ATT-TP-76409-001

Common Systems - Cable Rack Spirals

This practice provides general engineering and installation guidelines and requirements for cable rack spirals used in network facilities.

Audience: All network employees and I/R contractors

Effective Date: 05/03/04

Issue Date: Issue 1, 05/03/04

Expires On: NA

Related Documents: TP76409 Cable Rack Requirements

Cancelled Documents:

Business Unit: AT&T Services, Inc.

Points of Contact:

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Table of Contents

1. INTRODUCTION

This practice documents acceptable methods of constructing sweeping horizontal to vertical cable transitions where conventional cable rack fabrication and cable support practices cannot be effectively used.

2. REASON FOR CURRENT ISSUE

Issue	Date	Description of Changes	Author
1	05/03/04	Establish reference document..	bm1924

3. GENERAL

Sweeping cable transitions may be necessary to comply with cable bending radii requirements, unique building conditions and/or cable rack engineering/support restrictions. Sweeping cable transitions generally consist of custom hardware items fabricated and assembled according to site-specific cable rack and building conditions. The purpose of this practice is to serve as a common engineering/installation reference for how sweeping turns in cable runs can be constructed to meet site-specific conditions. This practice will be updated as additional acceptable methods and alternatives are made available.

4. BENT-ROD SPIRALS AND DOUBLE TURNS

Figures 1 through 4 illustrate the commonly used 5/8” bent-rod type cable rack spirals and double turns referenced in ED90843-10. Bent-rod type spirals and double turns are approved for continued use in low-risk seismic areas only.

4.1 Engineering/Installation Considerations

A. Bent-rod assemblies per ED90843-10 add about 2-1/4” of overall width where they join cable racks.

B. Solid bar fillers are required when bent-bar assemblies are fastened to channel or tubular cable rack designs.

C. Lateral bracing of vertical racks is required when attached to Fig. 1, 2 and Fig. 4 spirals. Lateral bracing may be via attachment of vertical racks to walls, auxiliary framing, ceilings, or via flat bar bracing attached to the front surface of cable hole sheathings of floor openings. Bracing attached to cable hole sheathings shall be installed at an approximate 60 degree angle.

D. Straps attached to bent-rods shall be given a graduated twist so cables lay flat against them.

4.2 Known Suppliers

A. Moreng, Totowa, NJ – 90 and 180 degree spirals.

5. WATERFALL SWEEPING TURNS

Figure 5A illustrates an acceptable method of providing a sweeping horizontal to vertical cable transition using conventional cable racks and custom hardware fabricated to suite office conditions. This type of sweeping turn is approved for use in all seismic risk areas.

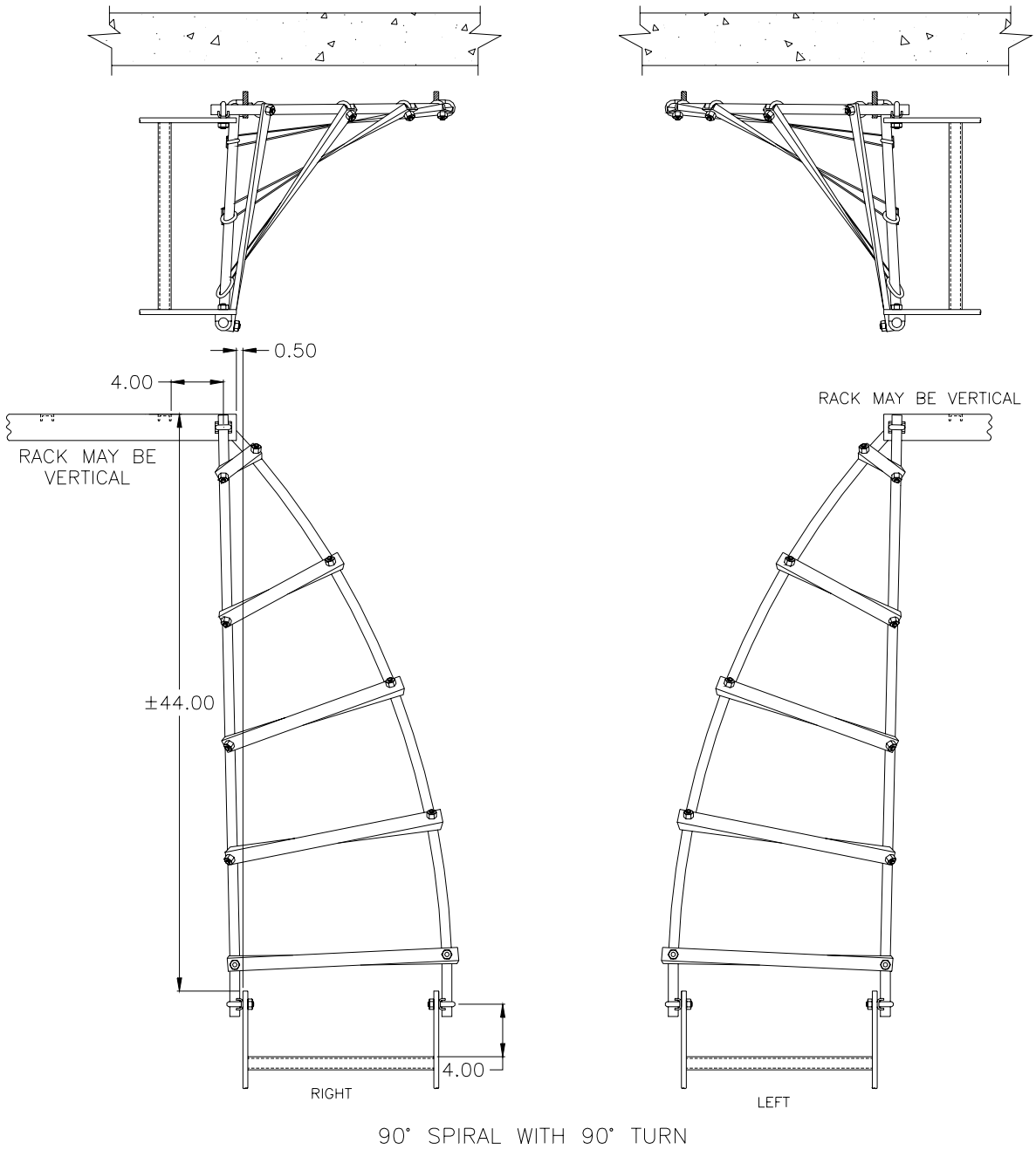
5.1 Engineering/Installation Considerations

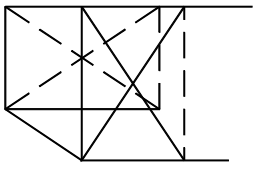
The top of the vertical rack leading to a cable hole in the building floor shall be secured to building walls or otherwise braced to prevent rack movement.

5.2 Known Suppliers

All materials for Figure 5A are custom made depending on the width of the vertical rack.

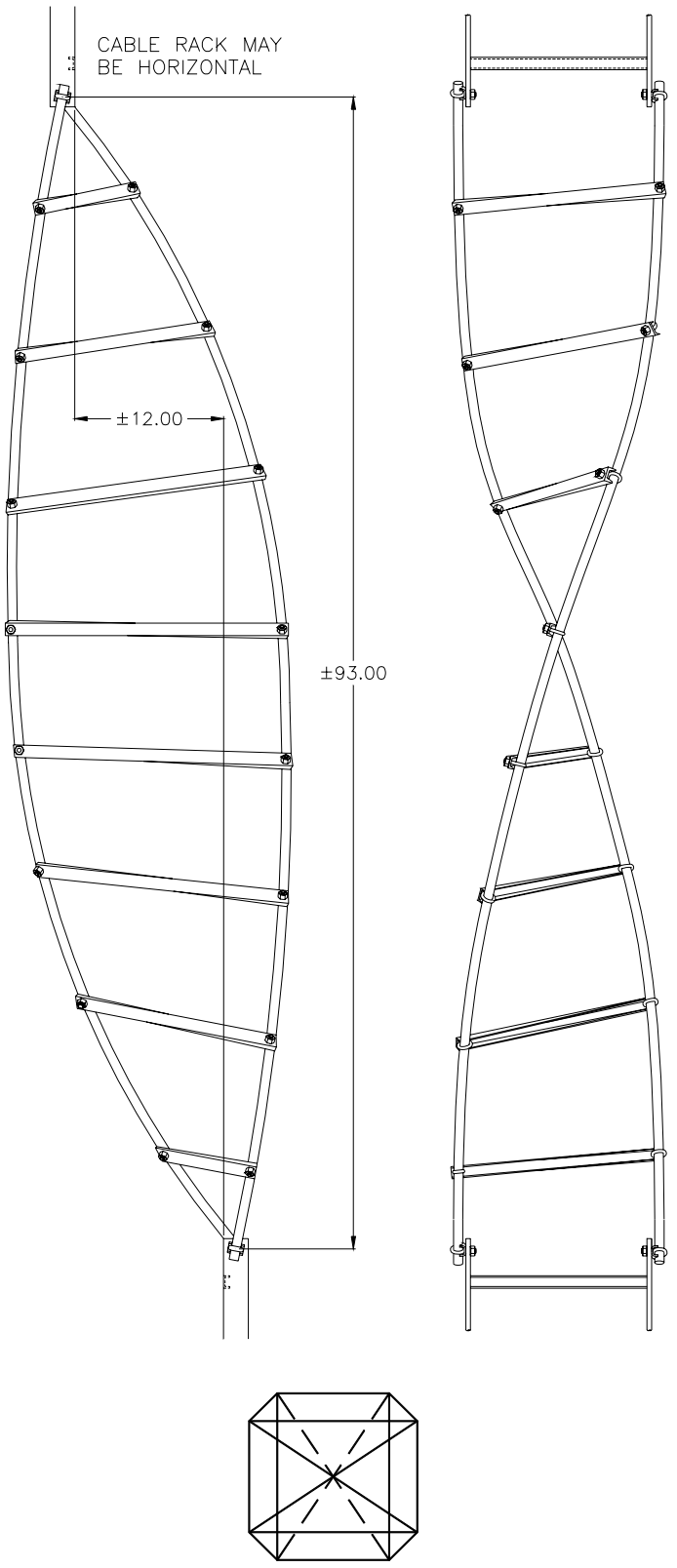
Figure 1 – ED90843-10 Figure 2





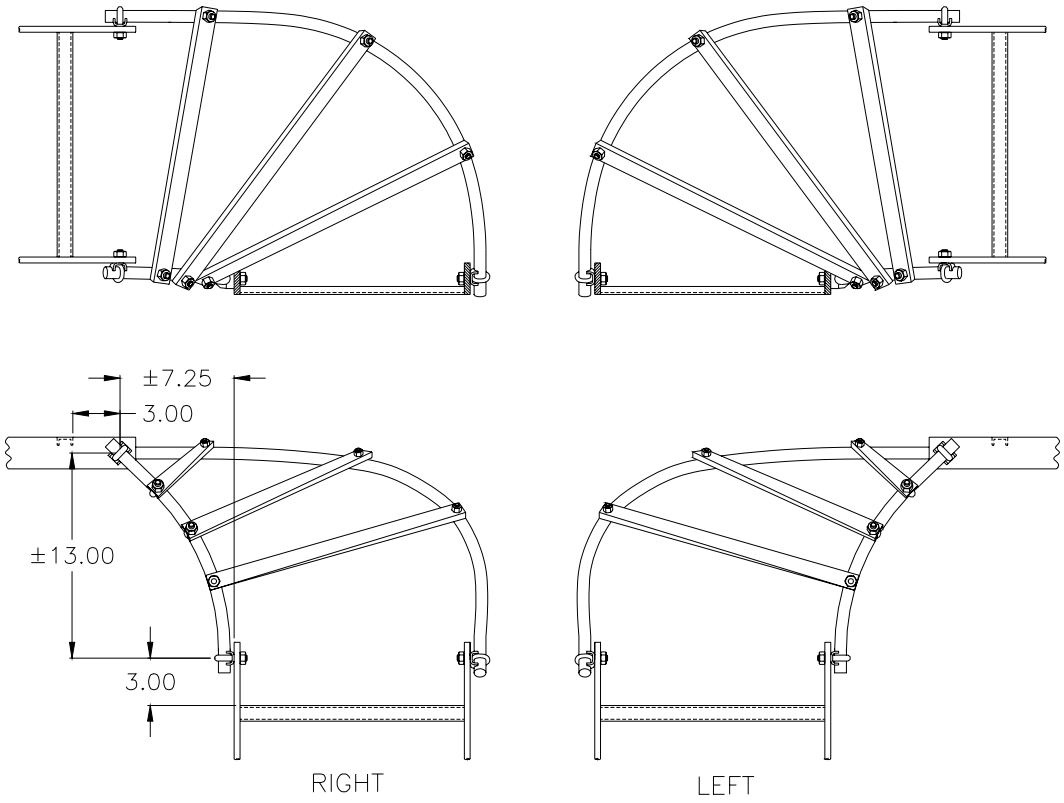
Typical cabling plan depiction – Left cable turn shown

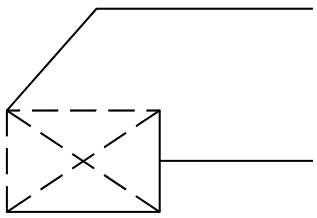
Figure 2 – ED90843-10 Figure 4



Typical cabling plan depiction

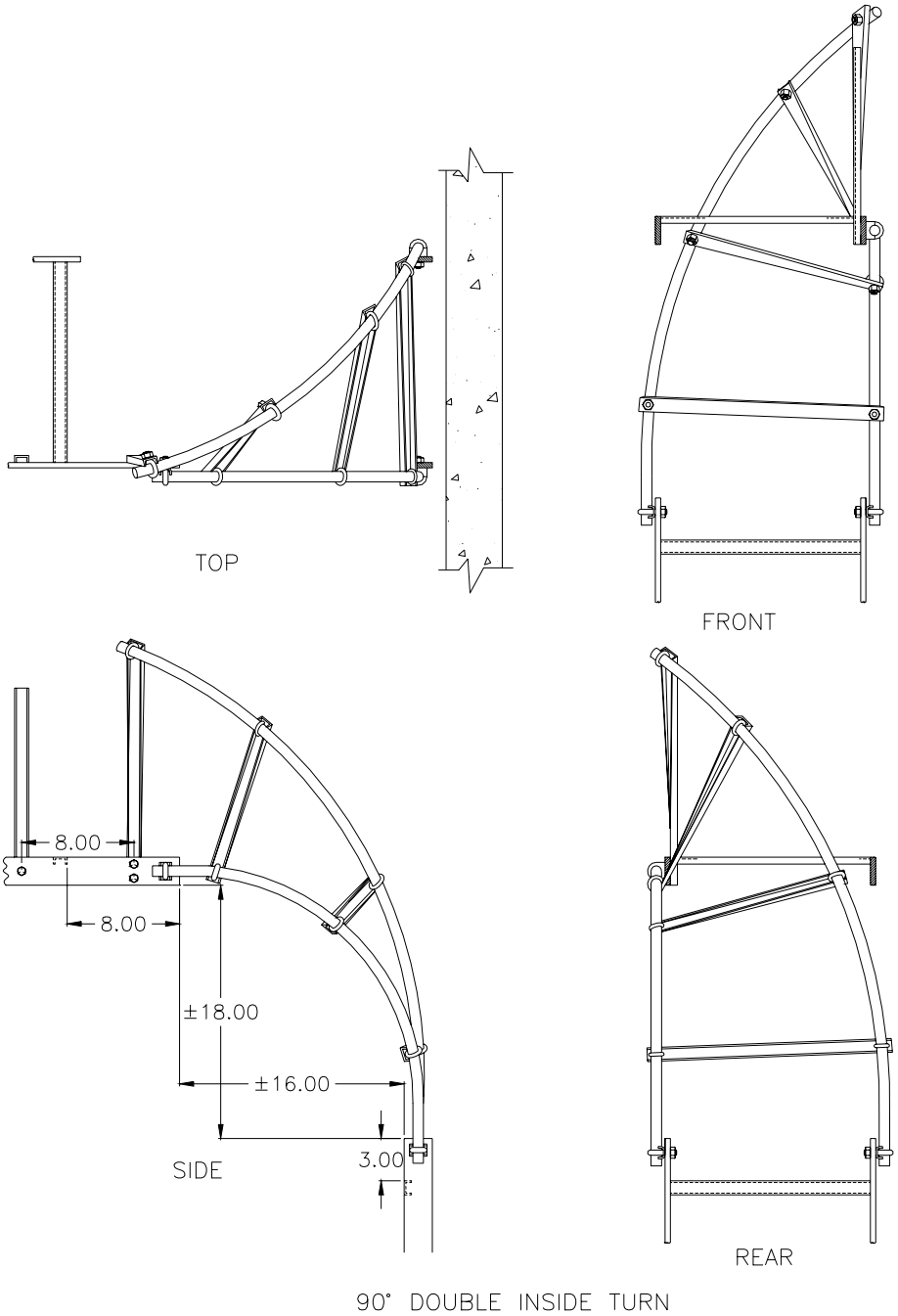
Figure 3 – ED90843-10 Figure 5

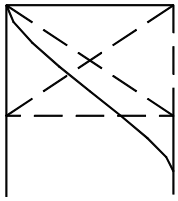




Typical cabling plan depiction

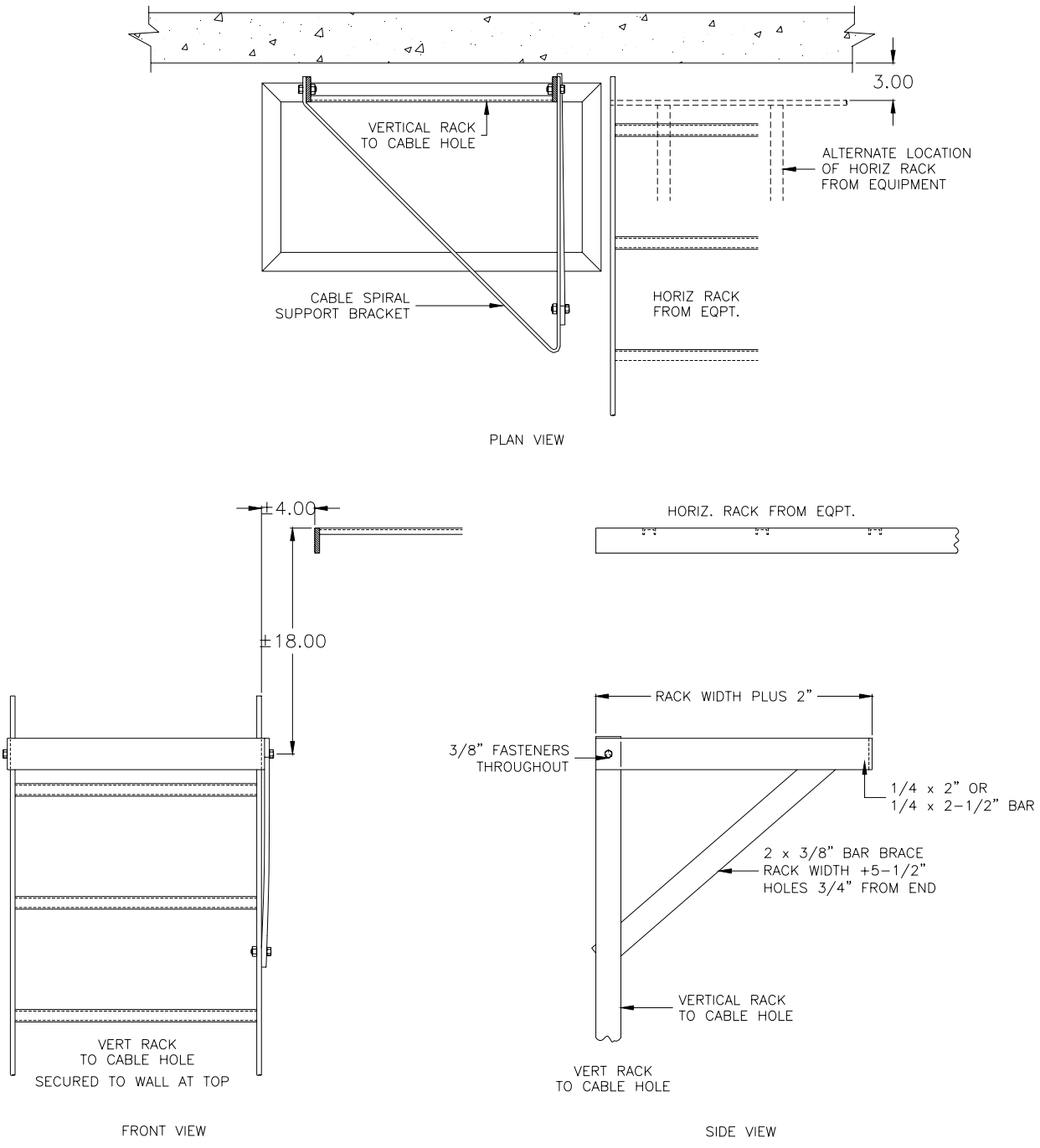
Figure 4 – ED90843-10 Figure 6 (Left Shown)

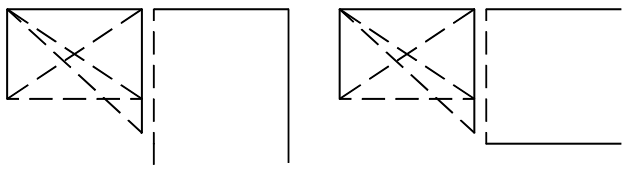




Typical cabling plan depiction

Figure 5A – Double Inside Turn Alternative





Typical cabling plan depiction

Figure 5B – General Cable Routing For Fig. 5A