

## 1.0 **GENERAL**

### 1.1 **Related UBC Guidelines**

- .1 Section 01 78 39 Project Record Documents
- .2 Section 01 78 23 Operation and Maintenance Data
- .3 Divisions 8, 10, 14, 20, 21, 23, 25, 26, 27, 28, 32, 33

### 1.2 **Co-ordination Requirements**

- .1 UBC Energy & Water Services (Vancouver)
- .2 UBC Facilities Electrical (Vancouver)
- .3 UBC Information Technology (IT)
- .4 UBC Facility Management (Okanagan)

### 1.3 **Description**

- .1 General requirements for all Division 26.

## 2.0 **MATERIALS AND DESIGN REQUIREMENTS**

### 2.1 **General**

- .1 The contractor is responsible for and keeps one complete set of white prints, including revision drawings in the job site, office.
- .2 Construction Power
  - .1 (Vancouver) The temporary power service includes a consumption meter. The connection point and voltage for the construction power will be determined by UBC Energy & Water Services.
  - .2 The Contractor shall pay for all materials and installation of equipment for the provision of construction power.
  - .3 The Contractor shall pay for all utility consumption until the building is turned over to UBC.
  - .4 (Vancouver) The Contractor must contact UBC Information Technology for coordination and installation of temporary telecommunications cabling.

UBC Information  
Technology IT Plant  
Coordinator  
Phone: 604-822-8659  
<http://web.it.ubc.ca/forms/network>

### 2.2 **High Voltage Vaults *and* Service Rooms**

- .1 (Vancouver) All high voltage vaults shall have a floor drain and containment curbs.
- .2 Housekeeping pads shall not extend beyond 100mm (4") from the mounting frame of any electrical equipment within service rooms.
- .3 [Main electrical distribution and life safety related equipment \(ie: Generators, Transfer Switches, Central Inverters, Fire Alarm Panels\)](#) shall be located in electrical room(s) on or above grade level where practicable.

- .4 Main electrical rooms shall not be located more than 2 meters above grade.

### 2.3 Electrical Receptacles for Specific Purposes

- .1 Provide duplex electrical receptacles of CSA spec 5-20 for custodial use at each floor level and near the doorway in each stairwell.
- .2 Provide at least one convenience duplex electrical receptacle of CSA spec 5-20 in each electrical room, connected to standby power if available.
- .3 A 120V Class A GFCI receptacle is required when the receptacle is located within 1m of any basin in kitchenettes and washrooms.
- .4 Exterior receptacles are only permitted to be installed on the exterior of a building. Exterior receptacles located in site furnishings, trees/greenery and in floor are not permitted.
- .5 Provide Mechanical rooms with CSA spec 5-20 receptacles in areas where operations and maintenance activities will be performed. At minimum 1 receptacle is required per wall.
- .6 Receptacles with proprietary quick connectors are not permitted to be used.
- .7 Red coloured receptacles shall be utilized for receptacles on standby (non-life safety) power.

### 2.4 General Installation

- .1 The installation shall be installed in a manner that is conducive with quality workmanship. Exposed wiring that is visible in common areas shall be installed square and true to other areas and installations.
- .2 All Electrical Rooms shall be designed in accordance with the requirements outlined in 10 00 10 Special Room Requirements 1.7 Electrical Room.
- .3 Adequate unobstructed wall space shall be provided in all electrical rooms to permit the installation of new (future) equipment and shall not be less than 1.2 m x wall height.
- .4 The designer shall coordinate with the architect to ensure that all electrical and life safety equipment that is installed shall be readily accessible for maintenance, replacement and repair without the use of tools to remove building finishes such as decorative ceiling panels.
- .5 Connection to existing services and street lighting circuits shall be included in detail on the IFC drawing set and shall be coordinated by the Project Superintendent at least 30 days before connection date.
- .6 Do not install flush mounting boxes back-to-back in walls; provide minimum 150 mm horizontal separation. Provide minimum 600 mm separation in acoustic rated walls.
- .7 Pull boxes shall be installed in locations that are easily accessible by maintenance personnel. Placement shall take into consideration the ease of removing panel(s)

and the potential of interference with other systems if access to either is required.

- .8 No electrical equipment shall be masked by architectural finishes, furniture, artwork, bulletin boards or other similar items that would delay identifying their location in an emergency.
- .9 For all Pathway installed for other Divisions systems, please consult that Divisions Guidelines as there can be specific requirements and or restrictions for performance reasons that could supersede code minimums.
- .10 Electrical equipment shall not be abandoned in place and must be removed as part of the project.

## 2.5 Project Record Drawing Requirements

- .1 The contractor shall be responsible for and keep one complete set of white prints, including revision drawings at the job site.
- .2 The contractor shall deliver to the consultant at “substantial performance” one complete set of white prints, showing by colored lines and suitable notation all work as installed, together with sizes and routes of electrical service lines installed, relocated or adapted under this project. The contractor shall maintain a current record, as the job progresses, of any deviations from contract drawings. Manholes, pulling pits, etc. shall be located at the center lines, by co-ordinates, on a grid system shown on the site plan. Locations and levels shown on plans must be accurate to within 12 mm.
- .3 (Vancouver) Approval for backfilling of underground services will not be given before the UBC Energy & Water Services is satisfied that the exact location of the underground service has been surveyed and recorded. The contractor must employ a qualified surveyor to record the horizontal and vertical location of underground services. This survey information is to be shown on the project record drawings and must indicate the location of all buried services, as well as, those capped or exposed by the work of this contract.
- .4 Project Record White prints shall be delivered to the consultant at "substantial performance" in accordance with Division 01 General Requirements.
- .5 For final Record Drawing submission, refer to Section 01 78 39 Project Record Documents.
- .6 At time of energization of any new electrical installation a one line drawing shall be posted in the main electrical room.
- .7 Upon handover of the electrical systems the project team will be responsible for providing passwords for all applicable equipment to UBC Facilities Electrical.

## 2.6 Electrical Operating and Maintenance Manuals

- .1 For detailed requirements, refer to Section 01 78 23 Operation and Maintenance Data.

\*\*\*END OF SECTION\*\*\*