, T2.3	20	1	40
41	20	1		500	2	C	2	240	SEQUENCER POWER SUPPLY	10	1	42

	PANEL	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS
PHASE A	7,000	0	0	7,000	7,000	58
PHASE B	7,000	0	0	7,000	7,000	58
PHASE C	6,740	0	0	6,740	6,740	56
TOTAL	20,740	0	0	20,740	20,740	58

NOTES :
1 SEQUENCING PANEL PROVIDED BY DIVISION 2900000, AND CONNECTED BY DIVISION 2600000.
PANEL IS INDICATED FOR LOADING PURPOSES ONLY.

GOETTING & ASSOCIATES R1.0

PANEL 'LP-SRVR'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : 200% NEUTRAL BUS
SCHEDULE DATE : 09/13/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	SERVER RACK - TELECOM RM 053	1,500	4	A	4

PANEL 'PP-LH1FB'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1 | 0 RECPT | 5 HEAT
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE | 1 LTG | 6 A/C
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON | 2 EQUIP | 7 KITCH
NOTES : 1 | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS, GROUND BUS | 3 MTR | 8 ELEV
SCHEDULE DATE : 09/13/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS | 4 COMP | 9 125%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	GRIDIRON RECEPTACLE - RELAY 977	452	2	A	2	452	GRIDIRON RECEPTACLE - RELAY 976	20	1	2
3	20	1	GRIDIRON RECEPTACLE - RELAY 979	452	2	B	2	452	GRIDIRON RECEPTACLE - RELAY 978	20	1	4
5	20	1	GRIDIRON RECEPTACLE - RELAY 981	452	2	C	2	452	GRIDIRON RECEPTACLE - RELAY 980	20	1	6
7	20	1	GRIDIRON RECEPTACLE - RELAY 983	452	2	A	2	452	GRIDIRON RECEPTACLE - RELAY 982	20	1	8
9	20	1	GRIDIRON RECEPTACLE - RELAY 985	452	2	B	2	452	GRIDIRON RECEPTACLE - RELAY 984	20	1	10
11	20	1	GRIDIRON RECEPTACLE - RELAY 987	452	2	C	2	452	GRIDIRON RECEPTACLE - RELAY 986	20	1	12
13	20	1	GRIDIRON RECEPTACLE - RELAY 989	452	2	A	2	452	GRIDIRON RECEPTACLE - RELAY 988	20	1	14
15	20	1	GRIDIRON RECEPTACLE - RELAY 991	452	2	B	2	452	GRIDIRON RECEPTACLE - RELAY 990	20	1	16
17	20	1	GRIDIRON RECEPTACLE - RELAY 993	452	2	C	2	452	GRIDIRON RECEPTACLE - RELAY 992	20	1	18
19	20	1	GRIDIRON RECEPTACLE - RELAY 995	452	2	A	2	452	GRIDIRON RECEPTACLE - RELAY 994	20	1	20
21	20	1	GRIDIRON RECEPTACLE - RELAY 997	452	2	B	2	452	GRIDIRON RECEPTACLE - RELAY 996	20	1	22
23	20	1	GRIDIRON RECEPTACLE - RELAY 999	452	2	C	2	452	GRIDIRON RECEPTACLE - RELAY 998	20	1	24
25	20	1	GRIDIRON RECEPTACLE - RELAY 1001	452	2	A	2	452	GRIDIRON RECEPTACLE - RELAY 1000	20	1	26
27	20	1	ELECTRICS GALLERY RECEPT. - RELAY 1003	452	2	B	2	452	ELECTRICS GALLERY RECEPT. - RELAY 1002	20	1	28
29	20	1	ELECTRICS GALLERY RECEPT. - RELAY 1005	452	2	C	2	452	ELECTRICS GALLERY RECEPT. - RELAY 1004	20	1	30
31	20	1	FLY GALLERY RECEPT. - RELAY 1007	452	2	A	2	452	ELECTRICS GALLERY RECEPT. - RELAY 1006	20	1	32
33	20	1	FLY GALLERY RECEPT. - RELAY 1009	452	2	B	2	452	FLY GALLERY RECEPT. - RELAY 1008	20	1	34
35	20	1	FLY GALLERY RECEPT. - RELAY 1011	452	2	C	2	452	FLY GALLERY RECEPT. - RELAY 1010	20	1	36
37	20	1	DOWNSTAGE L RECEPT. - RELAY 1013	452	2	A	2	452	DOWNSTAGE L RECEPT. - RELAY 1012	20	1	38
39	20	1	DOWNSTAGE L RECEPT. - RELAY 1015	452	2	B	2	452	DOWNSTAGE L RECEPT. - RELAY 1014	20	1	40
41	20	1	UPSTAGE L RECEPT. - RELAY 1017	452	2	C	2	452	UPSTAGE L RECEPT. - RELAY 1016	20	1	42
43	20	1	UPSTAGE R RECEPT. - RELAY 1019	452	2	A	2	452	UPSTAGE R RECEPT. - RELAY 1018	20	1	44
45	20	1	ORCHESTRA PIT RECEPT. - RELAY 1021	452	2	B	2	452	ORCHESTRA PIT RECEPT. - RELAY 1020	20	1	46
47	20	1	TRAP ROOM RECEPT. - RELAY 1023	452	2	C	2	452	TRAP ROOM RECEPT. - RELAY 1022	20	1	48
49	20	1	SPARE			A			SPARE	20	1	50
51	20	1	SPARE			B			SPARE	20	1	52
53	20	1	SPARE			C			SPARE	20	1	54

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	AMPS
PHASE A	7,232	0	0	7,232	7,232	60
PHASE B	7,232	0	0	7,232	7,232	60
PHASE C	7,232	0	0	7,232	7,232	60
TOTAL	21,696	0	0	21,696	21,696	60

NOTES:
1 REFER TO THEATER DRAWINGS FOR CONNECTION OF EACH LOAD TO ASSOCIATED RELAY
PANEL

GOETTING & ASSOCIATES R1.0

PANEL 'PP-LH2FB1'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1 | 0 RECPT | 5 HEAT
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE | 1 LTG | 6 A/C
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON | 2 EQUIP | 7 KITCH
NOTES : 1 | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS, GROUND BUS | 3 MTR | 8 ELEV
SCHEDULE DATE : 09/13/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS | 4 COMP | 9 125%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	2	GRIDIRON RECEPT. - RELAY 1073	452	2	A	2	452	GRIDIRON RECEPT. - RELAY 1072	20	2	2
3	-	-	-	452	2	B	2	452	-	-	-	4
5	20	2	GRIDIRON RECEPT. - RELAY 1075	452	2	C	2	452	GRIDIRON RECEPT. - RELAY 1074	20	2	6
7	-	-	-	452	2	A	2	452	-	-	-	8
9	20	2	GRIDIRON RECEPT. - RELAY 1077	452	2	B	2	452	GRIDIRON RECEPT. - RELAY 1076	20	2	10
11	-	-	-	452	2	C	2	452	-	-	-	12
13	20	2	GRIDIRON RECEPT. - RELAY 1079	452	2	A	2	452	GRIDIRON RECEPT. - RELAY 1078	20	2	14
15	-	-	-	452	2	B	2	452	-	-	-	16
17	20	2	GRIDIRON RECEPT. - RELAY 1081	452	2	C	2	452	GRIDIRON RECEPT. - RELAY 1080	20	2	18
19	-	-	-	452	2	A	2	452	-	-	-	20
21	20	2	GRIDIRON RECEPT. - RELAY 1083	452	2	B	2	452	GRIDIRON RECEPT. - RELAY 1082	20	2	22
23	-	-	-	452	2	C	2	452	-	-	-	24
25	20	2	GRIDIRON RECEPT. - RELAY 1085	452	2	A	2	452	GRIDIRON RECEPT. - RELAY 1084	20	2	26
27	-	-	-	452	2	B	2	452	-	-	-	28
29	20	2	GRIDIRON RECEPT. - RELAY 1087	452	2	C	2	452	GRIDIRON RECEPT. - RELAY 1086	20	2	30
31	-	-	-	452	2	A	2	452	-	-	-	32
33	20	2	GRIDIRON RECEPT. - RELAY 1089	452	2	B	2	452	GRIDIRON RECEPT. - RELAY 1088	20	2	34
35	-	-	-	452	2	C	2	452	-	-	-	36
37	20	2	GRIDIRON RECEPT. - RELAY 1091	452	2	A	2	452	GRIDIRON RECEPT. - RELAY 1090	20	2	38
39	-	-	-	452	2	B	2	452	-	-	-	40
41	20	2	GRIDIRON RECEPT. - RELAY 1093	452	2	C	2	452	GRIDIRON RECEPT. - RELAY 1092	20	2	42
43	-	-	-	452	2	A	2	452	-	-	-	44
45	20	2	GRIDIRON RECEPT. - RELAY 1095	452	2	B	2	452	GRIDIRON RECEPT. - RELAY 1094	20	2	46
47	-	-	-	452	2	C	2	452	-	-	-	48
49	20	1	SPARE			A			SPARE	20	1	50
51	20	1	SPARE			B			SPARE	20	1	52
53	20	1	SPARE			C			SPARE	20	1	54

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	AMPS
PHASE A	7,232	0	0	7,232	7,232	60
PHASE B	7,232	0	0	7,232	7,232	60
PHASE C	7,232	0	0	7,232	7,232	60
TOTAL	21,696	0	0	21,696	21,696	60

NOTES:
1 REFER TO THEATER DRAWINGS FOR CONNECTION OF EACH LOAD TO ASSOCIATED RELAY
PANEL

GOETTING & ASSOCIATES R1.0

PANEL 'PP-LH2FB2'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1 | 0 RECPT | 5 HEAT
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE | 1 LTG | 6 A/C
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON | 2 EQUIP | 7 KITCH
NOTES : 1 | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS, GROUND BUS | 3 MTR | 8 ELEV
SCHEDULE DATE : 09/13/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS | 4 COMP | 9 125%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	2	GRIDIRON RECEPT. - RELAY 1097	452	2	A	2	452	GRIDIRON RECEPT. - RELAY 1096	20	2	2
3	-	-	-	452	2	B	2	452	-	-	-	4
5	20	2	ELECTRICS GALLERY RECEPT. - RELAY 1099	452	2	C	2	452	ELECTRICS GALLERY RECEPT. - RELAY 1098	20	2	6
7	-	-	-	452	2	A	2	452	-	-	-	8
9	20	2	ELECTRICS GALLERY RECEPT. - RELAY 1101	452	2	B	2	452	ELECTRICS GALLERY RECEPT. - RELAY 1100	20	2	10
11	-	-	-	452	2	C	2	452	-	-	-	12
13	20	2	FLY GALLERY RECEPT. - RELAY 1103	452	2	A	2	452	ELECTRICS GALLERY RECEPT. - RELAY 1102	20	2	14
15	-	-	-	452	2	B	2	452	-	-	-	16
17	20	2	FLY GALLERY RECEPT. - RELAY 1105	452	2	C	2	452	FLY GALLERY RECEPT. - RELAY 1104	20	2	18
19	-	-	-	452	2	A	2	452	-	-	-	20
21	20	2	FLY GALLERY RECEPT. - RELAY 1107	452	2	B	2	452	FLY GALLERY RECEPT. - RELAY 1106	20	2	22
23	-	-	-	452	2	C	2	452	-	-	-	24
25	20	2	DOWNSTAGE L RECEPT. - RELAY 1109	452	2	A	2	452	DOWNSTAGE L RECEPT. - RELAY 1108	20	2	26
27	-	-	-	452	2	B	2	452	-	-	-	28
29	20	2	DOWNSTAGE R RECEPT. - RELAY 1111	452	2	C	2	452	DOWNSTAGE R RECEPT. - RELAY 1110	20	2	30
31	-	-	-	452	2	A	2	452	-	-	-	32
33	20	2	UPSTAGE L RECEPT. - RELAY 1113	452	2	B	2	452	UPSTAGE L RECEPT. - RELAY 1112	20	2	34
35	-	-	-	452	2	C	2	452	-	-	-	36
37	20	2	UPSTAGE R RECEPT. - RELAY 1115	452	2	A	2	452	UPSTAGE R RECEPT. - RELAY 1114	20	2	38
39	-	-	-	452	2	B	2	452	-	-	-	40
41	20	2	ORCHESTRA PIT RECEPT. - RELAY 1117	452	2	C	2	452	ORCHESTRA PIT RECEPT. - RELAY 1116	20	2	42
43	-	-	-	452	2	A	2	452	-	-	-	44
45	20	2	TRAP ROOM RECEPT. - RELAY 1119	452	2	B	2	452	TRAP ROOM RECEPT. - RELAY 1118	20	2	46
47	-	-	-	452	2	C	2	452	-	-	-	48
49	20	1	SPARE			A			SPARE	20	1	50
51	20	1	SPARE			B			SPARE	20	1	52
53	20	1	SPARE			C			SPARE	20	1	54

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	AMPS
PHASE A	7,232	0	0	7,232	7,232	60
PHASE B	7,232	0	0	7,232	7,232	60
PHASE C	7,232	0	0	7,232	7,232	60
TOTAL	21,696	0	0	21,696	21,696	60

NOTES:
1 REFER TO THEATER DRAWINGS FOR CONNECTION OF EACH LOAD TO ASSOCIATED RELAY
PANEL

GOETTING & ASSOCIATES R1.0

PANEL 'PP-LH2FA1'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1 | 0 RECPT | 5 HEAT
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE | 1 LTG | 6 A/C
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON | 2 EQUIP | 7 KITCH
NOTES : 1 | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS, GROUND BUS | 3 MTR | 8 ELEV
SCHEDULE DATE : 09/13/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS | 4 COMP | 9 125%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	2	FOLLOWSPOT BOOTH RECEPT. - RELAY 1025	452	2	A	2	452	FOLLOWSPT CATWK. SL RECEPT-RELAY 1024	20	2	2
3	-	-	-	452	2	B	2	452	-	-	-	4
5	20	2	FOLLOWSPT CATWK.SR RECEPT - RELAY 1027	452	2	C	2	452	FOLLOWSPOT BOOTH RECEPT. - RELAY 1026	20	2	6
7	-	-	-	452	2	A	2	452	-	-	-	8
9	20	2	FAR CATWALK RECEPT. - RELAY 1029	452	2	B	2	452	FAR CATWALK RECEPT. - RELAY 1028	20	2	10
11	-	-	-	452	2	C	2	452	-	-	-	12
13	20	2	FAR CATWALK RECEPT. - RELAY 1031	452	2	A	2	452	FAR CATWALK RECEPT. - RELAY 1030	20	2	14
15	-	-	-	452	2	B	2	452	-	-	-	16
17	20	2	MID CATWALK RECEPT. - RELAY 1033	452	2	C	2	452	MID CATWALK RECEPT. - RELAY 1032	20	2	18
19	-	-	-	452	2	A	2	452	-	-	-	20
21	20	2	MID CATWALK RECEPT. - RELAY 1035	452	2	B	2	452	MID CATWALK RECEPT. - RELAY 1034	20	2	22
23	-	-	-	452	2	C	2	452	-	-	-	24
25	20	2	NEAR CATWALK RECEPT. - RELAY 1037	452	2	A	2	452	NEAR CATWALK RECEPT. - RELAY 1036	20	2	26
27	-	-	-	452	2	B	2	452	-	-	-	28
29	20	2	NEAR CATWALK RECEPT. - RELAY 1039	452	2	C	2	452	NEAR CATWALK RECEPT. - RELAY 1038	20	2	30
31	-	-	-	452	2	A	2	452	-	-	-	32
33	20	2	FORESTAGE GRID RECEPT. - RELAY 1041	452	2	B	2	452	FORESTAGE GRID RECEPT. - RELAY 1040	20	2	34
35	-	-	-	452	2	C	2	452	-	-	-	36
37	20	2	FORESTAGE GRID RECEPT. - RELAY 1043	452	2	A	2	452	FORESTAGE GRID RECEPT. - RELAY 1042	20	2	38
39	-	-	-	452	2	B	2	452	-	-	-	40
41	20	2	BALCONY RAIL RECEPT. - RELAY 1045	452	2	C	2	452	BALCONY RAIL RECEPT. - RELAY 1044	20	2	42
43	-	-	-	452	2	A	2	452	-	-	-	44
45	20	2	BALCONY RAIL RECEPT. - RELAY 1047	452	2	B	2	452	BALCONY RAIL RECEPT. - RELAY 1046	20	2	46
47	-	-	-	452	2	C	2	452	-	-	-	48
49	20	1	SPARE			A			SPARE	20	1	50
51	20	1	SPARE			B			SPARE	20	1	52
53	20	1	SPARE			C			SPARE	20	1	54

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	AMPS
PHASE A	7,232	0	0	7,232	7,232	60
PHASE B	7,232	0	0	7,232	7,232	60
PHASE C	7,232	0	0	7,232	7,232	60
TOTAL	21,696	0	0	21,696	21,696	60

NOTES:
1 REFER TO THEATER DRAWINGS FOR CONNECTION OF EACH LOAD TO ASSOCIATED RELAY
PANEL

GOETTING & ASSOCIATES R1.0

PANEL 'PP-LH2FA2'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1 | 0 RECPT | 5 HEAT
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE | 1 LTG | 6 A/C
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON | 2 EQUIP | 7 KITCH
NOTES : 1 | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS, GROUND BUS | 3 MTR | 8 ELEV
SCHEDULE DATE : 09/13/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS | 4 COMP | 9 125%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	2	MEZZANINE RAIL RECEPT. - RELAY 1049	452	2	A	2	452	MEZZANINE RAIL RECEPT. - RELAY 1048	20	2	2
3	-	-	-	452	2	B	2	452	-	-	-	4
5	20	2	MEZZANINE RAIL RECEPT. - RELAY 1051	452	2	C	2	452	MEZZANINE RAIL RECEPT. - RELAY 1050	20	2	6
7	-	-	-	452	2	A	2	452	-	-	-	8
9	20	2	BOX TEIR RAIL RECEPT. - RELAY 1053	452	2	B	2	452	BOX TEIR RAIL RECEPT. - RELAY 1052	20	2	10
11	-	-	-	452	2	C	2	452	-	-	-	12
13	20	2	FAR BOX BOOM SL RECEPT. - RELAY 1055	452	2	A	2	452	FAR BOX BOOM SL RECEPT. - RELAY 1054	20	2	14
15	-	-	-	452	2	B	2	452	-	-	-	16
17	20	2	FAR BOX BOOM SL RECEPT. - RELAY 1057	452	2	C	2	452	FAR BOX BOOM SL RECEPT. - RELAY 1056	20	2	18
19	-	-	-	452	2	A	2	452	-	-	-	20
21	20	2	FAR BOX BOOM SL RECEPT. - RELAY 1059	452	2	B	2	452	FAR BOX BOOM SL RECEPT. - RELAY 1058	20	2	22
23	-	-	-	452	2	C	2	452	-	-	-	24
25	20	2	MID BOX BOOM RECEPT. - RELAY 1061	452	2	A	2	452	MID BOX BOOM RECEPT. - RELAY 1060	20	2	26
27	-	-	-	452	2	B	2	452	-	-	-	28
29	20	2	MID BOX BOOM RECEPT. - RELAY 1063	452	2	C	2	452	MID BOX BOOM RECEPT. - RELAY 1062	20	2	30
31	-	-	-	452	2	A	2	452	-	-	-	32
33	20	2	NEAR BOX BOOM SL RECEPT. - RELAY 1065	452	2	B	2	452	NEAR BOX BOOM SL RECEPT. - RELAY 1064	20	2	34
35	-	-	-	452	2	C	2	452	-	-	-	36
37	20	2	NEAR BOX BOOM SL RECEPT. - RELAY 1067	452	2	A	2	452	NEAR BOX BOOM SL RECEPT. - RELAY 1066	20	2	38
39	-	-	-	452	2	B	2	452	-	-	-	40
41	20	2	NEAR BOX BOOM SR RECEPT. - RELAY 1069	452	2	C	2	452	NEAR BOX BOOM SR RECEPT. - RELAY 1068	20	2	42
43	-	-	-	452	2	A	2	452	-	-	-	44
45	20	2	NEAR BOX BOOM SR RECEPT. - RELAY 1071	452	2	B	2	452	NEAR BOX BOOM SR RECEPT. - RELAY 1070	20	2	46
47	-	-	-	452	2	C	2	452	-	-	-	48
49	20	1	SPARE			A			SPARE	20	1	50
51	20	1	SPARE			B			SPARE	20	1	52
53	20	1	SPARE			C			SPARE	20	1	54

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	AMPS
PHASE A	7,232	0	0	7,232	7,232	60
PHASE B	7,232	0	0	7,232	7,232	60
PHASE C	7,232	0	0	7,232	7,232	60
TOTAL	21,696	0	0	21,696	21,696	60

NOTES:
1 REFER TO THEATER DRAWINGS FOR CONNECTION OF EACH LOAD TO ASSOCIATED RELAY
PANEL

GOETTING & ASSOCIATES R1.0

PANEL 'PP-LH3FA'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1 | 0 RECPT | 5 HEAT
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE | 1 LTG | 6 A/C
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON | 2 EQUIP | 7 KITCH
NOTES : 1 | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS, GROUND BUS | 3 MTR | 8 ELEV
SCHEDULE DATE : 09/13/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS | 4 COMP | 9 125%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	LIGHTING - COUNTERWEIGHT PIT (BASE.)	232	1	A	1	576	LIGHTING - STAGE (3RD FL.)	20	1	2
3	20	1	LIGHTING - ORCHESTRA PIT VEST. (BASE.)	900	1	B	1	576	LIGHTING - STAGE (3RD FL.)	20	1	4
5	20	1	LIGHTING - ORCHESTRA PIT VEST. (BASE.)	300	1	C	1	1,000	LIGHTING - CATWALK & FORESTAGE (4TH FL)	20	1	6
7	20	1	LIGHTING - TRAP RM. (BASE.)	240	1	A	1	260	LIGHTING - CATWALK & FORESTAGE (4TH FL)	20	1	8
9	20	1	LIGHTING - TRAP RM. (BASE)	870	1	B	1	1,533	LIGHTING - STAGE (5TH FL.)	20	1	10
11	20	1	LIGHTING - LIFT SYST. WRK LIGHT (BASE.)	1,200	1	C	1	832	LIGHTING - STAGE (5TH FL.)	20	1	12
13	20	1	LIGHTING - LIFT SYST. WRK LIGHT (BASE.)	1,200	1	A	1	52	LIGHTING - STAGE (5TH FL.)	20	1	14
15	20	1	LIGHTING - LIFT SYST. WRK LIGHT (BASE.)	1,200	1	B	1	52	LIGHTING - STAGE (5TH FL.)	20	1	16
17	20	1	LIGHTING - LIFT SYST. WRK LIGHT (BASE.)	1,200	1	C	1	52	LIGHTING - STAGE (5TH FL.)	20	1	18
19	20	1	LIGHTING - COUNTERWEIGHT PIT (BASE.)	256	1	A	1	364	LIGHTING - STAGE (5TH FL.)	20	1	20
21	20	1	LIGHTING - FLY RAIL WORKLIGHTS (1ST FL.)	114	1	B	1	1,400	LIGHTING - STAGE (5TH FL.)	20	1	22
23	20	1	LIGHTING - FLY RAIL WORKLIGHTS (1ST FL.)	1,200	1	C	1	400	LIGHTING - FOLLOWSPOT (5TH FL.)	20	1	24
25	20	1	LIGHTING - STAGE VEST. (1ST FL.)	240	1	A	1	1,200	LIGHTING - FOLLOWSPOT (5TH FL.)	20	1	26
27	20	1	LIGHTING - STAGE VEST. (1ST)	630	1	B	1	210	LIGHTING - WESTEAST CORE. (5TH FL)	20	1	28
29	20	1	LIGHTING - SYST. WRK LIGHT (1ST FL.)	696	1	C	1	210	LIGHTING - WESTEAST CORE. (5TH FL)	20	1	30
31	20	1	LIGHTING - CONTROL RM. TRACK (1ST FL.)	600	1	A	1	1,152	LIGHTING - STAGE (6TH FL.)	20	1	32
33	20	1	LIGHTING - CATWALK RUNLIGHTS (1ST FL.)	300	1	B	1	1,152	LIGHTING - STAGE (6TH FL.)	20	1	34
35	20	1	LIGHTING - CATWALK & GRID (1ST, 2ND, 4TH)	928	1	C	1	1,152	LIGHTING - STAGE (6TH FL.)	20	1	36
37	20	1	SPARE	480	1	A	1	1,152	LIGHTING - STAGE (6TH FL.)	20	1	38
39	20	1	LIGHTING - BALCONLY FASCIA (3RD FL.)	100	1	B	1	1,152	LIGHTING - STAGE (5TH FL.)	20	1	40
41	20	1	LIGHTING - STAGE (3RD FL.)	320	1	C	1	120	LIGHTING - WESTEAST CORE. (4TH FL)	20	1	42
43	20	1	LIGHTING - STAGE (3RD FL.)	1,500	1	A	1	120	LIGHTING - WESTEAST CORE. (4TH FL)	20	1	44
45	20	1	LIGHTING - STAGE (3RD FL.)	768	1	B			SPARE	20	1	46
47	20	1	LIGHTING - STRIP STAGE LIGHT (3RD FL.)	500	1	C			SPARE	20	1	48
49	20	1	LIGHTING - STAGE (3RD FL.)	104	1	A			SPARE	20	1	50
51	20	1	LIGHTING - STAGE (3RD FL.)	104	1	B			SPARE	20	1	52
53	20	1	LIGHTING - STAGE (3RD FL.)	208	1	C			SPARE	20	1	54

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	AMPS
PHASE A	9,728	0	0	9,728	12,160	101
PHASE B	11,061	0	0

PANEL 'LP-K2'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : 250A | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : | MOUNTING : SURFACE
LOCATION : | BUSSING : 400A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 01/30/13 | INTERRUPTING : 22 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT														
1	LTG	6	A/C														
2	EQUIP	7	KITCH														
3	MTR	8	ELEV														
4	COMP	9	125%														

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	SODA SYSTEM - CONCESSIONS LOBBY 120	720	7	A	7	1,200	COOLER POWER - CONCESSIONS LOBBY 120	20	1	2
3	20	1	COOLER POWER - CONCESSIONS LOBBY 120	1,200	7	B	7	1,080	COOLER EVAP. - CONCESSIONS LOBBY 120	20	1	4
5	20	1	COOLER COIL - CONCESSIONS LOBBY 120	1,080	7	C	7	3,294	ICE MAKER - CONCESSIONS LOBBY 120	30	2	6
7	20	1	ICE MACHINE - SUDO CATERING 122	1,800	7	A	7	3,294	-	-	-	8
9	20	1	HEATED CABINET - CONCESSIONS LOBBY 120	2,004	7	B	7	180	CART FRONT - BACK BAR LVL 1	20	1	10
11	20	1	RECEPTACLES - CONCESSIONS LOBBY 120	1,080	0	C	7	180	CART BACK - LOBBY BACK BAR LVL 1	20	1	12
13	20	1	BACK BAR - RECEPTACLE	180	0	A			SPARE	20	1	14
15	20	1	CART FRONT - CONCESSIONS LOBBY 120	360	0	B	7	360	CART BACK - CONCESSIONS LOBBY 120	20	1	16
17	20	1	CART FRONT - CONCESSIONS LOBBY 120	360	0	C	7	360	CART BACK - CONCESSIONS LOBBY 120	20	1	18
19	20	1	ICE MACHINE - KITCHEN 240	150	7	A	7	3,120	COFFEE BREWER - STUDIO CATERING 122	30	2	20
21	20	1	BACK BAR - CONCESSIONS LOBBY 120	360	7	B	7	3,120	-	-	-	22
23	20	1	BACK BAR - CONCESSIONS LOBBY 120	180	7	C	7	1,920	TEA BREWER - STUDIO CATERING 122	20	1	24
25	20	1	REFRIGERATOR - STUDIO CATERING 122	468	7	A	7	2,004	HEATED CABINET - STUDIO CATERING 122	20	1	26
27	20	1	BEVERAGE COUNTER - STUDIO CATERING 122	180	7	B	7	1,080	REFRIGERATOR - STUDIO CATERING 122	20	1	28
29	20	1	HEATED CABINET - STUDIO CATERING 122	2,004	7	C	7	1,080	REFRIGERATOR - STUDIO CATERING 122	20	1	30
31	20	1	SPARE			A	7	180	TEA BREWER - PANTRY STORAGE 152	20	1	32
33	30	2	COFFEE BREWER - PANTRY STORAGE 152	3,120	7	B	7	468	REFRIGERATOR - PANTRY STORAGE 152	20	1	34
35	-	-	-	3,120	7	C	7	180	BEVERAGE COUNTER - PANTRY STORAGE 152	20	1	36
37	20	1	HEATED CABINET - PANTRY STORAGE 152	2,004	A	A	7	1,920	TEA BREWER - PANTRY STORAGE 167	20	1	38
39	20	1	BEVERAGE COUNTER - PANTRY STORAGE 167	180	7	B	7	3,120	COFFEE BREWER - PANTRY STORAGE 167	30	2	40
41	20	1	REFRIGERATOR - PANTRY STORAGE 167	468	7	C	7	3,120	-	-	-	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS	NOTES :
PHASE A	17,040	0	0	17,040	11,302	94	
PHASE B	16,812	0	0	16,812	11,151	93	
PHASE C	18,426	0	0	18,426	12,221	102	
TOTAL	52,278	0	0	52,278	34,674	96	

GOETTING & ASSOCIATES R1.0

PANEL 'PB-LH1F'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : 100A | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 10/27/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT														
1	LTG	6	A/C														
2	EQUIP	7	KITCH														
3	MTR	8	ELEV														
4	COMP	9	125%														

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	N5-20R RECEPTACLE	725	2	A	2	725	N5-20R RECEPTACLE	20	1	2
3	20	1	N5-20R RECEPTACLE	725	2	B	2	725	N5-20R RECEPTACLE	20	1	4
5	20	1	N5-20R RECEPTACLE	725	2	C	2	725	N5-20R RECEPTACLE	20	1	6
7	20	1	N5-20R RECEPTACLE	725	2	A	2	725	N5-20R RECEPTACLE	20	1	8
9	20	1	STAGE PIN RECEPTACLE	725	2	B	2	725	STAGE PIN RECEPTACLE	20	1	10
11	20	1	STAGE PIN RECEPTACLE	725	2	C	2	725	STAGE PIN RECEPTACLE	20	1	12
13	20	2	L6-20R RECEPTACLE	725	2	A	2	725	L6-20R RECEPTACLE	20	2	14
15	-	-	-	725	2	B	2	725	-	-	-	16
17	20	2	L6-20R RECEPTACLE	725	2	C	2	725	L6-20R RECEPTACLE	20	2	18
19	-	-	-	725	2	A	2	725	-	-	-	20
21	20	1	RECEPTACLE - TRAP ROOM P106	180	0	B	0	180	RECEPTACLE - STAGE 150	20	1	22
23	20	1	RECEPTACLE - TRAP ROOM P106	180	0	C	0	180	RECEPTACLE - STAGE 150	20	1	24
25	20	1	SPARE			A	0	180	RECEPTACLE - STAGE 150	20	1	26
27	20	1	RECEPTACLES - ORCH. PIT 071	360	0	B	0	540	G.P. RECEPTACLES	20	1	28
29	20	1	BUSSED SPACE			C			BUSSED SPACE	20	1	30
31	20	1	BUSSED SPACE			A			BUSSED SPACE	20	1	32
33	20	1	BUSSED SPACE			B			BUSSED SPACE	20	1	34
35	20	1	BUSSED SPACE			C			BUSSED SPACE	20	1	36
37	20	1	BUSSED SPACE			A			BUSSED SPACE	20	1	38
39	20	1	BUSSED SPACE			B			BUSSED SPACE	20	1	40
41	20	1	BUSSED SPACE			C			BUSSED SPACE	20	1	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS	NOTES :
PHASE A	5,980	0	0	5,980	5,980	50	
PHASE B	5,610	0	0	5,610	5,610	47	
PHASE C	4,710	0	0	4,710	4,710	39	
TOTAL	16,300	0	0	16,300	16,300	45	

GOETTING & ASSOCIATES R1.0

PANEL 'PB-LH2F'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : 100A | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 10/27/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT														
1	LTG	6	A/C														
2	EQUIP	7	KITCH														
3	MTR	8	ELEV														
4	COMP	9	125%														

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	N5-20R RECEPTACLE	725	2	A	2	725	N5-20R RECEPTACLE	20	1	2
3	20	1	N5-20R RECEPTACLE	725	2	B	2	725	N5-20R RECEPTACLE	20	1	4
5	20	1	N5-20R RECEPTACLE	725	2	C	2	725	N5-20R RECEPTACLE	20	1	6
7	20	1	N5-20R RECEPTACLE	725	2	A	2	725	N5-20R RECEPTACLE	20	1	8
9	20	1	STAGE PIN RECEPTACLE	725	2	B	2	725	STAGE PIN RECEPTACLE	20	1	10
11	20	1	STAGE PIN RECEPTACLE	725	2	C	2	725	STAGE PIN RECEPTACLE	20	1	12
13	20	2	L6-20R RECEPTACLE	725	2	A	2	725	L6-20R RECEPTACLE	20	2	14
15	-	-	-	725	2	B	2	725	-	-	-	16
17	20	2	L6-20R RECEPTACLE	725	2	C	2	725	L6-20R RECEPTACLE	20	2	18
19	-	-	-	725	2	A	2	725	-	-	-	20
21	20	1	RECEPTACLE - TRAP ROOM P106	180	0	B	2	1,667	EQUIPMENT RACK 'EF-LH4F'	20	3	22
23	20	1	RECEPTACLE - TRAP ROOM P106	180	0	C	2	1,667	-	-	-	24
25	20	1	RECEPTACLE - ORCH. PIT 071	540	0	A	2	1,667	-	-	-	26
27	20	1	BUSSED SPACE			B	0	180	RECEPTACLE - STAGE 150	20	1	28
29	20	1	G.P. RECEPTACLES	540	0	C	0	360	RECEPTACLE - STAGING LEVEL 6	20	1	30
31	20	1	BUSSED SPACE			A			BUSSED SPACE	20	1	32
33	20	1	BUSSED SPACE			B			BUSSED SPACE	20	1	34
35	20	1	BUSSED SPACE			C			BUSSED SPACE	20	1	36
37	20	1	BUSSED SPACE			A			BUSSED SPACE	20	1	38
39	20	1	BUSSED SPACE			B			BUSSED SPACE	20	1	40
41	20	1	BUSSED SPACE			C			BUSSED SPACE	20	1	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS	NOTES :
PHASE A	8,007	0	0	8,007	8,007	67	
PHASE B	6,377	0	0	6,377	6,377	53	
PHASE C	7,097	0	0	7,097	7,097	59	
TOTAL	21,481	0	0	21,481	21,481	60	

GOETTING & ASSOCIATES R1.0

PANEL 'PB-LH3F'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : 100A | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 10/27/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT														
1	LTG	6	A/C														
2	EQUIP	7	KITCH														
3	MTR	8	ELEV														
4	COMP	9	125%														

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	N5-20R RECEPTACLE	725	2	A	2	725	N5-20R RECEPTACLE	20	1	2
3	20	1	N5-20R RECEPTACLE	725	2	B	2	725	N5-20R RECEPTACLE	20	1	4
5	20	1	N5-20R RECEPTACLE	725	2	C	2	725	N5-20R RECEPTACLE	20	1	6
7	20	1	N5-20R RECEPTACLE	725	2	A	2	725	N5-20R RECEPTACLE	20	1	8
9	20	1	STAGE PIN RECEPTACLE	725	2	B	2	725	STAGE PIN RECEPTACLE	20	1	10
11	20	1	STAGE PIN RECEPTACLE	725	2	C	2	725	STAGE PIN RECEPTACLE	20	1	12
13	20	2	L6-20R RECEPTACLE	725	2	A	2	725	L6-20R RECEPTACLE	20	2	14
15	-	-	-	725	2	B	2	725	-	-	-	16
17	20	2	L6-20R RECEPTACLE	725	2	C	2	725	L6-20R RECEPTACLE	20	2	18
19	-	-	-	725	2	A	2	725	-	-	-	20
21	20	1	SPARE			B	0	180	RECEPTACLE - STAGE 150	20	1	22
23	20	1	SPARE			C	0	180	RECEPTACLE - STAGE 150	20	1	24
25	20	1	SPARE			A	0	180	RECEPTACLE - STAGING LEVEL 6	20	1	26
27	20	1	BUSSED SPACE			B			BUSSED SPACE	20	1	28
29	20	1	BUSSED SPACE			C	0	180	RECEPTACLE - STAGING LEVEL 6	20	1	30
31	20	1	BUSSED SPACE			A			BUSSED SPACE	20	1	32
33	20	1	BUSSED SPACE			B			BUSSED SPACE	20	1	34
35	20	1	BUSSED SPACE			C			BUSSED SPACE	20	1	36
37	20	1	BUSSED SPACE			A			BUSSED SPACE	20	1	38
39	20	1	BUSSED SPACE			B			BUSSED SPACE	20	1	40
41	20	1	BUSSED SPACE			C			BUSSED SPACE	20	1	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS	NOTES :
PHASE A	7,980	0	0	7,980	7,980	66	
PHASE B	7,980	0	0	7,980	7,980	66	
PHASE C	4,680	0	0	4,680	4,680	39	
TOTAL	15,190	0	0	15,190	15,190	42	

GOETTING & ASSOCIATES R1.0

PANEL 'PB-LH4F'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : 100A | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 10/27/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT														
1	LTG	6	A/C														
2	EQUIP	7	KITCH														
3	MTR	8	ELEV														
4	COMP	9	125%														

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	N5-20R RECEPTACLE	725	2	A	2	725	N5-20R RECEPTACLE	20	1	2
3	20	1	N5-20R RECEPTACLE	725	2	B	2	725	N5-20R RECEPTACLE	20	1	4
5	20	1	N5-20R RECEPTACLE	725	2	C	2	725	N5-20R RECEPTACLE	20	1	6
7	20	1	N5-20R RECEPTACLE	725	2	A	2	725	N5-20R RECEPTACLE	20	1	8
9	20	1	STAGE PIN RECEPTACLE	725	2	B	2	725	STAGE PIN RECEPTACLE	20	1	10
11	20	1	STAGE PIN RECEPTACLE	725	2	C	2	725	STAGE PIN RECEPTACLE	20	1	12
13	20	2	L6-20R RECEPTACLE	725	2	A	2	725	L6-20R RECEPTACLE	20	2	14
15	-	-	-	725	2	B	2	725	-	-	-	16
17	20	2	L6-20R RECEPTACLE	725	2	C	2	725	L6-20R RECEPTACLE	20	2	18
19	-	-	-	725	2	A	2	725	-	-	-	20
21	20	1	RECEPTACLE - LEVEL 6 STAGE	360	0	B	0	180	RECEPTACLE - STAGE 150	20	1	22
23	20	1	RECEPTACLE - LEVEL 6 STAGE	360	0	C	0	180	RECEPTACLE - STAGE 150	20	1	24
25	20	1	SPARE			A	0	180	BUSSED SPACE	20	1	26
27	20	1	BUSSED SPACE			B			BUSSED SPACE	20	1	28
29	20	1	BUSSED SPACE			C			BUSSED SPACE	20	1	30
31	20	1	BUSSED SPACE			A			BUSSED SPACE	20	1	32
33	20	1	BUSSED SPACE			B			BUSSED SPACE	20	1	34
35	20	1	BUSSED SPACE			C			BUSSED SPACE	20	1	36
37	20	1	BUSSED SPACE			A			BUSSED SPACE	20	1	38
39	20	1	BUSSED SPACE			B			BUSSED SPACE	20	1	40
41	20	1	BUSSED SPACE			C			BUSSED SPACE	20	1	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS	NOTES :
PHASE A	5,800	0	0	5,800	5,800	48	
PHASE B	4,890	0	0	4,890	4,890	41	
PHASE C	4,890	0	0	4,890	4,890	41	
TOTAL	15,580	0	0	15,580	15,580	43	

GOETTING & ASSOCIATES R1.0

PANEL 'PB-LH5F'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : 100A | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 09/13/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT														
1	LTG	6	A/C														
2	EQUIP	7	KITCH														
3	MTR	8	ELEV														
4	COMP	9	125%														

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	RS-LH1B UTILITY CIRCUIT	900	0	A	2	1,667	EQUIPMENT RACK 'EF-LH2F'	20	3	2
3	20	1	RS-LH1B UTILITY CIRCUIT	900	0	B	2	1,667	-	-	-	4
5	20	1	RS-LH1B UTILITY CIRCUIT	900	0	C	2	1,667	-	-	-	6
7	20	1	RS-LH1B UTILITY CIRCUIT	900	0	A	0	900	CS-L1H UTILITY CIRCUIT	20	1	8
9	20	1	RS-LH2B UTILITY CIRCUIT	900	0	B	0	900	CS-L1H UTILITY CIRCUIT	20	1	10
11	20	1	RS-LH2B UTILITY CIRCUIT	900	0	C	0	360	G.P. RECEPTACLE	20	1	12
13	20	1	RS-LH2B UTILITY CIRCUIT	900	0	A	0	360	G.P. RECEPTACLE	20	1	14
15	20	1	RS-LH2B UTILITY CIRCUIT	900	0	B	0	360	G.P. RECEPTACLE	20	1	16
17	20	1	RS-LH3 UTILITY CIRCUIT	900	0	C	0	360	G.P. RECEPTACLE	20	1	18
19	20	1	SPARE			A	0	540	G.P. RECEPTACLE	20	1	20
21	20	1	G.P. RECEPTACLE	360	0	B	0	360	G.P. RECEPTACLE	20	1	22
23	20	1	G.P. RECEPTACLE	360	0	C	0	360	G.P. RECEPTACLE	20	1	24
25	20	1	G.P. RECEPTACLE	360	0	A			SPARE	20	1	26
27	20	1	SPARE			B			SPARE	20	1	28
29	20	1	SPARE			C			SPARE	20	1	30
31	20	1	SPARE			A			SPARE	20	1	32
33	20	1	SPARE			B			SPARE	20	1	34
35	20	1	SPARE			C			SPARE	20	1	36
37	20	1	BUSSED SPACE			A			BUSSED SPACE	20	1	38
39	20	1	BUSSED SPACE			B			BUSSED SPACE	20	1	40
41	20	1	BUSSED SPACE			C			BUSSED SPACE	20	1	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS	NOTES :
PHASE A	6,527	0	0	6,527	5,884	49	
PHASE B	6,347	0	0	6,347	5,722	48	
PHASE C	5,807	0	0	5,807	5,235	44	
TOTAL	18,681	0	0	18,681	16,841	47	

GOETTING & ASSOCIATES R1.0

PANEL 'PB-LH6F'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : 200A | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : | MOUNTING : SURFACE
LOCATION : FOLLOWSPOT 503 | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 01/31/13 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT														
1	LTG	6	A/C														
2	EQUIP	7	KITCH														
3	MTR	8	ELEV														
4	COMP	9	125%														

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	30	2	SPECIAL-PURPOSE RECEPTACLE	1,000	1	A	2	1,667	EQUIPMENT RACK 'ER LH3F'	20	3	2
3	-	-	-	1,000	1	B	2	1,667	-	-	-	4
5	20	2	SPECIAL-PURPOSE RECEPTACLE	1,000	1	C	2	1,667	-	-	-	6
7	-	-	-	1,000	1	A	1	1,000	SPECIAL-PURPOSE RECEPTACLE	30	2	8
9	20	1	DEDICATED RECEPTACLE	1,000	0	B	1	1,000	-	-	-	10
11	20	1	DEDICATED RECEPTACLE	1,000	0	C	1	1,000	SPECIAL-PURPOSE RECEPTACLE	20	2	12
13	30	2	SPECIAL-PURPOSE RECEPTACLE	1,000	1	A	1	1,000	-	-	-	14
15	-	-	-	1,000	1	B	0	1,000	DEDICATED RECEPTACLE	20	1	16
17	20	2	SPECIAL-PURPOSE RECEPTACLE	1,000	1	C	0	1,000	DEDICATED RECEPTACLE	20	1	18
19	-	-	-	1,000	1	A	1	1,000	SPECIAL-PURPOSE RECEPTACLE	30	2	20
21	20	1	DEDICATED RECEPTACLE	1,000	0	B	1	1,000	-	-	-	22
23	20	1	DEDICATED RECEPTACLE	1,000	0	C	1	1,000	SPECIAL-PURPOSE RECEPTACLE	20	2	24
25	100	3	PANEL 'PB-LH6F2	15,760	-	A	1	1,000	-	-	-	26
27	-	-	-	15,400	-	B	0	1,000	DEDICATED RECEPTACLE	20	1	28
29	-	-	-	15,400	-	C	0	1,000	DEDICATED RECEPTACLE	20	1	30
31	20	2	SPECIAL-PURPOSE RECEPTACLE	1,000	1	A	1	1,000	SPECIAL-PURPOSE RECEPTACLE	20	2	32
33	-	-	-	1,000	1	B	1	1,000	-	-	-	34
35	20	1	RECEPTACLE - LEVEL 5 STAGING	180	0	C	0	180	RECEPTACLE - LEVEL 5 STAGING	20	1	36
37	20	1	G.P. RECEPTACLES	180	0	A	0	180	G.P. RECEPTACLES	20	1	38
39	20	1	RECEPTACLE - LEVEL 4 STAGING	180	0	B	0	180	RECEPTACLE - LEVEL 4 STAGING	20	1	40
41	20	1	RECEPTACLES - LEVEL 5 STAGE	540	0	C	0	540	RECEPTACLES - LEVEL 5 STAGE	20	1	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS	NOTES :
PHASE A	12,027	15,760	0	27,787	22,309	186	
PHASE B	12,027	15,400	0	27,427	22,020	184	
PHASE C	11,107	15,400	0	26,507	21,282	177	
TOTAL	35,161	46,560	0	81,721	65,611	182	

GOETTING & ASSOCIATES R1.0

PANEL 'PB-LH7F'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : 100A | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 10/27/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

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PANEL 'LP-BA'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 04/18/12 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	RECEPTACLE - ELEV. MACH. RM. 02/03	180	0	A	0	180	RECEPTACLE - ELEV. #3 PIT	20	1	2
3	20	1	VENDING MACHINE - JANITOR LOCKERS 056	1,200	2	B	0	1,260	RECEPTACLES - JANITOR STORAGE 055	20	1	4
5	20	1	FIRE SMOKE DAMPERS - CORRIDOR 050A	900	2	C	0	720	RECEPTACLES - TOILET 059	20	1	6
7	20	1	RECEPTACLES - AHU ROOM 054	900	0	A	0	720	RECEPTACLES - STORAGE 052	20	1	8
9	20	1	FIRE SMOKE DAMPERS - WOMEN 048	630	2	B	2	500	REFRIGERANT MONITORING SYSTEM	20	1	10
11	20	1	SIGNAGE - VEST 076	40	1	C	0	900	RECEPTACLES - WOMEN 048	20	1	12
13	20	1	RECEPTACLES - CORRIDOR 083	360	0	A	0	720	RECEPTACLES - STORAGE 078B	20	1	14
15	20	1	RECEPTACLES - TOILET 043	900	0	B	2	450	FIRE SMOKE DAMPERS - LOWER LOBBY 040	20	1	16
17	20	1	RECEPTACLES - MEN 046	720	0	C	0	720	RECEPTACLES - CORRIDOR 050A	20	1	18
19	20	1	RECEPTACLES - AHU ROOM 051	720	0	A	0	720	RECEPTACLES - OFFICE 066	20	1	20
21	20	1	RECEPTACLES - CORRIDOR 060	360	0	B	0	540	RECEPTACLES - FIRE PUMP 061	20	1	22
23	20	1	RECEPTACLES - VEST 095	720	0	C	0	900	RECEPTACLES - CENTRAL PLAN P04	20	1	24
25	20	1	RECEPTACLE - ELEV. MACH. RM. 094	180	0	A	2	500	REFRIGERANT PURGE SYSTEM	20	1	26
27	20	1	LIGHTING - ELEV. #1 MACH RM. 067	128	1	B	0	300	RECEP - BASEMENT LOBBY BACK BAR	20	1	28
29	20	1	RECEPTACLES - JAN 045	540	0	C	0	720	RECEPTACLES - ORCH PIT 071	20	1	30
31	20	1	RECEPTACLE - STORAGE 090	540	0	A			FUTURE HAND DRYER - MEN 046	20	1	32
33	20	1	FUTURE HAND DRYER - MEN 046			B	0	540	G.P. RECEPTACLES	20	1	34
35	20	1	HEATED CABINET - LOWER LOBBY 040	1,050	7	C	0	720	G.P. RECEPTACLES	20	1	36
37	20	1	FRONT CART - LOWER LOBBY 040	180	7	A			FUTURE HAND DRYER - WOMEN 048	20	1	38
39	20	1	REFRIGERATED CABINET - LOWER LOBBY 040	780	7	B			FUTURE HAND DRYER - WOMEN 048	20	1	40
41	20	1	MOTOR CONTROL CENTER CNTRL CKT	500	2	C			FUTURE HAND DRYER - WOMEN 048	20	1	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	AMPS	NOTES :
PHASE A	5,900	0	0	5,900	4,974	41	
PHASE B	7,588	0	0	7,588	6,398	53	
PHASE C	9,150	0	0	9,150	7,715	64	
TOTAL	22,638	0	0	22,638	19,087	53	

GOETTING & ASSOCIATES R1.0

PANEL 'LP-BB'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 07/23/12 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	REFRIGERATOR - PANTRY 074	1,080	7	A	7	2,004	HEATED CABINET - PANTRY 074	20	1	**2**
3	20	1	REFRIGERATOR - PANTRY 074	1,080	7	B	7	180	BEVERAGE COUNTER - PANTRY 074	20	1	**4**
5	20	1	HEATED CABINET - PANTRY 074	1,050	7	C	7	720	SODAICE DISPENSER - PANTRY 074	20	1	**6**
7	40	2	COFFEE BREWER - PANTRY 074	3,120	7	A	0	540	RECEPTACLES - PANTRY 074	20	1	8
9	-	-	COFFEE BREWER - PANTRY 074	3,120	7	B	0	180	RECEPTACLES - PANTRY 086	20	1	10
11	20	1	TEA BREWER - PANTRY 074	2,400	7	C	0	540	RECEPTACLES - PIT LEVEL	20	1	12
13	20	1	FRONT CART - BASEMENT BACK BAR	180	7	A	0	540	RECEPTACLES - PIT LEVEL	20	1	14
15	20	1	HEATED CABINET - BASEMENT BACK BAR	1,050	7	B	0	900	RECEPTACLES - PIT LEVEL	20	1	16
17	20	1	BACK BAR - BASEMENT BACK BAR	180	7	C	3	175	ACI-20, ACI-21, & ACI-22	15	2	18
19	20	1	REFRIGERATOR - BASEMENT BACK BAR	780	7	A	3	175	-	-	-	20
21	20	1	FUTURE HAND DRYER - TOILET 042			B	3	43	ACI-10 & ACI-11	15	2	22
23	20	1	FUTURE HAND DRYER - TOILET 043			C	3	43	-	-	-	24
25	15	2	ACI-12 & ACI-18	197	3	A	3	172	ACI-2 & ACI-5	15	2	26
27	-	-	-	197	3	B	3	172	-	-	-	28
29	15	2	ACI-7 & ACI-8	225	3	C			SPARE	20	1	30
31	-	-	-	225	3	A	2	1,500	POWER CONVERTER - MEN 046	20	1	32
33	20	1	CP-1	1,176	3	B	3	290	FC-9	20	1	34
35	20	1	SP-1A	1,176	3	C	3	290	FC-10	20	1	36
37	20	1	SP-1D	1,176	3	A	3	144	EF-7	20	1	38
39	20	1	WH-1	120	2	B	2	500	BOILER 'B-1' CONTROLLER	20	1	40
41	20	1	WH-2	120	2	C	2	500	BOILER 'B-2' CONTROLLER	20	1	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	AMPS	NOTES :
PHASE A	11,833	0	0	11,833	9,350	78	
PHASE B	9,008	0	0	9,008	7,118	59	
PHASE C	7,419	0	0	7,419	5,862	49	
TOTAL	28,260	0	0	28,260	22,330	62	

GOETTING & ASSOCIATES R1.0

PANEL 'LP-BC'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 07/13/12 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	CORRIDOR LIGHTING 010 & 030	10	1	A	1	1,163	DRESSING RM LIGHTING	20	1	2
3	20	1	DRESSING RM LIGHTING	938	1	B	1	1,163	DRESSING RM LIGHTING	20	1	4
5	20	1	DRESSING RM LIGHTING	938	1	C	1	1,163	DRESSING RM LIGHTING	20	1	6
7	20	1	DRESSING RM LIGHTING	938	1	A	1	1,163	DRESSING RM LIGHTING	20	1	8
9	20	1	DRESSING RM LIGHTING	938	1	B	1	1,163	DRESSING RM LIGHTING	20	1	10
11	20	1	DRESSING RM LIGHTING	1,163	1	C	1	1,163	DRESSING RM LIGHTING	20	1	12
13	20	1	DRESSING RM LIGHTING	1,163	1	A	1	1,163	DRESSING RM LIGHTING	20	1	14
15	20	1	DRESSING RM LIGHTING	1,163	1	B	1	1,163	DRESSING RM LIGHTING	20	1	16
17	20	1	DRESSING RM LIGHTING	1,163	1	C	1	1,163	DRESSING RM LIGHTING	20	1	18
19	20	1	DRESSING RM LIGHTING	1,163	1	A	1	1,163	DRESSING RM LIGHTING	20	1	20
21	20	1	DRESSING RM LIGHTING	1,163	1	B	2	500	AUTOMATIC WINDOW SHADE SYSTEM	20	1	22
23	20	1	G.P. RECEPTACLE	180	0	C			SPARE	20	1	24
25	20	1	G.P. RECEPTACLES	540	0	A			SPARE	20	1	26
27	20	1	LIGHTING - ELEVATOR #4 MACH. RM.003A	128	1	B	3	600	VAV-0-1, 0-2, 0-3, 0-4, 0-5	20	1	28
29	20	1	LIGHTING - ELEVATOR #6 MACH. RM.016	128	1	C	3	600	VAV 0-7, 0-8, 0-11, & CAV 0-1, 0-2	20	1	30
31	20	1	LIGHTING - ELEVATOR #2 MACH. RM. 057	256	1	A	3	480	VAV 0-9, 0-10, 0-3 & CAV 0-3	20	1	32
33	20	1	POWER CONVERTER - TOILET 036a,037b	1,000	2	B	2	750	POWER CONVERTER - WOMEN 048	20	1	34
35	20	1	POWER CONVERTER - WOMEN 004	1,500	2	C	1	216	LIGHTING - TOILET 039B,037B,038A,039A	20	1	36
37	20	1	POWER CONVERTER - WOMEN 024	1,500	2	A	2	500	AUTOMATIC DOOR	20	1	38
39	20	1	HAND DRYER - FAMILY 005A	1,500	2	B	3	205	FC-7	20	1	40
41	20	1	HAND DRYER - FAMILY 009B	1,500	2	C	3	205	FC-8	20	1	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	AMPS	NOTES :
PHASE A	11,199	0	0	11,199	13,064	109	
PHASE B	12,371	0	0	12,371	14,431	120	
PHASE C	11,079	0	0	11,079	12,925	108	
TOTAL	34,648	0	0	34,648	40,420	112	

GOETTING & ASSOCIATES R1.0

PANEL 'LP-BD'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 10/27/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	RECEPTACLES - ELEVATOR #6 PIT	180	0	A	0	720	RECEPTACLES - ELEV. MACH. RM. 016	20	1	2
3	20	1	RECEPTACLES - 4 PERSON DRESSING 011	800	0	B	0	540	RECEPTACLES - CORRIDOR 010	20	1	4
5	20	1	FIRE SMOKE DAMPERS - STAIRS STB14	244	2	C	0	540	RECEPTACLES - VEST 020	20	1	6
7	20	1	RECEPTACLE - ELEVATOR #1 PIT	244	0	A	0	244	RECEPTACLE - ELEVATOR PIT #7	20	1	8
9	20	1	RECEPTACLES - FAMILY 009B	900	0	B	1	40	SIGNAGE - VEST 086	20	1	10
11	20	1	RECEPTACLES - TOILET 013,DRESSING 014	600	0	C	0	244	RECEPTACLE - ELEVATOR PIT #12	20	1	12
13	20	1	RECEPTACLE - ELEVATOR #4 PIT	244	0	A	0	180	RECEPTACLE - ELEV. MACH. RM. 002A	20	1	14
15	20	1	RECEPTACLES - 10 PERSON DRESSING 039	720	0	B	0	720	RECEPTACLES - 10 PERSON DRESSING 038	20	1	16
17	20	1	RECEPTACLES - 10 PERSON DRESSING 037	720	0	C	0	900	RECEPTACLES - MUSICIAN'S LAYOUT 031	20	1	18
19	20	1	RECEPTACLES - MUSICIAN'S LAYOUT 031	720	0	A	0	540	RECEPTACLES - WOMEN 024	20	1	20
21	20	1	RECEPTACLES - MEN'S CHGNG 032	900	0	B	0	360	RECEPTACLES - WARDROBE 033	20	1	22
23	20	1	RECEPTACLES - WARDROBE 033	360	0	C	0	360	RECEPTACLES - WARDROBE 033	20	1	24
25	20	1	RECEPTACLES - WARDROBE 033	360	0	A	0	720	RECEPTACLES - WARDROBE 033	20	1	26
27	20	1	RECEPTACLES - 10 PERSON DRESSING 036	720	0	B	0	180	RECEPTACLE - LAUNDRY 034	20	1	28
29	20	1	RECEPTACLES - LAUNDRY 034	360	0	C	0	540	RECEPTACLES - VEST 050	20	1	30
31	20	1	BEVERAGE COUNTER - PANTRY 086	180	7	A	7	3,120	COFFEE BREWER - PANTRY 086	40	2	32
33	20	1	SODAICE DISPENSER - PANTRY 086	720	7	B	7	3,120	COFFEE BREWER - PANTRY 086	-	-	34
35	30	1	TEA BREWER - PANTRY 086	2,400	7	C	1	128	LIGHTING - ELEVATOR #7 MACH RM. 094	20	1	36
37	20	1	RECEPTACLE - ELEVATOR #5 PIT	244	0	A	2	1,500	HAND DRYER - DRESSING ROOM 011	20	1	38
39	15	2	ACI-1, AC-15, & AC-6	110	3	B	2	1,500	HAND DRYER - DRESSING ROOM 014	20	1	40
41	-	-	-	110	3	C	2	500	AUTOMATIC DOOR	20	1	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	AMPS	NOTES :
PHASE A	9,196	0	0	9,196	7,350	61	
PHASE B	11,330	0	0	11,330	9,056	75	
PHASE C	8,006	0	0	8,006	6,399	53	
TOTAL	28,532	0	0	28,532	22,805	63	

GOETTING & ASSOCIATES R1.0

PANEL 'LP-BE'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 07/17/12 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	30	2	DRYER - LAUNDRY ROOM 034	2,500	5	A	5	2,500	DRYER - LAUNDRY ROOM 034	30	2	2
3	-	-	-	2,500	5	B	5	2,500	-	-	-	4
5	30	2	DRYER - LAUNDRY ROOM 034	2,500	5	C	5	2,500	DRYER - LAUNDRY ROOM 034	30	2	6
7	-	-	-	2,500	5	A	5	2,500	-	-	-	8
9	30	2	DRYER - LAUNDRY ROOM 034	2,500	5	B	5	2,500	DRYER - LAUNDRY ROOM 034	30	2	10
11	-	-	-	2,500	5	C	5	2,500	-	-	-	12
13	20	1	WASHING MACHINE - LAUNDRY ROOM 034	1,500	2	A	2	1,500	WASHING MACHINE - LAUNDRY ROOM 034	20	1	14
15	20	1	WASHING MACHINE - LAUNDRY ROOM 034	1,500	2	B			FUTURE HAND DRYER - WOMEN 046	20	1	16
17	20	1	WASHING MACHINE - LAUNDRY ROOM 034	1,500	2	C			FUTURE HAND DRYER - MEN 046	20	1	18
19	20	1	SPARE			A	2	1,500	HAND DRYER - TOILET 059	20	1	20
21	20	1	HAND DRYER - DRESSING ROOM 036b	1,500	2	B	2	1,500	HAND DRYER - WOMEN CHNGNG 025	20	1	22
23	20	1	HAND DRYER - DRESSING ROOM 037b	1,500	2	C	2	500	AUTOMATIC DOOR	20	1	24
25	20	1	HAND DRYER - DRESSING ROOM 038a	1,500	2	A	3	220	ACI-13 & ACI-14	15	2	26
27	20	1	HAND DRYER - MEN 022	1,500	2	B	3	220	-	-	-	28
29	20	1	HAND DRYER - TOILET 039a	1,500	2	C	3	1,176	SP-1B	20	1	30
31	20	1	HAND DRYER - WOMEN 024	1,500	2	A	3	1,176	SP-1C	20	1	32
33	20	1	HAND DRYER - WOMEN 024	1,500	2	B	3	1,176	SP-1E	20	1	34
35	20	1	SPARE			C	3	1,176	SP-1F	20	1	36
37	20	1	SPARE			A	3	1,176	SP-1G	20	1	38
39	20	1	HAND DRYER - WOMEN 004	1,500	2	B	3	525	ACI-16, ACI-17 & ACI-21	15	2	40
41	20	1	HAND DRYER - MEN 003	1,500	2	C	3	525	-	-	-	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	AMPS	NOTES :
PHASE A	20,072	0	0	20,072	20,072	167	
PHASE B	20,921	0	0	20,921	20,921	174	
PHASE C	19,377	0	0	19,377	19,377	161	
TOTAL	60,370	0	0	60,370	60,370	168	

GOETTING & ASSOCIATES R1.0

PANEL 'LP-BF'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 09/13/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	DRESSING ROOM RECEPTACLES - RM 014	1,000	0	A	0	1,000	DRESSING ROOM RECEPTACLES - RM 011	20	1	2
3	20	1	DRESSING ROOM RECEPTACLES - RM 014	1,000	0	B	0	1,000	DRESSING ROOM RECEPTACLES - RM 011	20	1	4
5	20	1	DRESSING ROOM RECEPTACLES - RM 014	1,000	0	C	0	1,000	DRESSING ROOM RECEPTACLES - RM 011	20	1	6
7	20	1	DRESSING ROOM RECEPTACLES - RM 039	1,000	0	A	0	700	DRESSING ROOM RECEPTACLES - RM 039	20	1	8
9	20	1	DRESSING ROOM RECEPTACLES - RM 039	1,000	0	B	0	1,000	DRESSING ROOM RECEPTACLES - RM 039	20	1	10
11	20	1	DRESSING ROOM RECEPTACLES - RM 039	1,000	0	C	0	1,000	DRESSING ROOM RECEPTACLES - RM 039	20	1	12
13	20	1	DRESSING ROOM RECEPTACLES - RM 039	1,000	0	A	0	700	DRESSING ROOM RECEPTACLES - RM 039	20	1	14
15	20	1	DRESSING ROOM RECEPTACLES - RM 038	1,000	0	B	0	1,000	DRESSING ROOM RECEPTACLES - RM 038	20	1	16
17	20	1	DRESSING ROOM RECEPTACLES - RM 038	1,000	0	C	0	1,000	DRESSING ROOM RECEPTACLES - RM 038	20	1	18
19	20	1	DRESSING ROOM RECEPTACLES - RM 038	1,000	0	A	0	700	DRESSING ROOM RECEPTACLES - RM 038	20	1	20
21	20	1	DRESSING ROOM RECEPTACLES - RM 038	1,000	0	B	0	700	DRESSING ROOM RECEPTACLES - RM 038	20	1	22
23	20	1	DRESSING ROOM RECEPTACLES - RM 037	1,000	0	C	0	1,000	DRESSING ROOM RECEPTACLES - RM 037	20	1	24
25	20	1	DRESSING ROOM RECEPTACLES - RM 037	1,000	0	A	0	700	DRESSING ROOM RECEPTACLES - RM 037	20	1	26
27	20	1	DRESSING ROOM RECEPTACLES - RM 037	1,000	0	B	0	1,000	DRESSING ROOM RECEPTACLES - RM 037	20	1	28
29	20	1	DRESSING ROOM RECEPTACLES - RM 037	1,000	0	C	0	700	DRESSING ROOM RECEPTACLES - RM 037	20	1	30
31	20	1	DRESSING ROOM RECEPTACLES - RM 036	1,000	0	A	0	700	DRESSING ROOM RECEPTACLES - RM 036	20	1	32
33	20	1	DRESSING ROOM RECEPTACLES - RM 036	1,000	0	B	0	1,000	DRESSING ROOM RECEPTACLES - RM 036	20	1	34
35	20	1	DRESSING ROOM RECEPTACLES - RM 036	1,000	0	C	0	1,000	DRESSING ROOM RECEPTACLES - RM 036	20	1	36
37	20	1	DRESSING ROOM RECEPTACLES - RM 036	700	0	A	0	1,000	DRESSING ROOM RECEPTACLES - RM 036	20	1	38
39	20	1	SPARE			B			AUTOMATIC DOOR	20	1	40
41	20	1	SPARE			C			SPARE	20	1	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	AMPS	NOTES :
PHASE A	12,200	0	0	12,200	7,813	65	
PHASE B	11,700	0	0	11,700	7,493	62	
PHASE C	11,700	0	0	11,700	7,493	62	
TOTAL	35,600	0	0	35,600	22,800	63	

GOETTING & ASSOCIATES R1.0

PANEL 'LP-1A'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 11/04/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	SPARE			A	2	1,000	POWER CONVERTER - TOIL 161,STOR 175	20	1	2
3	20	1	STEP LIGHTING	414	1	B	2	300	VIDEO DISPLAY - STAGE 150 (STAGE LEFT)	20	1	4
5	20	1	AISLE STEP LIGHTING	42	1	C	2	1,500	TABLE SAW - ROAD BOX STORAGE 177	20	1	6
7	20	1	LIGHTING FIXTURE TYPE F24	813	1	A	0	360	A/V POKE THRU DEVICES - MAIN LOBBY 120	20	1	8
9	20	1	LIGHTING FIXTURE TYPE F24	813	1	B	2	1,500	HAND DRYER - TOILET 174b	20	1	10
11	20	1	LIGHTING FIXTURE TYPE F24/F24a	1,173	1	C	2	1,500	HAND DRYER - TOILET 174a	20	1	12
13	20	1	SPARE			A	1	600	LIGHTING - DOCK LIGHTS	20	1	14
15	20	1	SIGNAGE - VEST 195	240	1	B	1	600	LIGHTING - RESTROOMS 042, 043 & 046	20	1	16
17	20	1	LIGHTING - WOMEN'S ROOM 048	800	1	C			SPARE	20	1	18
19	20	1	SPARE			A			SPARE	20	1	20
21	20	1	SPARE			B			SPARE	20	1	22
23	20	1	SPARE			C			SPARE	20	1	24
25	20	1	SPARE			A			SPARE	20	1	26
27	20	1	SPARE			B			SPARE	20	1	28
29	20	1	SPARE			C			SPARE	20	1	30
31	20	1	SPARE			A			SPARE	20	1	32
33	20	1	SPARE			B	3	45	AC-23	15	2	34
35	20	1	SPARE			C	3	45	-	-	-	36
37	20	3	DOCK ROLL-UP DOOR	500	2	A	2	500	DOCK ROLL-UP DOOR	20	3	38
39	20	-	-	500	2	B	2	500	-	-	-	40
41	20	-	-	500	2	C	2	500	-	-	-	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	AMPS	NOTES :
PHASE A	3,773	0	0	3,773	4,125	34	
PHASE B	4,912	0	0	4,912	5,370	45	
PHASE C	6,060	0	0	6,060	6,624	55	
TOTAL	14,745	0	0	14,745	16,119	45	

GOETTING & ASSOCIATES R1.0

PANEL 'LP-1B'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 04/18/12 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	TV - STUDIO CATERING 122	300	2	A	0	540	RECEPTACLES - STORAGE 118	20	1	2
3	20	1	RECEPTACLE - STORAGE

PANEL 'LP-2B'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 10/27/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	135%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	RECEPTACLES - VEST 215	900	0	A	2	1,500	HAND DRYER - WOMEN 211	20	1	2
3	20	1	RECEPTACLES - FURN STORAGE 214	540	0	B	2	1,500	HAND DRYER - WOMEN 209	20	1	4
5	20	1	VIDEO DISPLAY - VEST 213	500	2	C	2	1,500	HAND DRYER - WOMEN 206	20	1	6
7	20	1	RECEPTACLES - VEST 215	900	0	A	2	500	VIDEO DISPLAY - PARTONS LOUNGE 204	20	1	8
9	20	1	RECEPTACLES - WOMEN 206	540	0	B	0	360	RECEPTACLES - PATRONS LOUNGE 204	20	1	10
11	20	1	RECEPTACLES - PATRONS LOUNGE 204	540	0	C	0	720	RECEPTACLES - LEVEL 02 VESTIBULES	20	1	12
13	20	1	REFRIGERATED CAB - PATRON LOUNGE 204	780	7	A	7	360	BACK BAR - CONCESSION LVL 2	20	1	14
15	20	1	CART FRONT - CONCESSION LVL 2	360	7	B	1	80	SIGNAGE - PATRON LOUNGE 204	20	1	16
17	20	1	SIGNAGE - CROSSOVER 227	200	1	C	2	500	AUTOMATIC WINDOW SHADE SYSTEM	20	1	18
19	20	1	SIGNAGE - VEST 215	240	1	A	0	540	RECEPTACLES - LEVEL 6 WP GFCI'S	20	1	20
21	20	1	SPARE			B			SPARE	20	1	22
23	20	1	SPARE			C			SPARE	20	1	24
25	20	1	SPARE			A			SPARE	20	1	26
27	20	1	SPARE			B			SPARE	20	1	28
29	20	1	SPARE			C			SPARE	20	1	30
31	20	1	SPARE			A			SPARE	20	1	32
33	20	1	SPARE			B			SPARE	20	1	34
35	20	1	SPARE			C			SPARE	20	1	36
37	20	1	SPARE			A			SPARE	20	1	38
39	20	1	SPARE			B			SPARE	20	1	40
41	20	1	SPARE			C	3	360	VAV 2-1, 2-2 & CAV 2-1	20	1	42

	PANEL	SUB	FEED	TOTAL	TOTAL DEMAND		NOTES :
	VA	FEED	THRU	CONN	VA	AMPS	
PHASE A	5,720	0	0	5,720	5,552	46	
PHASE B	3,380	0	0	3,380	3,281	27	
PHASE C	4,320	0	0	4,320	4,193	35	
TOTAL	13,420	0	0	13,420	13,025	36	

GOETTING & ASSOCIATES R1.0

PANEL 'LP-3A'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 04/18/12 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	135%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	VANITY LIGHTING RM. 326	1,560	1	A	2	1,667	EQUIPMENT RACK 'ER-LH1F'	20	1	2
3	20	1	VANITY LIGHTING RM. 326	1,560	1	B	2	1,667	-	20	1	4
5	20	1	VANITY LIGHTING RM. 323	1,560	1	C	2	1,667	-	20	1	6
7	20	1	VANITY LIGHTING RM. 323	1,560	1	A	0	360	G.P. RECEPTACLE	20	1	8
9	20	1	UPPER LOBBY LIGHTING RM. 370	466	1	B			SPARE	20	1	10
11	20	1	WEST/ EAST TOWER (3RD FL.) LIGHTING	400	1	C			SPARE	20	1	12
13	20	1	FUTURE HAND DRYER - WOMEN RM. 365			A			SPARE	20	1	14
15	20	1	SPARE			B	1	1,150	LIGHTING FIXTURE TYPE F27	20	1	16
17	20	1	SPARE			C			SPARE	20	1	18
19	20	1	SPARE			A			SPARE	20	1	20
21	20	1	SPARE			B			SPARE	20	1	22
23	20	1	SPARE			C			SPARE	20	1	24
25	20	1	SPARE			A			SPARE	20	1	26
27	20	1	CURTAIN MOTOR - CATWALK 3RD LEVEL	400	3	B			SPARE	20	1	28
29	20	1	CURTAIN MOTOR - CATWALK 3RD LEVEL	600	3	C	3	45	ACI-25	15	2	30
31	20	1	SHADE CURTAIN - VEST 328	200	3	A	3	45		-	-	32
33	20	1	DRYER - WOMEN LOWER 365	1,500	2	B	3	66	ACI -3, ACI-19, & ACI-4	15	2	34
35	20	1	FUTURE HAND DRYER - TOILET 367			C	3	66	-	-	-	36
37	20	1	DRYER - TOILET 313	1,500	2	A	3	720	VAV 3-1, 3-2, 3-3, 3-4, 3-5 & CAV 3-1	20	1	38
39	20	1	DRYER - TOILET 325	1,500	2	B	3	290	FC-1	20	1	40
41	20	1	DRYER - TOILET 324	1,500	2	C	3	290	FC-3	20	1	42

	PANEL	SUB	FEED	TOTAL	TOTAL DEMAND		NOTES :
	VA	FEED	THRU	CONN	VA	AMPS	
PHASE A	7,612	0	0	7,612	8,315	69	
PHASE B	8,599	0	0	8,599	9,394	78	
PHASE C	6,128	0	0	6,128	6,694	56	
TOTAL	22,339	0	0	22,339	24,403	68	

GOETTING & ASSOCIATES R1.0

PANEL 'LP-3B'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 04/18/12 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	135%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	REFRIGERATED CABINET - UPPER LOBBY 370	780	7	A	7	780	REFRIGERATED CABINET - UPPER LOBBY 370	20	1	2
3	20	1	RECEPTACLES - UPPER LOBBY 370	360	0	B	7	780	REFRIGERATED CABINET - UPPER LOBBY 370	20	1	4
5	20	1	REFRIGERATED CABINET - UPPER LOBBY 370	780	7	C	7	360	CART FRONT - UPPER LOBBY 370	20	1	6
7	20	1	CART FRONT - UPPER LOBBY 370	360	7	A	1	280	SIGNAGE - VEST 302	20	1	8
9	20	1	COMBINATION FIRE/SMOKE DAMPERS	250	2	B	1	80	SIGNAGE - VEST 381, 383	20	1	10
11	20	1	RECEPTACLE - DRESSING ROOM 323	360	0	C	0	360	RECEPTACLE - DRESSING ROOM 323	20	1	12
13	20	1	RECEPTACLE - VEST 330	720	0	A	0	360	RECEPTACLE - DRESSING ROOM 326	20	1	14
15	20	1	RECEPTACLE - STOR 333,VEST302	720	0	B	0	720	RECEPTACLE - STORAGE 329,CORR 320	20	1	16
17	20	1	RECEPTACLE - N.NW ROOF TOP	1,080	0	C	0	540	RECEPTACLE - PSFM LOUNGE 327	20	1	18
19	20	1	RECEPTACLE - DRESSING RM 326	360	0	A	0	900	RECEPTACLE - DRESSING 326,TOILET 324,325	20	1	20
21	20	1	RECEPTACLE - DRESSING RM 326	360	0	B	0	720	RECEPTACLE - DRESSING 323	20	1	22
23	20	1	RECEPTACLE - DRESSING RM 326	360	0	C	0	720	RECEPTACLE - DRESSING 322,323,OFFC 121a,b	20	1	24
25	20	1	RECEPTACLE - DRESSING RM 323	360	0	A	0	900	RECEPTACLE - WARDROBE 322	20	1	26
27	20	1	RECEPTACLE - DRESSING RM 323	360	0	B	0	900	RECEPTACLE - OFFICE 321a,b	20	1	28
29	20	1	RECEPTACLE - DRESSING RM 323	360	0	C	0	180	RECEPTACLE - STAIR ST2	20	1	30
31	20	1	RECEPTACLE - VEST 300,COM 314,JAN 312	1,080	0	A	0	540	RECEPTACLE - WOMEN 366	20	1	32
33	20	1	RECEPTACLE - VEST 383,LOBBY 370	360	0	B	0	360	RECEPTACLES - DRESSING ROOM 326	20	1	34
35	20	1	RECEPTACLE - VEST 368,RR 363	720	0	C	0	360	RECEPTACLE - EAST & WEST ENTRY	20	1	36
37	20	1	REMOTE CONDENSING UNIT #445	1,500	2	A	2	300	TV - LOBBY BACK BAR LVL 3	20	1	38
39	20	1	FUTURE HAND DRYER - WOMEN UPPER 366			B	2	300	TV - LOBBY BACK BAR LVL 3	20	1	40
41	20	1	FUTURE HAND DRYER - WOMEN UPPER 368			C	2		SPARE	20	1	42

	PANEL	SUB	FEED	TOTAL	TOTAL DEMAND		NOTES :
	VA	FEED	THRU	CONN	VA	AMPS	
PHASE A	9,220	0	0	9,220	7,597	63	
PHASE B	6,270	0	0	6,270	5,166	43	
PHASE C	6,180	0	0	6,180	5,092	42	
TOTAL	21,670	0	0	21,670	17,856	50	

GOETTING & ASSOCIATES R1.0

PANEL 'LP-3C'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 04/18/12 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	135%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	RECEPTACLE - VEST 381,LOBBY 370	360	0	A	0	720	RECEPTACLE - VEST 306,307	20	1	2
3	20	1	RECEPTACLE - STAIR ST1	180	0	B	0	720	RECEPTACLE - VEST 306	20	1	4
5	20	1	RECEPTACLE - VEST 307,308	720	0	C	0	540	RECEPTACLE - NE ROOFTOP	20	1	6
7	20	1	FUTURE HAND DRYER - MEN LOWER 363			A	0	540	RECEPTACLE - MEN 363	20	1	8
9	20	1	FUTURE HAND DRYER - MEN 364			B	0	540	RECEPTACLE - MEN 364	20	1	10
11	20	1	FUTURE HAND DRYER - TOILET 362			C	2	800	POWER CONVERTERS - JAN 360	20	1	12
13	20	1	RECEPTACLE - VEST 308	1,080	0	A	0	540	RECEPTACLE - NW ROOFTOP	20	1	14
15	20	1	VEIL LIGHTING - WEST ELEVATION #1	450	1	B	1	240	SIGNAGE - VEST 306, 307	20	1	16
17	20	1	VEIL LIGHTING - WEST ELEVATION #1	600	1	C	1	750	VEIL LIGHTING - NORTH ELEVATION #1	20	1	18
19	20	1	VEIL LIGHTING - WEST ELEVATION #1	450	1	A	1	750	VEIL LIGHTING - NORTH ELEVATION #1	20	1	20
21	20	1	VEIL LIGHTING - WEST ELEVATION #1	600	1	B	1	750	VEIL LIGHTING - NORTH ELEVATION #1	20	1	22
23	20	1	VEIL LIGHTING - WEST ELEVATION #1	450	1	C	1	750	VEIL LIGHTING - NORTH ELEVATION #1	20	1	24
25	20	1	VEIL LIGHTING - WEST ELEVATION #1	300	1	A	1	750	VEIL LIGHTING - NORTH ELEVATION #1	20	1	26
27	20	1	VEIL LIGHTING - WEST ELEVATION #1	600	1	B	1	750	VEIL LIGHTING - NORTH ELEVATION #1	20	1	28
29	20	1	VEIL LIGHTING - WEST ELEVATION #2	600	1	C	1	450	VEIL LIGHTING - NORTH ELEVATION #2	20	1	30
31	20	1	VEIL LIGHTING - WEST ELEVATION #2	750	1	A	1	450	VEIL LIGHTING - NORTH ELEVATION #2	20	1	32
33	20	1	VEIL LIGHTING - WEST ELEVATION #2	450	1	B	1	1,500	VEIL EQUIPMENT RACK #1	20	1	34
35	20	1	VEIL LIGHTING - WEST ELEVATION #2	450	1	C	2	500	ELEVATOR #3 ROOF VENT	20	1	36
37	20	1	VEIL LIGHTING - WEST ELEVATION #2	450	1	A			SPARE	20	1	38
39	20	1	VEIL LIGHTING - WEST ELEVATION #2	450	1	B			SPARE	20	1	40
41	20	1	VEIL LIGHTING - WEST ELEVATION #2	150	1	C			SPARE	20	1	42

	PANEL	SUB	FEED	TOTAL	TOTAL DEMAND		NOTES :
	VA	FEED	THRU	CONN	VA	AMPS	
PHASE A	7,140	0	0	7,140	8,313	69	
PHASE B	7,230	0	0	7,230	8,418	70	
PHASE C	6,760	0	0	6,760	7,871	66	
TOTAL	21,130	0	0	21,130	24,603	68	

GOETTING & ASSOCIATES R1.0

PANEL 'LP-3D'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 01/23/13 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	135%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	G.P. RECEPTACLE	180	0	A	2	1,667	EQUIPMENT RACK 'ER-LH1F'	20	3	2
3	20	1	G.P. RECEPTACLE	180	0	B	2	1,667	-	-	-	4
5	20	1	REMOTE CONDENSING UNIT #130	1,800	2	C	2	1,667	-	-	-	6
7	20	1	VEIL LIGHTING - SOUTH ELEVATION	450	1	A	3	65	ACI-9	15	2	8
9	20	1	VEIL LIGHTING - SOUTH ELEVATION	450	1	B	3	65	-	-	-	10
11	20	1	VEIL LIGHTING - SOUTH ELEVATION	450	1	C	3	45	ACI-26	15	2	12
13	20	1	VEIL LIGHTING - SOUTH ELEVATION	450	1	A	3	45	-	-	-	14
15	20	1	VEIL LIGHTING - EAST ELEVATION	450	1	B			SPARE	20	1	16
17	20	1	VEIL LIGHTING - EAST ELEVATION	600	1	C			SPARE	20	1	18
19	20	1	VEIL LIGHTING - EAST ELEVATION	600	1	A			SPARE	20	1	20
21	20	1	VEIL LIGHTING - EAST ELEVATION	600	1	B			SPARE	20	1	22
23	20	1	VEIL LIGHTING - EAST ELEVATION	450	1	C			SPARE	20	1	24
25	20	1	VEIL LIGHTING - EAST ELEVATION	450	1	A			SPARE	20	1	26
27	20	1	VEIL LIGHTING - EAST ELEVATION	600	1	B			SPARE	20	1	28
29	20	1	VEIL LIGHTING - EAST ELEVATION	600	1	C			SPARE	20	1	30
31	20	1	VEIL LIGHTING - EAST ELEVATION	600	1	A			SPARE	20	1	32
33	20	1	VEIL EQUIPMENT RACK #2	1,500	1	B	3	45	EF-11	20	1	34
35	20	1	SPARE			C	3	290	FC-2	20	1	36
37	20	1	SPARE			A	3	290	FC-4	20	1	38
39	20	1	SPARE			B	3	290	FC-5	20	1	40
41	20	1	SPARE			C	3	290	FC-6	20	1	42

	PANEL	SUB	FEED	TOTAL	TOTAL DEMAND		NOTES :
	VA	FEED	THRU	CONN	VA	AMPS	
PHASE A	4,797	0	0	4,797	5,385	45	
PHASE B	5,847	0	0	5,847	6,563	55	
PHASE C	6,192	0	0	6,192	6,951	58	
TOTAL	16,836	0	0	16,836	18,899	52	

GOETTING & ASSOCIATES R1.0

PANEL 'LP-3E' (SHELL SPACE)

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 09/13/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	135%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	SPARE			A			SPARE	20	1	2
3	20	1	SPARE			B			SPARE	20	1	4
5	20	1	SPARE			C			SPARE	20	1	6
7	20	1	SPARE			A			SPARE	20	1	8
9	20	1	SPARE			B			SPARE	20	1	10
11	20	1	SPARE			C			SPARE	20	1	12
13	20	1	SPARE			A			SPARE	20	1	14
15	20	1	SPARE			B			SPARE	20	1	16
17	20	1	SPARE			C			SPARE	20	1	18
19	20	1	SPARE			A			SPARE	20	1	20
21	20	1	SPARE			B			SPARE	20	1	22
23	20	1	SPARE			C			SPARE	20	1	24
25	20	1	SPARE			A			SPARE	20	1	26
27	20	1	SPARE			B			SPARE	20	1	28
29	20	1	SPARE			C			SPARE	20	1	30
31			BUSSED SPACE			A			BUSSED SPACE			32
33			BUSSED SPACE			B			BUSSED SPACE			34
35			BUSSED SPACE			C			BUSSED SPACE			36
37			BUSSED SPACE			A			BUSSED SPACE			38
39			BUSSED SPACE			B			BUSSED SPACE			40
41			BUSSED SPACE			C			BUSSED SPACE			42

	PANEL	SUB	FEED	TOTAL	TOTAL DEMAND		NOTES :
	VA	FEED	THRU	CONN	VA	AMPS	
PHASE A	0	0	0	0	0	0	
PHASE B	0	0	0	0	0	0	
PHASE C	0	0	0	0	0	0	
TOTAL	0	0	0	0	0	0	

GOETTING & ASSOCIATES R1.0

PANEL 'LP-4A'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 10/27/11 | INTERRUPTING : 10 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	135%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	SIGNAGE - VEST 401	40	1	A	0	360	RECEPTACLE - SE EXTERIOR WALL	20	1	2
3	20	1	SIGNAGE - VEST 407	40	1	B	2	500	ELEVATOR #3 ROOF VENT	20	1	4
5	20	1	RECEPTACLE - SW EXTERIOR WALL	540	0	C	2	500	ELEVATOR #5 ROOF VENT	20	1	6
7	20	1	SPARE			A			SPARE	20	1	8
9	20	1	SPARE			B			SPARE	20	1	10
11	20	1	SPARE			C			SPARE	20	1	12
13	20	1	SPARE			A			SPARE	20	1	14
15	20	1	SPARE			B			SPARE	20	1	16
17	20	1	SPARE			C			SPARE	20	1	18
19	20	1	SPARE			A	0	360	RECEPTACLE - NW ROOF TOP	20	1	20
21	20	1	RECEPTACLE - STAIR ST29,26	1,080	0	B	0	900	RECEPTACLE - VEST 402	20	1	22
23	20	1	RECEPTACLE - STAIR ST25,30	1,080	0	C	0	900	RECEPTACLE - VEST 406	20	1	24
25	20	1	RECEPTACLE - S ROOF TOP	180	0	A			SPARE	20	1	26
27	20	1	SPARE			B			SPARE	20	1	28
29	20	1	SPARE			C			SPARE	20	1	30
31	20	1	SPARE			A			SPARE	20	1	32
33	20	1	SPARE			B			SPARE	20	1	34
35	20	1	SPARE			C			SPARE	20	1	36
37	20	1	SPARE			A			SPARE	20	1	38
39	20	1	SPARE			B			SPARE	20	1	40
41	20	1	SPARE			C			SPARE	20	1	42

	PANEL	SUB	FEED	TOTAL	TOTAL DEMAND		NOTES :
	VA	FEED	THRU	CONN	VA	AMPS	
PHASE A	940	0	0	940	943	8	
PHASE B	2,520	0	0	2,520	2,528	21	
PHASE C	3,020	0	0	3,020	3,029	25	
TOTAL	6,480	0	0	6,480	6,500	18	

GOETTING & ASSOCIATES R1.0

PANEL 'HLS'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : RECESSED
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 480/277V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 11/04/11 | INTERRUPTING : 14 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	135%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	STEP/CORRIDOR 140/VEST/LOBBY LIGHTING	1,354	1	A	1	192	VESTIBULE P01/P03 LIGHTING	20	1	2
3	20	1	STAIRS LIGHTING	2,400	1	B			SPARE	20	1	4
5	20	1	CORRIDOR LIGHTING	1,139	1	C			SPARE	20	1	6
7	20	1	STR/TOILETS/MECH/ELEC LIGHTING	1,197	1	A			SPARE	20	1	8
9	20	1	EAST/WEST/SOUTH PATERRE LIGHTING	560	1	B			SPARE	20	1	10
11	20	1	LEVEL 3 STAIRS/VEST./RESTRM. LIGHTING	625	1	C	1	200	DRESSING RM./TOILET RM. LIGHTING	20	1	12
13	20	1	WEST CORE/TOILET/ELEC. 331 LIGHTING	293	1	A			SPARE	20	1	14
15	20	1	EAST CORE/SHELL/ VEST. 308 LIGHTING	168	1	B			SPARE	20	1	16
17	20	1	EXTERIOR ENTRY (1ST FL.) LIGHTING	75	1	C			SPARE	20	1	18
19	20	1	MULTI. RM.166/ RECEIV. RM. 170 LIGHTING	449	1	A			SPARE	20	1	20
21	20	1	EAST/WEST LANDING (4TH & 5TH FL.) LIGHTING	240	1	B			SPARE	20	1	22
23	20	1	EXTERIOR WEST WALKWAY LIGHTING (1ST FL)	588	1	C			SPARE	20	1	24
25	20	1	EXTERIOR EAST WALKWAY LIGHTING (1ST FL)	588	1	A			BUSSED SPACE			26
27	20	1	EXTERIOR LIGHTING	1,336	1	B			B

DISTRIBUTION PANEL 'DPL-DS'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : 400A | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 400A | MOUNTING : SURFACE
LOCATION : | BUSSING : 400A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 208/120V, 3PH, 4W | PROVIDE : NEUTRAL BUS,
SCHEDULE DATE : 04/11/12 | INTERRUPTING : 22 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	125%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	30	3	DS-LH2F	3,879	3	A	3	1,330	DS-LH3F	30	3	2
				3,879	3	B	3	1,330				
				3,879	3	C	3	1,330				
3	60	3	DS-LH5F	1,330	3	A	3	3,879	DS-ST1F	40	3	4
				1,330	3	B	3	3,879				
				1,330	3	C	3	3,879				
5	200	2	DS-LH8F2	15,000	3	A			BUSSED SPACE			6
				15,000	3	B						
				-		C						
7			BUSSED SPACE			A			BUSSED SPACE			8
						B						
						C						
9			BUSSED SPACE			A			BUSSED SPACE			10
						B						
						C						
11			BUSSED SPACE			A			BUSSED SPACE			12
						B						
						C						
13			BUSSED SPACE			A			BUSSED SPACE			14
						B						
						C						

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS	NOTES :
PHASE A	25,418	0	0	25,418	25,418	212	
PHASE B	25,418	0	0	25,418	25,418	212	
PHASE C	10,418	0	0	10,418	10,418	87	
TOTAL	61,254	0	0	61,254	61,254	170	

GOETTING & ASSOCIATES R1.0

PANEL 'LPH-M1'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 400A | MOUNTING : SURFACE
LOCATION : | BUSSING : 400A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 480/277V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 10/18/12 | INTERRUPTING : 35 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	125%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	100	3	AHU-1 (SUPPLY)	20,000	3	A	3	5,000	AHU-3 (SUPPLY)	30	3	2
3	-	-	-	20,000	3	B	3	5,000	-	-	-	4
5	-	-	-	20,000	3	C	3	5,000	-	-	-	6
7	100	3	AHU-1 (RETURN)	18,300	3	A	3	2,700	AHU-3 (RETURN)	20	3	8
9	-	-	-	18,300	3	B	3	2,700	-	-	-	10
11	-	-	-	18,300	3	C	3	2,700	-	-	-	12
13	50	3	AHU-2 (SUPPLY)	7,800	3	A	3	2,110	AHU-9	20	3	14
15	-	-	-	7,800	3	B	3	2,110	-	-	-	16
17	-	-	-	7,800	3	C	3	2,110	-	-	-	18
19	30	3	AHU-2 (RETURN)	4,250	3	A	3	2,110	AHU-10	20	3	20
21	-	-	-	4,250	3	B	3	2,110	-	-	-	22
23	-	-	-	4,250	3	C	3	2,110	-	-	-	24
25	20	3	SP-2 & SP-3 (SUB SOIL SUMP PUMPS)	1,890	3	A	3	2,110	AHU-11	15	3	26
27	-	-	-	1,890	3	B	3	2,110	-	-	-	28
29	-	-	-	1,890	3	C	3	2,110	-	-	-	30
31	20	3	SE-1 & SE-2 (SEWAGE EJECTOR PUMPS)	1,890	3	A	3	835	JP-1 (JOCKEY PUMP)	15	3	32
33	-	-	-	1,890	3	B	3	835	-	-	-	34
35	-	-	-	1,890	3	C	3	835	-	-	-	36
37	15	3	AHU-12	2,110	3	A	3	2,110	WB-1 (WATER BOOSTER PUMP)	20	3	38
39	-	-	-	2,110	3	B	3	2,110	-	-	-	40
41	-	-	-	2,110	3	C	3	2,110	-	-	-	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS	NOTES :
PHASE A	73,215	0	0	73,215	73,215	264	
PHASE B	73,215	0	0	73,215	73,215	264	
PHASE C	73,215	0	0	73,215	73,215	264	
TOTAL	219,645	0	0	219,645	219,645	264	

GOETTING & ASSOCIATES R1.0

PANEL 'LPH-M2'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : Central Plant P04 | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 480/277V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 09/18/12 | INTERRUPTING : 35 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	125%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	3	P-1	3,050	3	A	3	835	P-7	15	3	2
3	-	-	-	3,050	3	B	3	835	-	-	-	4
5	-	-	-	3,050	3	C	3	835	-	-	-	6
7	20	3	P-2	3,050	3	A	3	835	P-8	15	3	8
9	-	-	-	3,050	3	B	3	835	-	-	-	10
11	-	-	-	3,050	3	C	3	835	-	-	-	12
13	20	3	P-3	3,050	3	A	3	835	P-9	15	3	14
15	-	-	-	3,050	3	B	3	835	-	-	-	16
17	-	-	-	3,050	3	C	3	835	-	-	-	18
19	20	3	P-4	3,050	3	A	3	835	P-10	15	3	20
21	-	-	-	3,050	3	B	3	835	-	-	-	22
23	-	-	-	3,050	3	C	3	835	-	-	-	24
25	40	3	P-5	5,820	3	A	3	1,330	P-11	15	3	26
27	-	-	-	5,820	3	B	3	1,330	-	-	-	28
29	-	-	-	5,820	3	C	3	1,330	-	-	-	30
31	40	3	P-6	5,820	3	A	3	1,330	P-12	15	3	32
33	-	-	-	5,820	3	B	3	1,330	-	-	-	34
35	-	-	-	5,820	3	C	3	1,330	-	-	-	36
37	60	3	SPARE			A	3	835	P-13	15	3	38
39	-	-	-			B	3	835	-	-	-	40
41	-	-	-			C	3	835	-	-	-	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS	NOTES :
PHASE A	30,675	0	0	30,675	30,675	111	
PHASE B	30,675	0	0	30,675	30,675	111	
PHASE C	30,675	0	0	30,675	30,675	111	
TOTAL	92,025	0	0	92,025	92,025	111	

GOETTING & ASSOCIATES R1.0

PANEL 'LPH-M3'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 400A | MOUNTING : SURFACE
LOCATION : | BUSSING : 400A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 480/277V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 10/27/11 | INTERRUPTING : 35 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	125%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	40	3	CT-1A	5,850	3	A	3	12,200	AHU-5 (SUPPLY)	60	3	2
3	-	-	-	5,850	3	B	3	12,200	-	-	-	4
5	-	-	-	5,850	3	C	3	12,200	-	-	-	6
7	40	3	CT-1B	5,850	3	A	3	5,350	AHU-5 (RETURN)	30	3	8
9	-	-	-	5,850	3	B	3	5,350	-	-	-	10
11	-	-	-	5,850	3	C	3	5,350	-	-	-	12
13	20	3	CT-1A & CT-1B BASIN HEATERS	3,000	5	A	3	3,050	KEF-1	20	3	14
15	-	-	(2 x 4.5kW)	3,000	5	B	3	3,050	-	-	-	16
17	-	-	-	3,000	5	C	3	3,050	-	-	-	18
19	30	3	AHU-4 (SUPPLY)	3,050	3	A	3	3,900	MAU-1	30	3	20
21	-	-	-	3,050	3	B	3	3,900	-	-	-	22
23	-	-	-	3,050	3	C	3	3,900	-	-	-	24
25	20	3	AHU-4 (RETURN)	1,670	3	A	3	835	AHU-8	15	3	26
27	-	-	-	1,670	3	B	3	835	-	-	-	28
29	-	-	-	1,670	3	C	3	835	-	-	-	30
31	40	3	SPARE			A			SPARE	60	3	32
33	-	-	-			B			-	-	-	34
35	-	-	-			C			-	-	-	36
37	40	1	EWH-1-3A	8,000	2	A	-	38,025	PANEL 'LPH-M4'	200	3	38
39	20	1	EWH-1-1A	4,150	2	B	-	38,025	-	-	-	40
41			BUSSED SPACE			C	-	37,875	-	-	-	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS	NOTES :
PHASE A	52,755	38,025	0	90,780	87,642	316	
PHASE B	48,905	38,025	0	86,930	83,925	303	
PHASE C	44,755	37,875	0	82,630	79,773	288	
TOTAL	146,415	113,925	0	260,340	251,340	302	

GOETTING & ASSOCIATES R1.0

PANEL 'LPH-M4'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 480/277V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 07/09/12 | INTERRUPTING : 35 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	125%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	15	3	AHU-6 (SUPPLY)	2,360	3	A	3	5,820	EF-1	40	3	2
3	-	-	-	2,360	3	B	3	5,820	-	-	-	4
5	-	-	-	2,360	3	C	3	5,820	-	-	-	6
7	15	3	AHU-6 (RETURN)	1,330	3	A	3	950	EF-2	15	3	8
9	-	-	-	1,330	3	B	3	950	-	-	-	10
11	-	-	-	1,330	3	C	3	950	-	-	-	12
13	40	3	AHU-7 (SUPPLY)	6,650	3	A	3	950	EF-3	15	3	14
15	-	-	-	6,650	3	B	3	950	-	-	-	16
17	-	-	-	6,650	3	C	3	950	-	-	-	18
19	20	3	AHU-7 (RETURN)	3,330	3	A	3	1,330	EF-4	15	3	20
21	-	-	-	3,330	3	B	3	1,330	-	-	-	22
23	-	-	-	3,330	3	C	3	1,330	-	-	-	24
25	70	3	ACO-1	8,784	6	A	3	305	EF-8	15	3	26
27	-	-	-	8,784	6	B	3	305	-	-	-	28
29	-	-	-	8,784	6	C	3	305	-	-	-	30
31	25	3	ACO-2	3,250	6	A			SPARE	30	3	32
33	-	-	-	3,250	6	B			-	-	-	34
35	-	-	-	3,250	6	C			-	-	-	36
37	25	3	ACO-3	3,250	6	A	2	4,150	EWH-1-1B	20	1	38
39	-	-	-	3,250	6	B	2	4,150	EWH-1-1C	20	1	40
41	-	-	-	3,250	6	C	2	4,000	EWH-1-2A	20	1	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS	NOTES :
PHASE A	42,459	0	0	42,459	42,459	153	
PHASE B	42,459	0	0	42,459	42,459	153	
PHASE C	42,309	0	0	42,309	42,309	153	
TOTAL	127,227	0	0	127,227	127,227	153	

GOETTING & ASSOCIATES R1.0

PANEL 'LPH-BA'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 480/277V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 09/13/11 | INTERRUPTING : 14 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	125%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	CORRIDOR LIGHTING (WEST)	1,234	1	A	1	832	STORAGE/ VEST. P01 LIGHTING	20	1	2
3	20	1	CORRIDOR LIGHTING (EAST)	940	1	B			SPARE	20	1	4
5	20	1	TOILET/DRESSING RM LIGHTING (WEST)	2,457	1	C			SPARE	20	1	6
7	20	1	TOILET/DRESSING RM LIGHTING (WEST)	2,557	1	A			SPARE	20	1	8
9	20	1	TOILET/DRESSING RM LIGHTING (WEST)	2,973	1	B			SPARE	20	1	10
11	20	1	PANTRY/OPEN TO BELOW LIGHTING	2,088	1	C			SPARE	20	1	12
13	20	1	ELEC/MECH/AHU RM LIGHTING	2,744	1	A			SPARE	20	1	14
15	20	1	SOUND MIX WAGON STORAGES LIGHTING	2,188	1	B			SPARE	20	1	16
17	20	1	LOBBY/TOILET LIGHTING	3,418	1	C			SPARE	20	1	18
19	20	1	SPARE			A			SPARE	20	1	20
21	20	1	SPARE			B			SPARE	20	1	22
23	20	1	SPARE			C			SPARE	20	1	24
25	20	1	SPARE			A			SPARE	20	1	26
27	20	1	SPARE			B			SPARE	20	1	28
29	20	1	SPARE			C			SPARE	20	1	30
31	20	1	SPARE			A			SPARE	20	1	32
33	20	1	SPARE			B			SPARE	20	1	34
35	20	1	SPARE			C			SPARE	20	1	36
37	20	1	SPARE			A			SPARE	20	1	38
39	20	1	SPARE			B			SPARE	20	1	40
41	20	1	SPARE			C			SPARE	20	1	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS	NOTES :
PHASE A	7,367	0	0	7,367	9,208	33	
PHASE B	6,101	0	0	6,101	7,626	28	
PHASE C	7,963	0	0	7,963	9,954	36	
TOTAL	21,431	0	0	21,431	26,788	32	

GOETTING & ASSOCIATES R1.0

PANEL 'LPH-BB'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 480/277V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 09/13/11 | INTERRUPTING : 14 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	125%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	SITE LIGHTING	273	1	A	1	315	SITE LIGHTING	20	1	2
3	20	1	SITE LIGHTING	315	1	B	1	273	SITE LIGHTING	20	1	4
5	20	1	SITE LIGHTING	252	1	C	1	656	SITE LIGHTING	20	1	6
7	20	1	SITE LIGHTING	315	1	A	1		SPARE	20	1	8
9	20	1	SITE LIGHTING	720	1	B	1		SPARE	20	1	10
11	20	1	SITE LIGHTING	288	1	C			SPARE	20	1	12
13	20	1	SPARE			A			SPARE	20	1	14
15	20	1	SPARE			B			SPARE	20	1	16
17	20	1	SPARE			C			SPARE	20	1	18
19	20	1	SPARE			A			SPARE	20	1	20
21	20	1	SPARE			B			SPARE	20	1	22
23	20	1	SPARE			C			SPARE	20	1	24
25	20	1	SPARE			A			SPARE	20	1	26
27	20	1	SPARE			B			SPARE	20	1	28
29	20	1	SPARE			C			SPARE	20	1	30
31	20	1	SPARE			A			SPARE	20	1	32
33	20	1	SPARE			B			SPARE	20	1	34
35	20	1	SPARE			C			SPARE	20	1	36
37	20	1	SPARE			A			SPARE	20	1	38
39	20	1	SPARE			B			SPARE	20	1	40
41	20	1	SPARE			C			SPARE	20	1	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS	NOTES :
PHASE A	1,308	0	0	1,308	1,129	4	
PHASE B	1,308	0	0	1,308	1,635	6	
PHASE C	1,196	0	0	1,196	1,495	5	
TOTAL	3,407	0	0	3,407	4,259	5	

GOETTING & ASSOCIATES R1.0

PANEL 'LPH-1A'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 480/277V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 11/04/11 | INTERRUPTING : 14 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	125%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	SPARE			A	2	4,150	EWH-3-1A	20	1	2
3	20	1	EAST/WEST/SOUTH PARTERRE LIGHTING	3,140	1	B	2	4,150	EWH-3-1B	20	1	4
5	20	1	MULTI-PURPOSE/OFFICE/TOILET LIGHTING	3,071	1	C	2	4,150	EWH-3-1C	20	1	6
7	20	1	STORAGES/RECEIVING/ASSEMBLY LIGHTING	3,233	1	A	2	4,150	EWH-3-1D	20	1	8
9	20	1	CORRIDOR140 /VEST. LIGHTING	2,473	1	B	2	4,150	EWH-3-1E	20	1	10
11	20	1	CONCESSION/STORAGES LIGHTING	2,331	1	C	2	4,150	EWH-3-1F	20	1	12
13	20	1	DRESSING RMS/TUDIO LIGHTING	1,839	1	A	2	4,150	EWH-3-1G	20	1	14
15	20	1	LOBBY 131 LIGHTING	132	1	B	2	4,150	EWH-3-1H	20	1	16
17	20	1	SPARE			C	2	8,000	EWH-2-3A	40	1	18
19	20	1	SPARE			A	2	8,000	EWH-2-3B	40	1	20
21	20	1	SPARE			B	2	4,150	EWH-2-1A	20	1	22
23	20	1	SPARE			C			SPARE	20	1	24
25	20	1	SPARE			A			SPARE	20	1	26
27	20	1	SPARE			B			SPARE	20	1	28
29	20	1	SPARE			C			SPARE	20	1	30
31	20	1	SPARE			A			SPARE	20	1	32
33	20	1	SPARE			B			SPARE	20	1	34
35	20	1	SPARE			C			SPARE	20	1	36
37	20	1	SPARE			A			SPARE	20	1	38
39	20	1	SPARE			B			SPARE	20	1	40
41	20	1	SPARE			C			SPARE	20	1	42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS	NOTES :
PHASE A	25,522	0	0	25,522	27,010	98	
PHASE B	22,345	0	0	22,345	23,647	85	
PHASE C	21,702	0	0	21,702	22,967	83	
TOTAL	69,569	0	0	69,569	73,624	89	

GOETTING & ASSOCIATES R1.0

PANEL 'LPH-1B'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : Central Plant P04 | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 480/277V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 09/13/11 | INTERRUPTING : 14 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	125%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	3	AC-1	1,330	3	A	3	3,879	TRASH COMPACTOR	25	3	2
3	-	-	-	1,330	3	B	3	3,879	-	-	-	4
5	-	-	-	1,330	3	C	3	3,879	-	-	-	6
7	30	3	SPARE			A	3	3,048	SCISSOR LIFT	20	3	8
9	-	-	-			B	3	3,048	-	-	-	10
11	-	-	-			C	3	3,048	-	-	-	12
13	20	1	SPARE			A			SPARE	20	1	14
15	20	1	SPARE			B			SPARE	20	1	16
17	20	1	SPARE			C			SPARE	20	1	18
19			BUSSED SPACE			A			BUSSED SPACE			20
21			BUSSED SPACE			B			BUSSED SPACE			22
23			BUSSED SPACE			C			BUSSED SPACE			24
25			BUSSED SPACE			A			BUSSED SPACE			26
27			BUSSED SPACE			B			BUSSED SPACE			28
29			BUSSED SPACE			C			BUSSED SPACE			30
31			BUSSED SPACE			A			BUSSED SPACE			32
33			BUSSED SPACE			B			BUSSED SPACE			34
35			BUSSED SPACE			C			BUSSED SPACE			36
37			BUSSED SPACE			A			BUSSED SPACE			38
39			BUSSED SPACE			B			BUSSED SPACE			40
41			BUSSED SPACE			C			BUSSED SPACE			42

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS	NOTES :
PHASE A	8,257	0	0	8,257	8,257	30	
PHASE B	8,257	0	0	8,257	8,257	30	
PHASE C	8,257	0	0	8,257	8,257	30	
TOTAL	24,771	0	0	24,771	24,771	30	

GOETTING & ASSOCIATES R1.0

PANEL 'LPH-2A'

PROJECT : TOBIN CENTER PA | MAIN CIRCUIT BREAKER : | ENCLOSURE : NEMA 1
PROJECT # : 0840396 | MAIN LUGS ONLY : 225A | MOUNTING : SURFACE
LOCATION : | BUSSING : 225A | CB TYPE : BOLT-ON
NOTES : | VOLTAGE : 480/277V, 3PH, 4W | PROVIDE : NEUTRAL BUS
SCHEDULE DATE : 09/13/11 | INTERRUPTING : 14 kAIC RMS SYM | GROUND BUS

0	RECPT	5	HEAT
1	LTG	6	A/C
2	EQUIP	7	KITCH
3	MTR	8	ELEV
4	COMP	9	125%

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT