



CI-0203

### TAB 2: SITE INFRASTRUCTURE AND DEVELOPMENT Parking Infrastructure -

#### **ELECTRICAL SERVICES AND DESIGN CRITERIA**

- > Investigate impact of parking structure on the existing electrical service because the existing service may not accommodate the additional load. Refer to the DRM for detailed requirements.
- > Energy Management System/ Smart Panels should provide the most flexible control system available: multi-level lighting, occupancy lighting changes, light harvesting, programmable circuit control, IP addressable for future remote control, open architecture backnet/modbus compliant accessible through Microsoft windows software.
- > Emergency Backup Power Systems shall include, but not be limited, to the following:
  - Communications equipment, safety and security equipment shall be supported by a conditioned backup power source like a UPS.
  - Egress Lighting shall be on the UPS or use of battery powered light packs if a generator power source is not available.
  - For elevators , power back up requirements see essential load table in electrical section.
  - Generators shall be sized to meet the current load of the parking structure and nearby station's emergency load and 50% growth.
  - The generators should be sufficiently sized to permit lighting and dynamic signage to continue to operate (both in the parking garage and throughout the Station facility).
  - The generator should be located and positioned to minimize public exposure to noise, vibration, exhaust and Arc Flash (if hazard level is greater than 0).
  - All backup power systems shall have monitoring and alarms local and remote capability, and ability to connect by modem or internet. The ability to monitor and change set point remotely.
  - Appropriately sized fuel storage tank for the size and height of the parking garage shall be provided and shall have a minimum of 24hr support or generator.
- > The Generator and fuel tank are to be TSSA certified and a fuelling number provided.
- > Convenient 20 amp 5-20R duplex GFI receptacles shall be located at each stairway and elevator area, on each level, around equipment on roofs, in service and storage rooms, near entrances and exits and at convenient locations on each parking level.