- Cathodic protection for buried pipes shall be provided if required.
- Vending and concession areas shall have a cold water supply valved and capped connection as well as a sanitary and vent capped connections, c/w check-meter and remote reader.

WATER CONSUMPTION

The following fixtures must meet of exceed the values listed for water consumption:

Toilets flush valves: 1.28 gallon/flush

Urinals flush valves: 0.5 gallon/flush

Public lavatories: max. flow rate of 0.5 gpm when tested as per CSA B125.1.

Staff washrooms: max. flow rate of 1.5 gpm when tested as CSA B125.1

DRINKING FOUNTAINS

Drinking fountains are not to be included in station buildings.

HOT WATER

The following Criteria will determine when and where various heating sources are to be used for domestic hot water:

1) Where gas is available, and tempering is not required, a standard DHW tank is to be used.

2) Where gas is available, and is serviced with a centralized DHW tank

3) Where gas is not available

Service hot water shall be provided tempered at 40°C at station and terminal washbasins in washrooms. Shops, maintenance and garage facilities may have higher temperatures if required. A re-circulation system normally is not required in a typical GO Station building.

Hot water heaters in stations/terminals shall be located in janitor rooms, ceiling-hung to suit space requirements. Relief valves shall be piped to floor drains with air break. A gas fired tankless type hot water system may be used where approved by GO, to minimize piping.

HYDRANTS AND HOSE BIBS

Wall hydrants and hose bibs shall be minimum 20 mm anti-siphon, non-freeze type in flush mounted box with locking cover and located at buildings, tunnels and on platforms to suit maintenance requirements as

directed by GO. Tunnel/platform hose-bib pipe systems shall have gravity drain capability for water shut-off. Hose-bibs shall also be located in shops, maintenance facilities, loading docks, bus platforms, etc. as directed by GO, sized to suit.

LANDSCAPE WATER

Buried water supply piping systems shall be provided for the manual watering of landscaping only if specifically requested by GO. If requested, they shall consist of PVC piping and quick coupling hose attachments spaced so that every point in the landscaped area can be reached by a 30 m hose extended from the hose attachment. The system shall be capable of being completely drained or air-blown dry in the autumn.

PIPE SLEEVES

Galvanized steel pipe sleeves shall be provided in concrete structures to accommodate future piping installations, if required. Hangers and fasteners should also be protected from the detergents and moisture or be fabricated of materials that are not subject to corrosion.

WATER METERS

Water supply lines shall be sized for the specific requirements of the facility. The incoming service shall be metered inside with an exterior readout acceptable to the local utility. Major tenants shall have check-meters.

VALVES

Each fixture shall have a key operated service valve or shut-off valve. Additional shut-off valves shall be provided for each group of fixtures, e.g., a washroom. At least one shut-off valve shall be provided for each room with one or more fixtures.

STORM DRAINAGE

- Drainage shall be designed to meet the requirements of local authorities, and the relevant storm water management study.
- See Stormwater Management (section CI-0205).
- Drainage: oil and grit interceptors and inlet control devices may be required.
- The location of scupper drains and splash pads should be coordinated with the prime consultant.
- Rail platform shelter roof drains where required, may be directed to Railway R.O.W. ditches, where approved by the Railway, or to a sump pit in the tunnel and then pumped to the storm system.

SANITARY DRAINAGE

- Drainage shall be designed to meet the requirements of local authorities.
- All washrooms, janitor rooms, mechanical rooms, vending and concession areas and certain maintenance areas as directed by GO, shall be provided with floor drains and strainers.
- Strainer and sediment buckets shall be provided for heavy duty floor drains, trench drains, and tunnel floors. Tunnels shall have open shallow trench drains at the wall perimeters. See Technical Standards.
- Food preparation areas require grease interceptors. This applies particularly to tenant premises.
- Service stations, repair shops and garages require oil interceptors. Parking lots and elevator pits do not require oil interceptors as per O.B.C.

SUMP PUMPS

Where storm or sanitary drains cannot be discharged to the sewer by gravity flow, flow shall be discharged into a tightly covered and vented sump pit, from which the liquid is lifted and discharged to the sewer by an automatic duplex pump system with automatic changeover and guide bars. Each pump should be sized for 100% flow. Pumps shall be epoxy coated with two (2) totally independent seal assemblies.

A 4 float control system shall be provided (OFF – LEAD ON – LAGG ON – ALARM). Provision shall be made for dry 'C' contacts for connection to a remote alarm. Pumps shall be easily removable for maintenance without the need to enter the wet well.

- Pit cover shall be gas tight, self-opening with piston kit and safety grid.
- System shall be complete with lifting equipment including lifting davit, chain hoist, lifting device, and chain hook.
- Sump pits are used for shelter, roof and tunnel drainage, and in elevator or escalator pits.
- Special sump pumps may be required for maintenance facilities or rural stations (TBD).
- For further details refer to GO Standards Master Specifications.

FIXTURES: GENERAL

- All fixtures except janitor sink shall be vandal resistant vitreous china Certified to CAN/CSA-B45.0, "General Requirements for Plumbing Fixtures"
- All trims to be touchless, electronic, hard wired barrier free where applicable