A fundamental guide to cable pulling in commercial buildings.

Low Voltage Cable Pulling Course

Workbook 1: Low Voltage Cable Pre-Pulling

LOW VOLTAGE CABLE PRE-PULLING

SAMPLE

This workbook provides optinum benefit when used in conjunction with the Low Voltage Cable Pulling video series.

Getting the most out of the Low Voltage Cable Pulling Workbook and Video Series

This workbook is part of a series of 4 workbooks, videos and online exams. The workbook series is designed to be interactive by working in conjunction with the video series and the exams to provide you with the highest retention of the materials presented.

Workbook	Video	Exam
Workbook 1 Low Voltage Cable Pre-Pulling	47 minutes (P-47:00)	**Exam 1** Low Voltage Cable Pre-Pulling
Workbook 2 Low Voltage Horizontal Cable Pulling	52 minutes (H-52:00)	**Exam 2** Low Voltage Horizontal Cable Pulling
Workbook 3 Low Voltage Riser Cable Pulling	30 minutes (R-30:00)	**Exam 3** Low Voltage Riser Cable Pulling
Workbook 4 Low Voltage Work Area Cable Pulling	36 minutes (W-36:00)	**Exam 4** Low Voltage Work Area Cable Pulling

You will notice a time referenced throughout various sections of the workbook, for example (P-2:15). This time will guide you to related information within the video to compliment the materials found in the workbook. The letter in front of the time (P) represents the title of that particular video within the series. Each workbook is specially designed to work in conjunction with the corresponding video:

- P = Low Voltage Cable Pre-Pulling video (Workbook #1)
- H = Low Voltage Horizontal Cable Pulling video (Workbook #2)
- R = Low Voltage Riser Cable Pulling video (Workbook #3)
- W= Low Voltage Work Area Cable Pulling video (Workbook #4)

Upon completion of the Low Voltage Cable Pulling Series, new installers will obtain a progressive understanding of the skills required to be a successful low voltage cable installer and contribute to your cable pulling team.

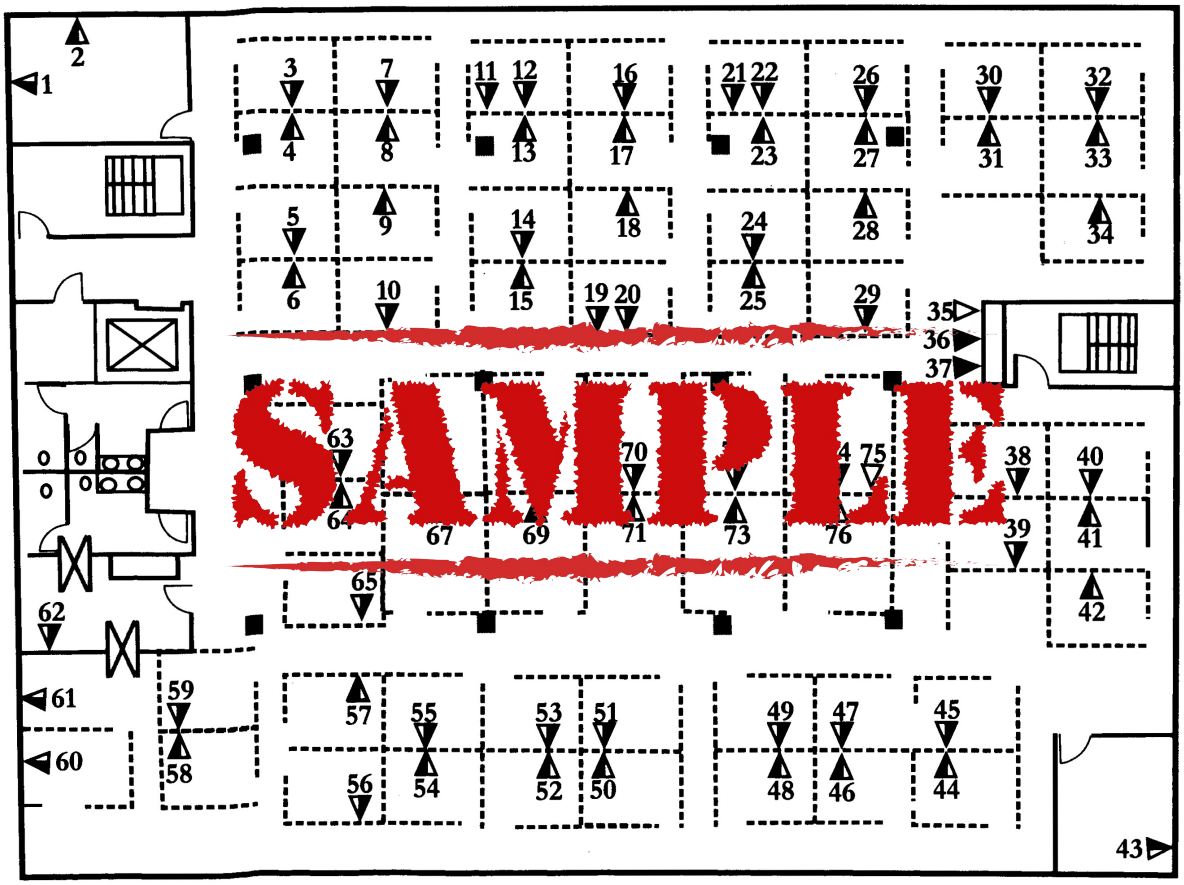
Table of Contents

Workbook 1

Introduction

What you're about to read is the first workbook in a four-workbook series on low voltage cable pulling. Before beginning, it is necessary to stress the importance of understanding the building's construction and floor plan. This determines cable pathways, as well as the most efficient order in which to pull cables.

Sample Floor Plan



Installation Plan (P-1:18)

Planning for the proper installation of telecommunication cables requires a multitude of tasks and must be completed before any cable is installed. In fact, the installation team will not be fully prepared to proceed to the pulling phase until a comprehensive plan is established and the cable pre-pulling tasks are completed.

When a cable installation is requested, the customer will have already put together a document that details their ideas and needs. This is the official document that is provided to the installation company. Typically, these documents contain drawings which are referred to as floor plans and specifications. By analyzing these plans, the installation company can then determine which materials are to be used as well as when and where they are to be installed.

Developing an Installation Plan (P-2:06)

To develop an installation plan, all aspects of the installation must be understood. This includes building floor plans, installation practices and local codes. Most importantly, there are basic principles that will contribute to the success of the installation plan.

Safety (P-2:25)

Safety concerns must be addressed first. Some of the questions that should be asked are:

- Are hard hats needed?
- Are safety glasses needed?
- Is protective footwear needed?
- Are cones and caution tape required?

You should also be aware of objects with sharp edges like tie-wraps or ceiling hanger wire to prevent injury. Many safety issues arise on any job. Your supervisor should advise you on all necessary precautions that you'll need to take to perform your job safely and efficiently.

Building Designs (P-3:01)

As an installer, you will encounter many different designs of buildings. However, we will only address the two most common factors that affect the installation during a cable pull.

1. New building: under construction
2. Existing building: occupied (or retrofits)

You will need to be aware of the differences between the two types of buildings and know when to apply the appropriate practices. In this workbook we are planning for and installing cables in a building under construction. This does not impact the installation process in the same way it would in a building with tenants (occupied).

Under Construction: (P-3:40)

When working on a floor under construction in a building, you'll encounter the following:

- **Minimal traffic** with, typically, only other tradesmen on the job site.
- **No office furnishings**, giving you more space in which to work.
- **Open ceilings** make it easy to plan and install cables.
- **Easy access** allows you to enter different parts of the floor quickly when pulling cables.
- **Open space** provides room for cable slack.

Occupied Space: (P-4:06)

When working on an occupied floor or building, be prepared to deal with the following:

- With **traffic** in the occupied space, you must be aware of the customer's employees at all times and take all necessary precautions to ensure everyone's safety.
- **Furnishings** including desks, file cabinets and computers will have to be considered in order to prevent damage or accidents from occurring.
- In **closed cable pathways**, ceiling panels will have already been installed so you'll have a limited view of the pathway.
- **Note:** Remember to access ceiling space carefully in order to avoid damaging or smudging ceiling tiles.
- **Congested pathways**, including conduits and core holes, can be highly congested with cables and could make pulling cables very difficult.
- Areas with **restricted access**, such as telecommunications closets and floor access may require special keys or escorts.
- **Space limitations** mean that cable slack will have to be organized and kept out of the way of traffic and furnishings.