INSTALLING ELECTRICAL SYSTEM

1) The drawing will provide all the information necessary to install the electrical power system. (see Detail Plan E). The electrical system consists of 4 basic components, one or more power input cable assembly (typically 96" long), double ended cable assembly (varying lengths), a Junction Block, and a Duplex Outlet Insert (provided for connection to one of the 4 circuits).

2) A licensed electrician is required for connection of the power input cable assemblies to the building power source (typically N.I.C.), as early in the installation as possible. This will allow for testing of the electrical system, prior to leaving the installation site. The input cable assembly should be connected, to allow a minimum of two feet of cable into the room, this to provide an easy connection of the double ended cable assemblies. Electrical connection to building power source is shown on drawing (see Detail E-1)

   Please Note ! In many cases, the Power Input Cable assemblies are provided to the client in advance of the project shipment, so that they can be installed prior to the Powerflor installation. If this is the case, these items will not be part of the shipment you received.

3) Each power system leg will begin at the power input cable (Detail E-2) (see Picture 9-1) and will be connected directly to a double-ended eight-wire cable assembly (see Pictures 9-2 & 9-3) The cable length and location will be taken from the drawing. (see Detail E-3)

4) The double-ended cable assemblies will be connected to each other, end to end, using a junction block (see Picture 9-4) providing connections from outlet to outlet in the leg.

   Please Note ! In some cases, a junction block is used as a cable assembly connector only, providing for the overall length of two cable assemblies, to reach a point. In these cases, no duplex insert is used and no mounting of the junction block into a powerport is done. The junction block simply lays under floor.

5) The duplex outlet insert number is located on the drawing (see Detail E 3) and on the insert itself. (see Picture 9-5) The duplex insert will be plugged into the eight-wire junction block (see Picture 9-6) by aligning the ground, neutral, and load pins / tabs of the duplex inserts with the proper holes in the junction block, and pressing the insert down until it is securely attached to the junction block.

6) The junction block and duplex insert will be inserted into the bottom of a powerport grommet. (see Picture 9-7) The drawing will determine the powerport placement. After the outlet is snapped into the powerport, it will be held in place with a minimum of two powerport clips. (see Picture 9-8) Place the short end of the clip through one slot in the powerport bottom and the long end of the clip over the bottom of the junction block. Place the second clip on the opposite side and on the opposite end of the junction block in the same manner. (see Pictures 9-9 & 9-10)

7) The double-ended cable assemblies will plug into the Junction Block at one of four possible points (2 per end). Remove appropriate connection covers from the junction block ends. Make sure the male end of the key way on the cable is aligned with the female end grove of the junction block (see Picture 9-11) and press together until the locking clip on the junction block is securely latched. (see Picture 9-12)

8) Any of the four cable assembly plug locations on the ends of the junction block can be used to best provide for the cable placement beneath the floor structure. All junction blocks are connected to one another in a leg (daisy chain), as per the drawing.

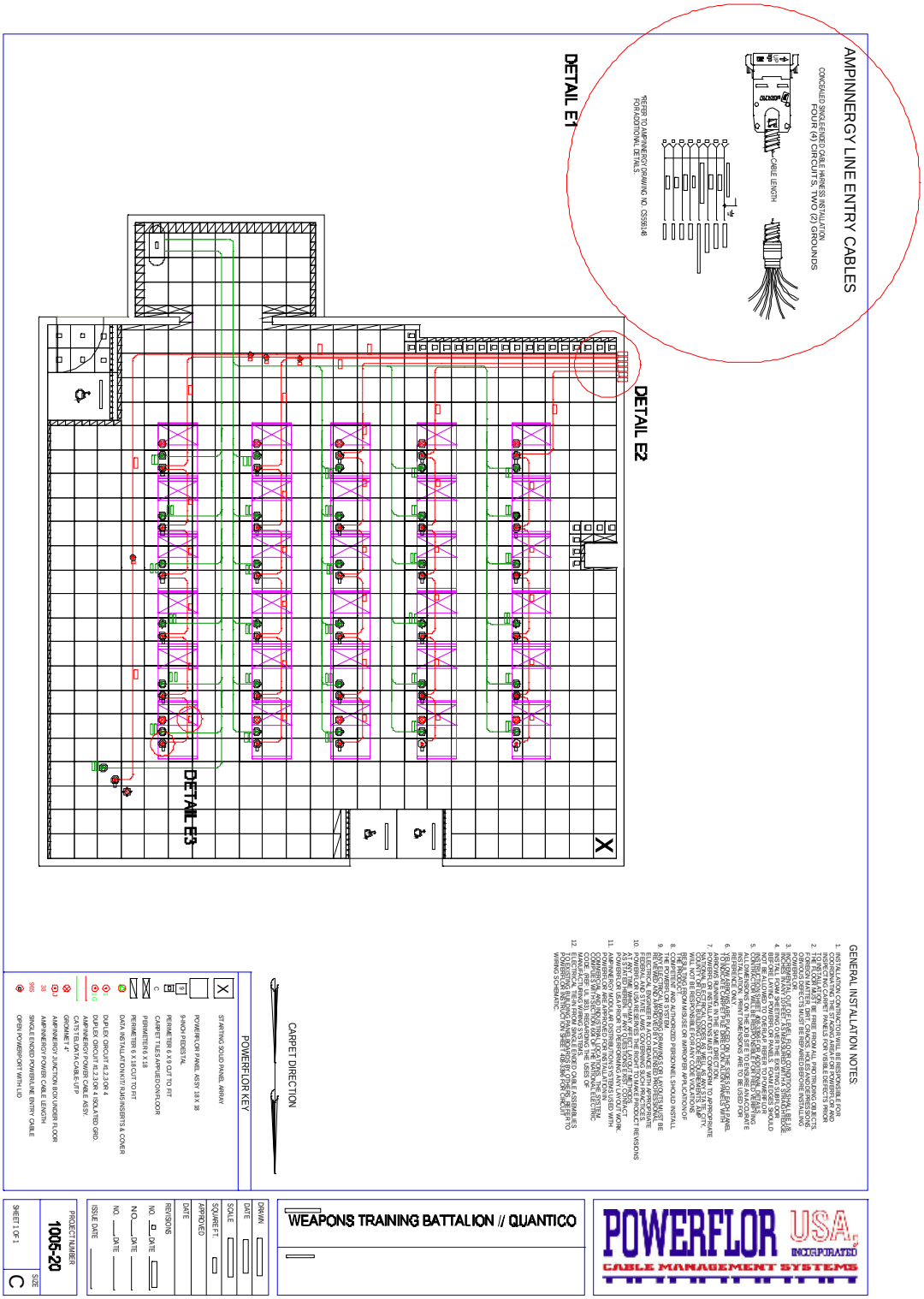
   Please Note ! ! The power layout may call for a junction block to have a cable assembly from the power source, connected to it, with more than one cable assembly connecting additional junction blocks. In this case extra care must be taken to assure that two power legs are not connected to each other in the system.

9) Each leg will be color coded with a different color, on location with colored tape. Apply tape at the end of the power input cable and on both ends of every double-ended cable. This should help prevent cross feeding the legs, when the customer relocates the outlets. (see Pictures 9-13, 9-14, & 9-15)

10) Once all electrical components are color coded, they can be assembled and mounted to the appropriate floor panels, progressing out each electrical leg. The floor panels are relocated back into the floor, locating the cable assemblies between the panel legs. (see Pictures 9-16 & 9-17)

11) If at all possible, test all electrical outlets after installation is complete and before leaving the installation site. This is usually accomplished by turning on the circuit feeds at the breaker and testing each circuit with an electrical tester or by simply operating an electrical tool from each outlet.

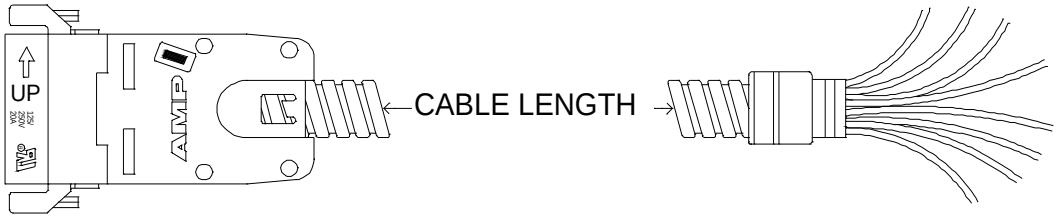
Detail Plan E

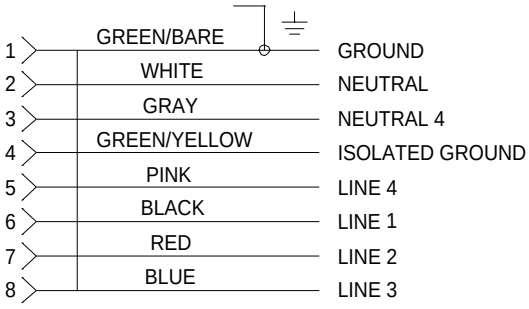


Detail E-1 **Electrical connection to power source**

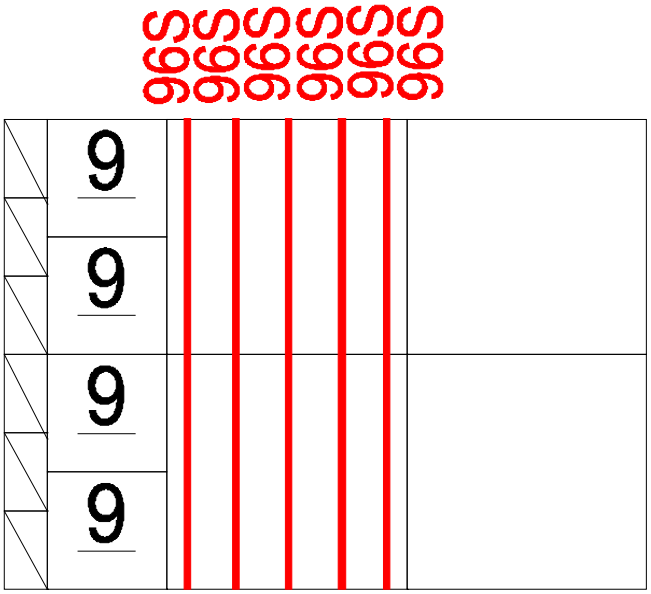
AMPINNERGY LINE ENTRY CABLES

CONCEALED SINGLE-ENDED CABLE HARNESS INSTALLATION
FOUR (4) CIRCUITS, TWO (2) GROUNDS

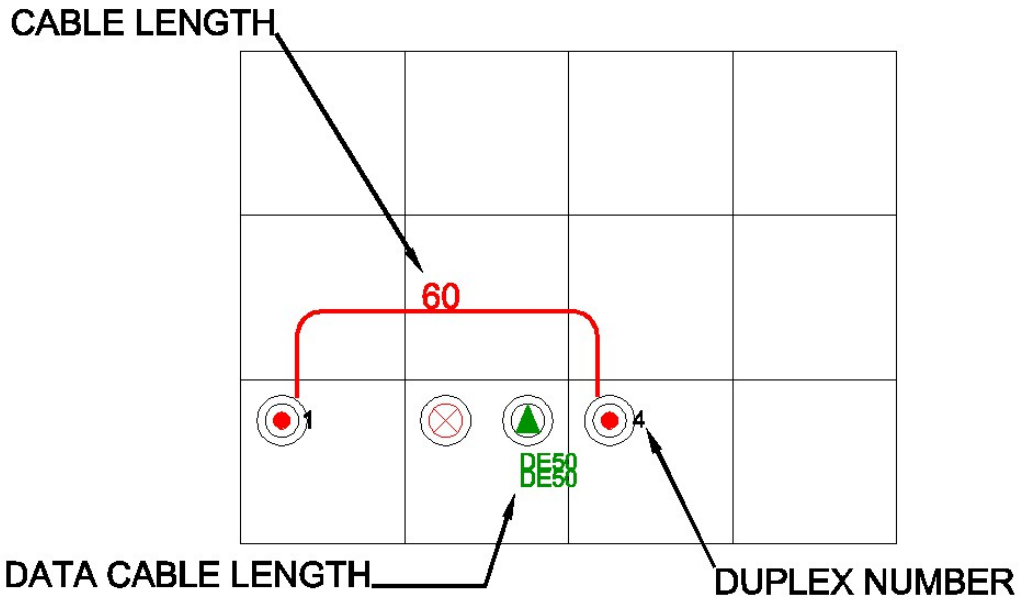




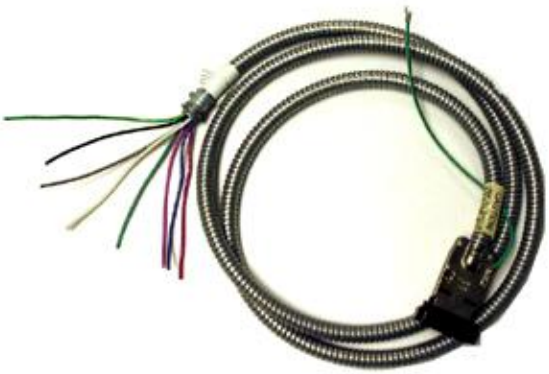
Detail E-2 **Drawing Detail Power Input Cable assembly**



Detail E-3 **Drawing Detail Cable Assm. & Outlet**



Picture 9-1 **Single Ended Power Input Cable Assembly**



Picture 9-2 **Double Ended Cable Assembly**

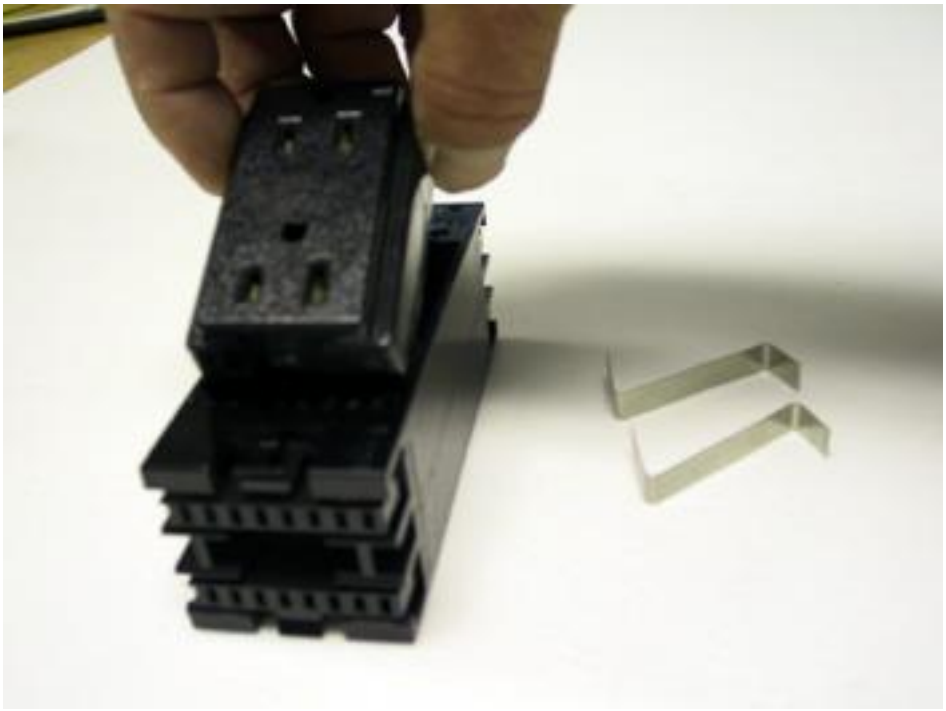
Picture 9-3 **Power Input and Double Ended Cable connected**

PLEASE NOTE !! Power Input Cable will not connect directly to a J Block.

Picture 9-4 Double Ended Cable Assemblies connected with a Junction Block and mounted into Powerport grommet.

Picture 9-5 Duplex Outlet with Circuit Number

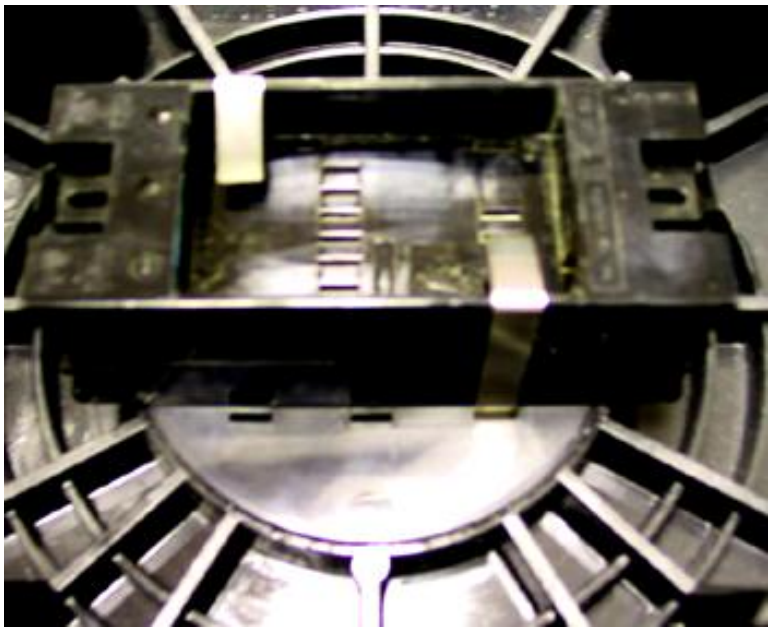
Picture 9-6 Installing Duplex Outlet Insert in Junction Block



Picture 9-7 Installing Junction Block into Powerport

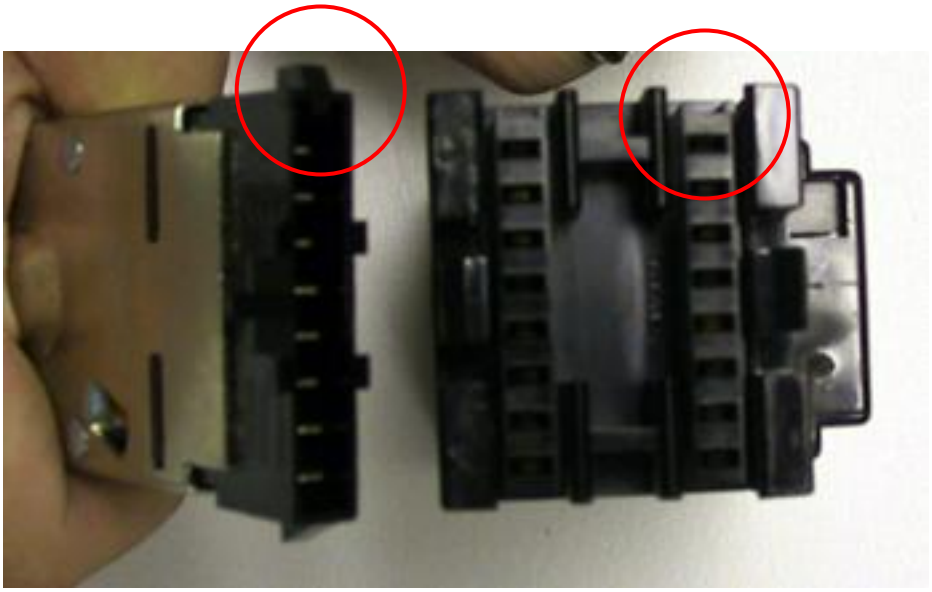
Picture 9-8 Installing Powerport Clips

Picture 9-9 **Completely Installed Electrical Outlet (Bottom View)**

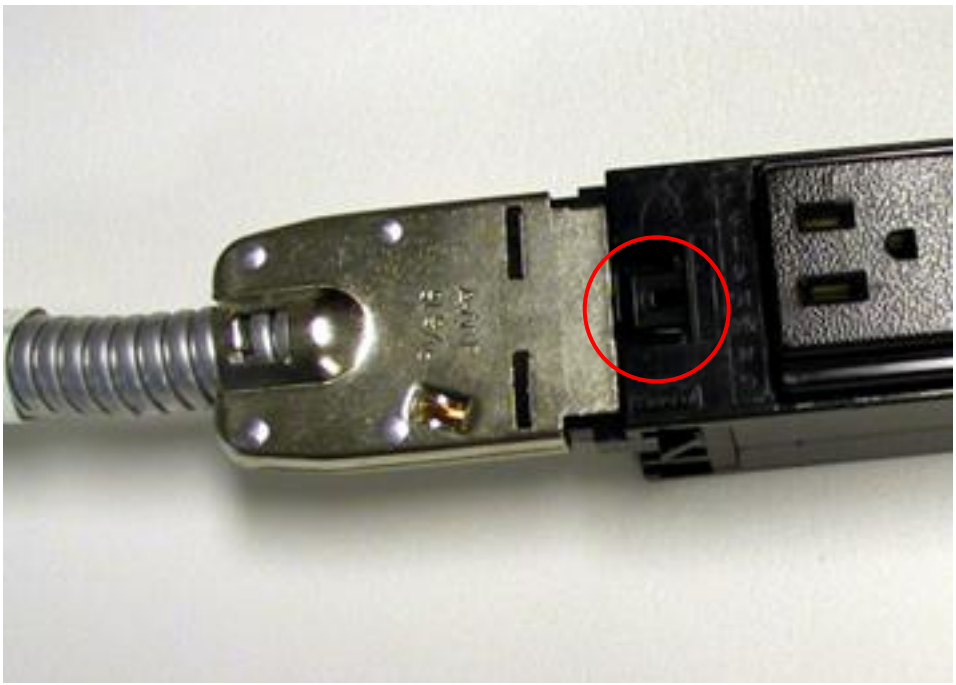


Picture 9-10 **Completely Installed Electrical Outlet (Top View)**

Picture 9-11 **Installing Double Ended Cable to Junction Block (Note keyway alignment)**



Picture 9-12 **Installed Cable Assembly to Junction Block Clip shall be firmly hooked on catch tab**



Picture 9-13
Colored Electrical Tape

Picture 9-14
Applying Color Coding

Picture 9-15 Completed Color Coding of Cable Assembly

Picture 9-16 Completed Panel with Cable Assembly connected

Picture 9-17 Installing completed panel into system

Electrical System Installation Procedure

PLEASE NOTE !!!!

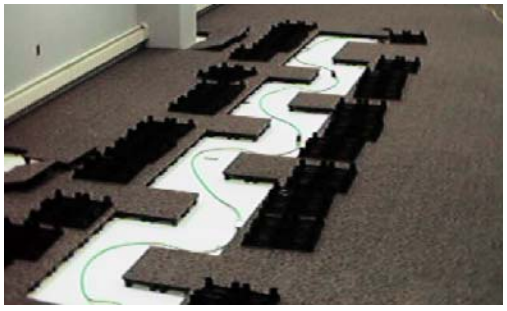
Installation of electrical system should not be started before the entire floor structure is completely installed and cut in at all edges. The reason is that if you open up the floor to install the electrical while your people are walking on it and the edges are being cut, the panels will move. You will get inaccurate cuts resulting in gaps in the panels or will not be able to put the panels back into the floor.

Electrical should be completed before the Communication cabling and outlets are started.

The most effective procedure is when the floor is complete you can place the J Blocks, Clips, and appropriate Duplex Inserts at each outlet location. And locate and place the appropriate double ended cable assembly between the outlet locations….. ***ON TOP OF THE FLOOR***

All cable assemblies & outlets can be plugged together, the cables can be color coded and a final check of layout can be made.

Once this is done you simply open up rows of panels, place the cables under the floor, mount the outlets, and replace all panels.



INSTALLING DATA/COMMUNICATIONS SYSTEM

1) The drawing will provide all the information necessary to install the Data Communication system. (see Detail Plan DC)

2) The drawing will determine the location of all data ports and the pre-terminated data cable length. (See Detail DC-1) For example the DE75 indicates a pre-terminated data cable, 75 feet long.

3) After determining the proper length data cable to be run from the Data / Comm outlet to the service point, per outlet location, number (if required) the data cable on both ends. (see Pictures 10-1) Typically any unique number to identify it from other cables/ same number on both ends.

   Please Note ! The service point for the Data / Comm system may be a Powerflor LDS Utility Center or can be a client provided wiring closet. In either case determine the proper amount of cable length to be exposed for connection to the service point.

4) If an LDS Utility Center is to be used, the drawing will determine the location of the LDS. (see Detail DC-2)

5) The LDS Utility Center is provided as a cabinet, a base unit, and assembly hardware. (see Picture 10-2) The base shall be located into the Powerflor system, replacing one full panel. (see Pictures 10-3 & 10-4) The cabinet will require attachment to the base with 4 bolts and its assembly is self explanatory. (see Picture 10-5). Network connections and associated components are provided and installed by others. (see Picture 10-6)

6) At the network connection location, all data cables shall be tie wrapped at least every three feet to present a neat appearance (see Picture 10 -7 if no LDS is provided). Cables shall be routed from under floor, through the LDS Base, through the side voids in the LDS Center, (see Picture 10- 8) and left for connection by others

7) The LDS Utility Center when completed shall be made available to the client or his communication contractor for connection to service from the building. Once this work is done, the doors for the Utility Center shall be set in place and locked (see Picture 10- 9) with the keys, delivered to the appropriate party.

8) Some client provided electronics have a greater depth then will fit in our standard LDS unit. If it is required Powerflor will provide a " Bubble Back " unit, to allow for the dimensional depth of the electronics. (see Picture 10-10) This unit is used as a replacement for one of the doors (typically the door facing behind the LDS) on the LDS Utility Center.

   Please Note ! The Powerflor installation stops at the placement of the data cables in the wiring closet location or LDS at the network connection end of cables.