

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 26 05 28 - Grounding Secondary.
- .2 Section 26 05 29 - Hangars and Supports for Electrical Systems.
- .3 Section 26 05 31 - Junction, Pull Boxes and Cabinets.
- .4 Section 26 05 34 - Conduits, Conduit Fastenings and Conduit Fittings.
- .5 Section 33 65 73 - Concrete Encased Duct Banks and Manholes.
- .6 Section 33 65 76 - Direct Buried Underground Cable Ducts.

1.2 REFERENCES

- .1 Canada Green Building Council (CaGBC)
 - .1 LEED Canada-NC Version 1.0-2004, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for New Construction and Major Renovations (including Addendum 2007).
 - .2 LEED Canada-NC-2009, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for New Construction and Major Renovations 2009.
 - .3 LEED Canada-CI Version 1.0-2007, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for Commercial Interiors.
 - .4 LEED Canada-EB: O&M-2009, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for Existing Buildings: Operations and Maintenance 2009.
 - .2 CAN C22.1-2012 - Canadian Electrical Code.
 - .3 National Building Code of Canada 2010.
 - .4 National Fire Code of Canada 2010.
 - .5 TBITS 6.9 - Treasury Board Guidelines for Telecommunications Installation.
 - .6 TIA/EIA-568 Commercial Building Telecommunications Cabling Standard.
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- .7 TIA/EIA-569 Commercial Building Standard for Telecommunications Pathway and Spaces.
- .8 TIA/EIA-570 Residential and Light Commercial Telecommunications Infrastructure Standard.
- .9 TIA/EIA-606 Administration Standard for Commercial Telecommunications Infrastructure.
- .10 TIA/EIA-607 Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications.
- .11 TIA/EIA -758 Customer Owned Outside Plant Telecommunications Cabling Standard.
- .12 TIA/EIA -942 Telecommunication Infrastructure Standard for Data Centre.
- .13 BICSI-Outside Plant Design Manual.
- .14 BICSI-Telecommunication Distribution Methods Manual.
- .15 BICSI-Information Transport System Installation
- .16 BICSI-Wireless Design Reference Manual.
- .17 BICSI-Network Design Reference Manual.

NOTE: The above standards and codes apply to specifications and drawings.
In the event of conflict, the most stringent and recent requirements SHALL apply.

1.3 SYSTEM DESCRIPTION

- .1 Communications (data/voice outlets) raceways system consists of outlet boxes, cover plates, distribution conduits, pull boxes, sleeves and cap, fish wires, cable tray, cable ladder rack, service fittings and concrete encased ducts. Complete system to support CAT 6 and Fiber Optic (F.O.) rated communications cabling installation and operations.
- .2 Grounding bus bars and grounding and bonding conductors and accessories.

1.4 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
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- .2 Remove from site and dispose of all packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic polystyrene and corrugated cardboard packaging material for recycling in accordance with Waste Management.
- .4 Divert unused metal, conduit and wiring materials from landfill to metal recycling facility as approved by Departmental Representative.
- .5 Fold up metal banding, flatten and place in designated area for recycling.

1.5 LEED DOCUMENTATION

- .1 Submit a LEED Material Submittal Form, as included in Section 01 35 21 - LEED 2009 Requirements to identify recycled content, regional content or VOC emission when required by Submittal Requirements.

PART 2 - PRODUCTS

2.1 MATERIAL

- .1 Conduits: EMT type, in accordance with Section 26 05 34 - Conduits, Conduit Fastenings and Conduit Fittings. Conduit minimum size 27 mm.
- .2 Pull boxes: in accordance with section 26 05 31 - Junction and Pull Boxes. Size as indicated on drawings. If indicated size is not available, contractor shall use next available trade size (larger).
- .3 Fish wire: polypropylene type.

PART 3 - EXECUTION

3.1 INSTALLATION

- .1 Install raceway system, including in-slab distribution system, fish wire, pull boxes, cover plates, conduit, sleeves and caps, miscellaneous and positioning material to constitute complete system.
 - .2 All conduits shall originate and be physically connected to the telecom backboards in the Telecom Room 101.
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- .3 All conduits/sleeves that enter the Telecom Room 101 tray shall be fitted with an approved ground bushing c/w ground lug and bonded together mechanically. This shall be connected to the approved building ground by means of a No. 6 AWG to the grounding bus bar.
- .4 All conduits entering or exiting through the ceiling or walls of the MTR shall protrude into the room 25-50mm.
- .5 Riser sleeves in the Telecom Room shall protrude through the floor 50-75mm above finished floor (AFF).
- .6 All conduits shall be thin wall EMT, reamed and bushed at both ends and bonded to the distribution system. Rigid PVC or flexible metallic or PVC conduits are NOT acceptable.
- .7 Pull boxes shall be installed at a reasonable height, in an exposed location and such that access for installation of cables is not prohibited. Pull boxes shall not be placed in a fixed false ceiling space, unless immediately above a suitably marked and hinged access panel.
- .8 All conduit runs shall be a maximum of 30 meters (100ft) in length with a maximum of two (2) 90 degree bends between pull points.
- .9 Pull boxes are not to be used for changes of direction; all wiring is to be pulled straight through and direction changes are to be via conduit elbows past the pull box.

3.2 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave work area clean at end of each day.
 - .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
 - .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and 01 35 21 - LEED 2009 Requirements.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.
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3.3 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by pathways for communications systems installation.