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TAB 2: SITE INFRASTRUCTURE AND DEVELOPMENT Parking Infrastructure

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.
 - Except for elevators that form part of an accessible route and elevators that serve access through tunnel level, generators are not required to back up the elevators. The backed-up elevator shall be supported on at a time in sequential order.
 - Generators, when provided under the above conditions, 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 5-20RA 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.
- > All electrical components, panels, ducts are to be mounted on standoffs. No direct connections to the wall or ceilings are permitted.
- > Lightning protection and surge suppression systems shall be part of the design.
- > Provide Fire Alarm and Security Systems as applicable.



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- > Provide power, communication, feeder and conduit to facilitate the installation of dynamic and/or back/top lit signage.
- > Directional signs should always be located at decision points.
- > Where possible, signs should be located perpendicular, not parallel, to the visitor's line of sight and movement.
- > Signage shall not to conflict with overall height and clear span requirements.
- > Signs have to have a breakaway feature and colour coded for each level.
- > For further details on wayfinding; signage and pavement marking requirements, refer to GO Multilevel Parking Structures Signage Manual and GO Signage & Manual.

SPACE COUNTING SYSTEMS

- > The design shall incorporate requirements for space counting systems as directed by GO staff.

LANDSCAPING

- > Landscaping around the parking garage should focus on low maintenance materials and shade trees. All trees should be located away from any building structures and out of any snow storage areas and should not provide hiding areas adjacent to paths or walkways.

SNOW MANAGEMENT

- > Entry areas for pedestrian and vehicles should be configured to allow easy snow removal and minimize any damage from its operations and chemical treatment applications.
- > Exterior ramps and stairway areas to be provided with hydronic or electric resistance snow melting embedded below the traffic surface and specific entry and exit areas.
- > Consideration may be given to the use of trench drains at entrances, grates at pedestrian entrances and constructing lower flights of stairs out of grating to catch and remove snow, slush, and water entering the buildings.
- > In all areas, floor drains and floors should be configured to prevent ponding and allow for quick and easy drainage.