Cable mining shall be performed on a building-bay-by-building-bay basis to the extent possible and practicable. A building bay is an approximate 400 FT^2 area bordered by building columns and/or walls. Cable mining shall begin at low cable pile-up areas and proceed towards heavy pile-up areas.

Cable mining shall begin with switchboard and other miscellaneous cable racks. Cable racks containing only power cable shall be mined last unless otherwise instructed by SBC. For multistory buildings, cable racks containing only power cable shall be the last type of cable rack to be mined on a given floor.

Cable mining in multistory buildings should begin on the upper most floors and proceed towards office power plants. Cable shall be mined from all horizontal cable racks before it is mined from vertical racks leading to another floor.

DANGER: Cable shall never be mined from cable racks at cable holes unless the cable holes covers have been removed.

All covers and firestopping material shall be removed from cable holes before mining cable from between building floors. Cable holes shall be vacuumed free of dust and debris before the their bottom cover plate(s) are removed.

Mining vertical cable between floors shall be accomplished incrementally to avoid entire runs of cable being unsupported simultaneously. To accomplish this, no more than one-half of the supports for vertical cable runs between floors shall be removed at a time. Accordingly, the top portion of a cable rack shall be mined and the remaining working cables redressed to the cable rack before the lower portion of the cable rack is mined.

7.5 Temporary Cable Supports

All in-service cable shall be adequately supported during the cable mining process. To minimize the introduction of stress to the conductors of working cable, horizontal cable runs shall not be allowed to sag more than 4 inches between cable supports.

The cable strap sizes and maximum cable pileup requirements shown in Table B shall be followed when supporting in service cable to or from cable support structures.

Table B

Minimum Strap Width	Bundled Cable Diameter	Layered Or Secured Cable		
		Power Cable	<1'-8" Racks	>1'-8" Racks
1"	<3"	-	-	-
2"	3" to <6"	-	-	-
3"	6" to <10"	-	-	-
4"	≥ 10"	2 Layers Or 2-1/2" Pile-Up	3" Pile-Up	2" Pile-Up

Note: 2 and 3 inch strap widths may be a combination of adjacent I inch wide straps. 4-inch strap widths may be a combination of adjacent 2-inch wide straps. Rope and lacing cord shall not be used as a temporary cable support.

7.6 Elevating Cable

DANGER: **Cable mining contractors shall make absolutely certain elevated cable will not come in contact with any metallic object while it is being returned to its cable rack.**

All cable elevating/hoisting activity shall be accomplished according to the cable support requirements specified in Table B. Cable shall never be elevated more than is necessary to access the cable to be removed.

Elevated cable shall be returned to the cable rack immediately after buried cable is mined and during prolonged periods of work stoppage such as during week ends. For this reason, cable mining involving elevated cable should be planned and accomplished by a single and continuous work effort.

Depending on the methods used, hoisting or elevating cable from their cable racks may introduce undesirable horizontal stress to the office auxiliary framing arrangement. For this reason temporary grids of auxiliary framing or other structurally appropriate apparatus should be temporarily installed for hoisting or elevating cable.

When existing office auxiliary framing will be used for hoisting or elevating cable runs, it shall be stiffened by the addition of temporary structural members so that it does not deflect inwards towards the cable load. Hoisting apparatus shall never be attached to office cable racks.

Attachment of hoisting apparatus to auxiliary framing support rods shall be avoided whenever possible. When necessary, attachment of hoisting apparatus to hanger rods shall only be done at the rod's point of attachment to the ceiling or auxiliary framing. Auxiliary framing support rods shall not be used for the temporary support of cable bundles larger than 9", or layered type power cable runs.

Vertical to horizontal cable rack fabrications at the underside of cable holes in building floors shall be temporarily supported by auxiliary framing or other structurally appropriate apparatus when cable mining will occur on the vertical rack on the floor above. These cable rack supports shall be in place before cable supports (stitching and/or clips) are removed from vertical racks on the floor above.

8 CABLE MINING JOB METHODS OF PROCEDURES (MOP)

A detailed MOP shall be prepared by the cable mining contractor in accordance with TP76300 for both, the office cable rack survey and cable mining portions of a job. The MOP shall include:

A. The working hours the contractor will normally be in the office,
B. A description of work barriers the contractor is responsible for providing,
C. A general description of how the cable mining project will be sequenced, including specific requests or restrictions imposed by SBC,
D. An expected schedule of when and where work activity will occur throughout the building,
E. A description of methods to be used to provide temporary cable support structures, and
F. A description of the methods to be used to hoist or elevate working cable.

Note: Items C and D above are intended to help associate office alarms generated during cable mining activities.

9. FIGURES AND SKETCHES

Figure 1. Additional Cable Support To Prevent Cable Sag

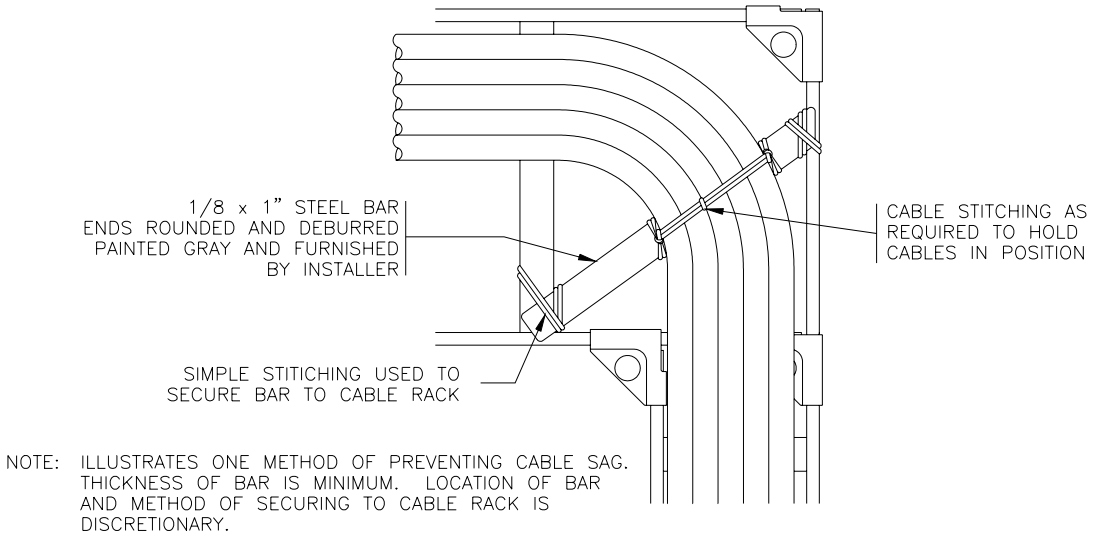
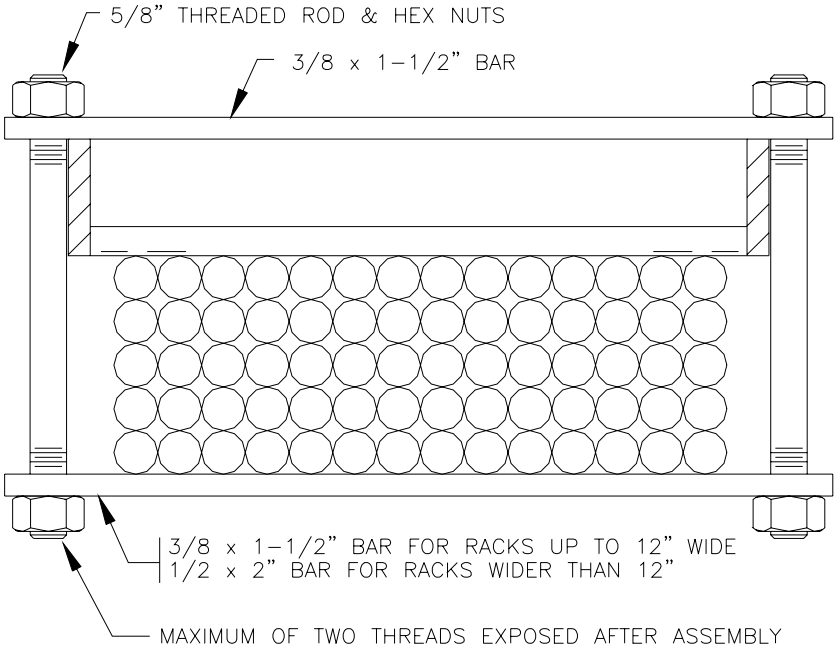


Figure 2. Auxiliary Support For Inverted Horizontal Cable Runs



NOTE: THREADED RODS TO BE REPLACED WITH LONGER RODS WHEN ADDITIONAL CABLE IS INSTALLED, OR RODS WHICH WILL ACCOMMODATE THE ULTIMATE CABLE PILEUP MAY BE PROVIDED INITIALLY IF THEY ARE EQUIPPED WITH GUARDS AS SHOWN IN FIG.5.

Figure 3. Location Of Supplemental Cable Supports For Vertical Runs In Exposed Locations

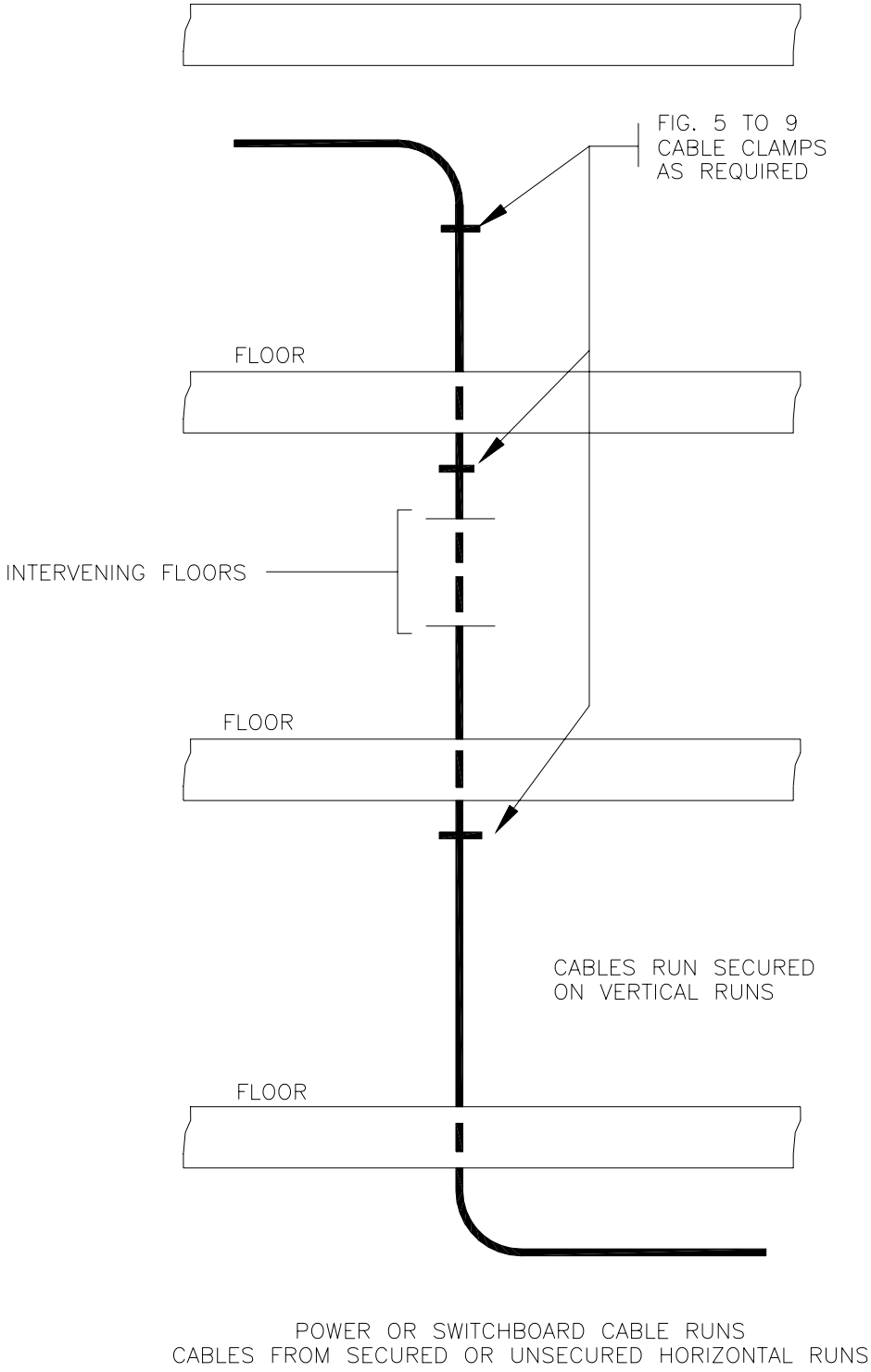
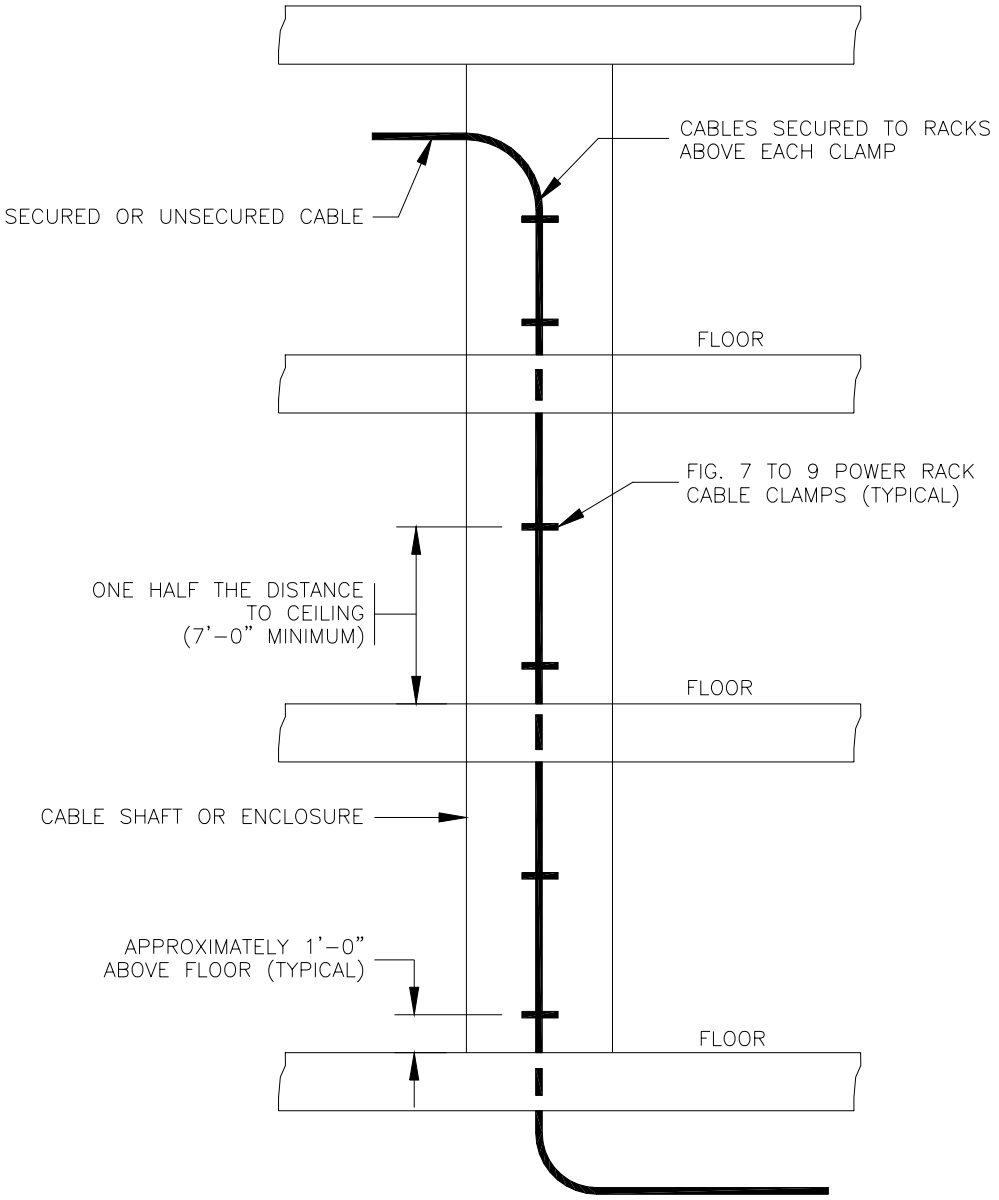
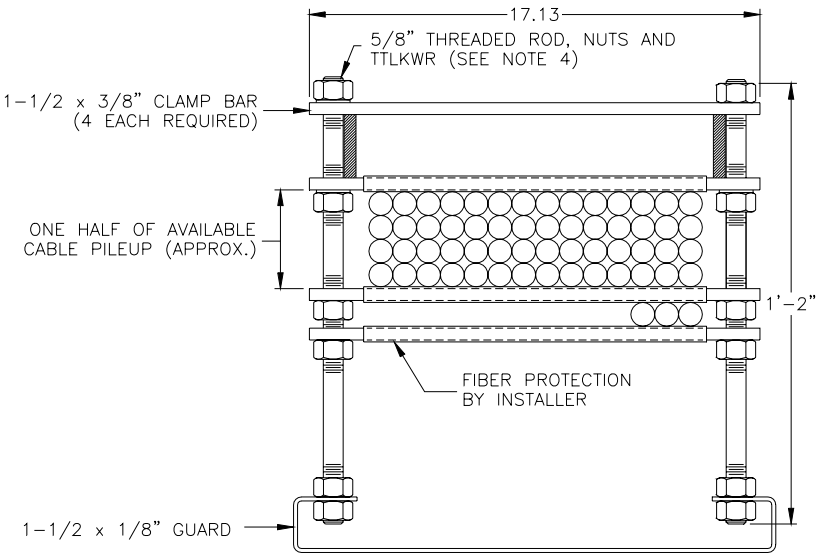


Figure 4. Location Of Supplemental Cable Supports For Vertical Runs In Cable Shafts And Other Enclosures



NOTE: CABLE CLAMPS ARE NOT REQUIRED ON VERTICAL RUNS WHICH ARE SECURED TO CABLE RACKS AT EVERY CROSS STRAP

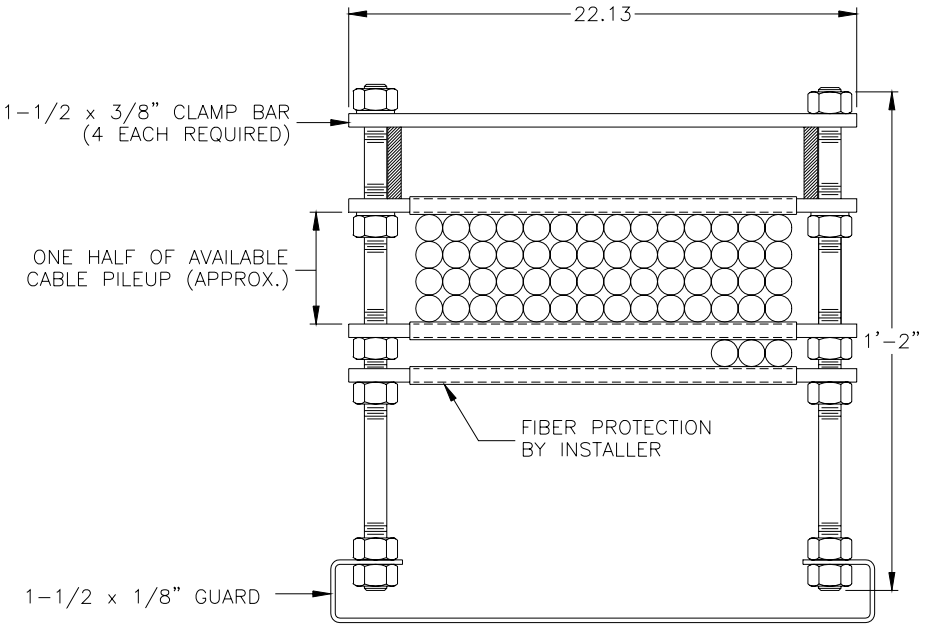
Figure 5. Supplemental Vertical Cable Support For 1'-3" Misc. Cable Racks



NOTES

1. UNUSED CLAMP BARS AND HEX NUTS SHALL BE ASSEMBLED ON THREADED RODS FOR USE WITH FUTURE LAYERS OF CABLE
2. FIBER PROTECTION SHALL BE APPLIED TO CABLES WHERE CONTACT WITH NUTS OR THREADED RODS CAN NOT BE AVOIDED.
3. LOCATE CLAMPS 1 TO 1-1/2 INCHES FROM CABLE RACK CROSS STRAPS.
4. THREADED RODS SHALL BE APPROXIMATELY FLUSH WITH NUTS AT THE BACK
5. CLAMP BARS SHALL HOLD CABLES FIRM WITHOUT EXCESSIVE DEFORMATION OF CABLES.

Figure 6. Supplemental Vertical Cable Support For 1'-8" Misc. Cable Racks



(OTHERWISE SAME AS FIG. 5)

Figure 7 Supplemental Vertical Cable Support For 1'-3" Wide Power Cable Racks

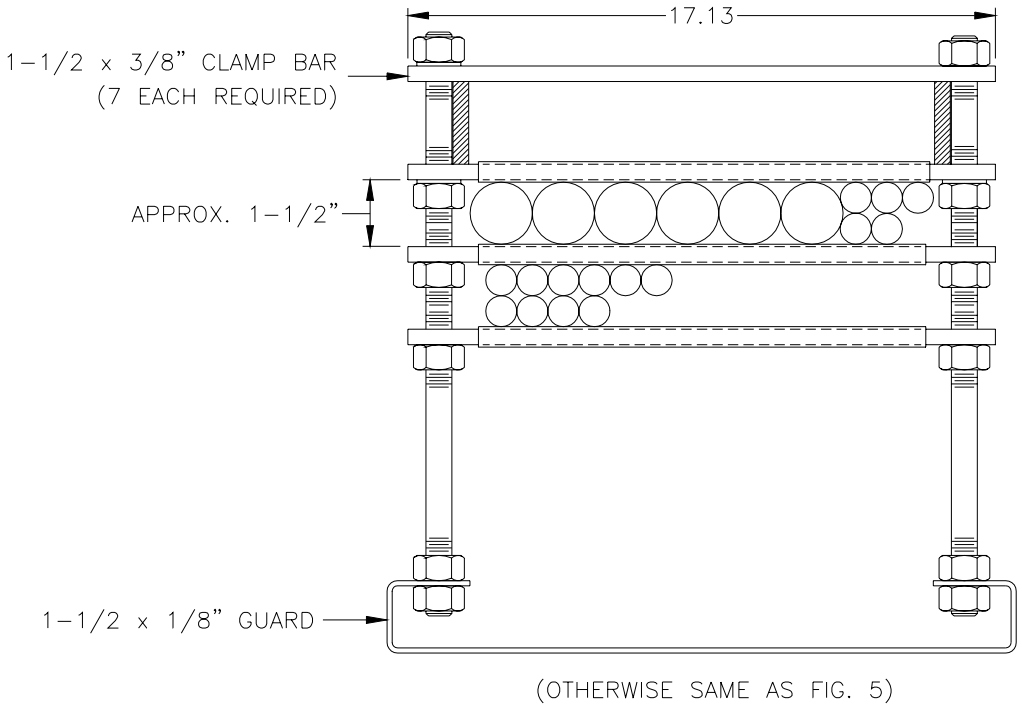
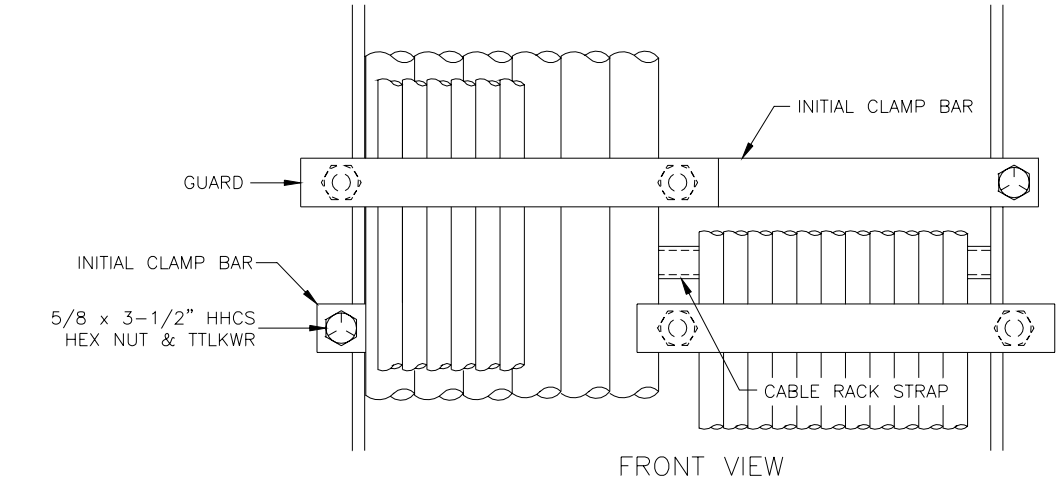


Figure 8. Supplemental Vertical Cable Support For 1'-8" Wide Power



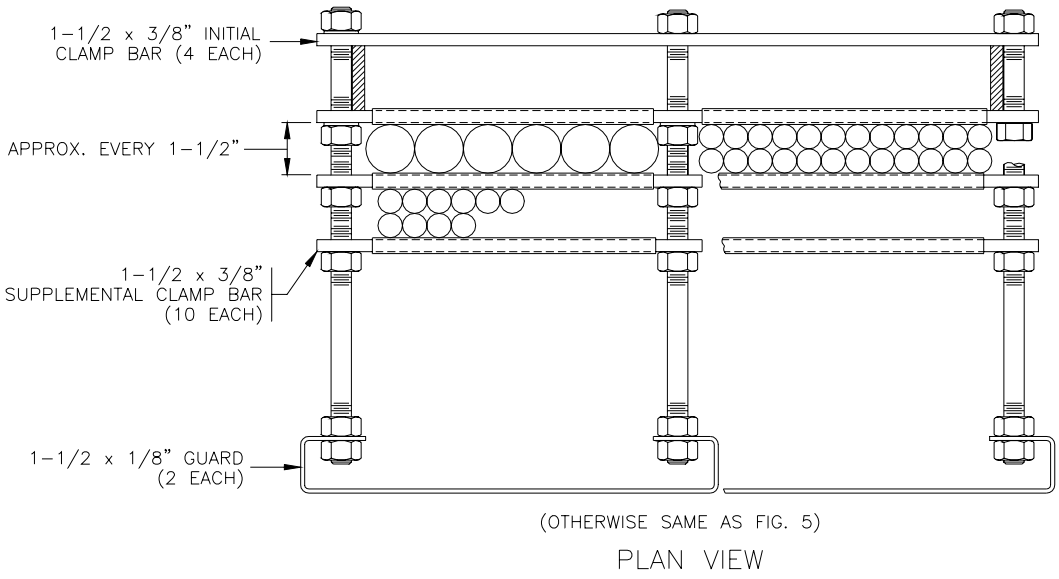
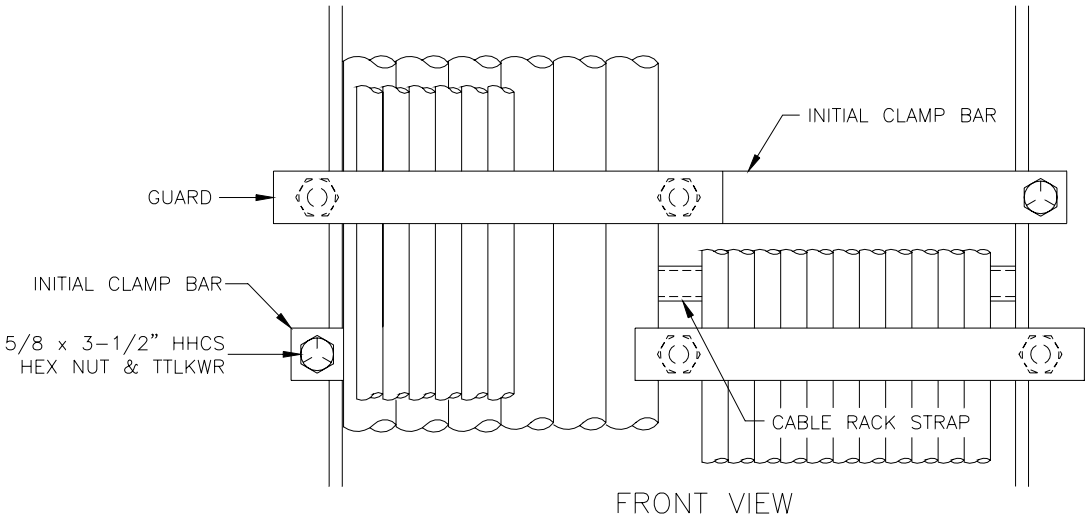
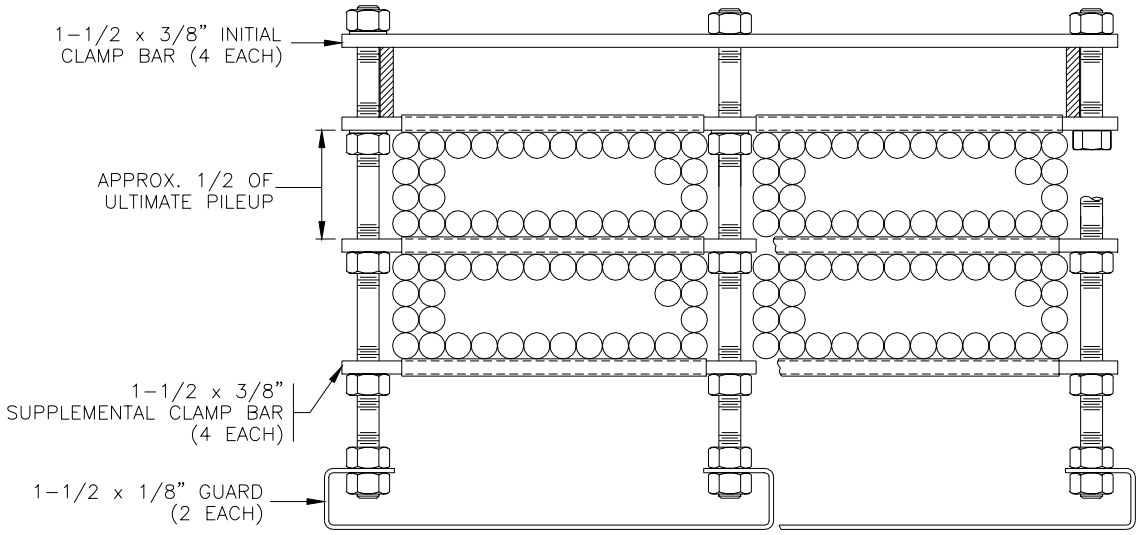


Figure 9. Supplemental Vertical Cable Support For 2'-1" Wide Misc. Cable Racks



FRONT VIEW



(OTHERWISE SAME AS FIG. 5)

PLAN VIEW

Figure 10. Location Of Supplemental Cable Supports For Spiral Cable Runs

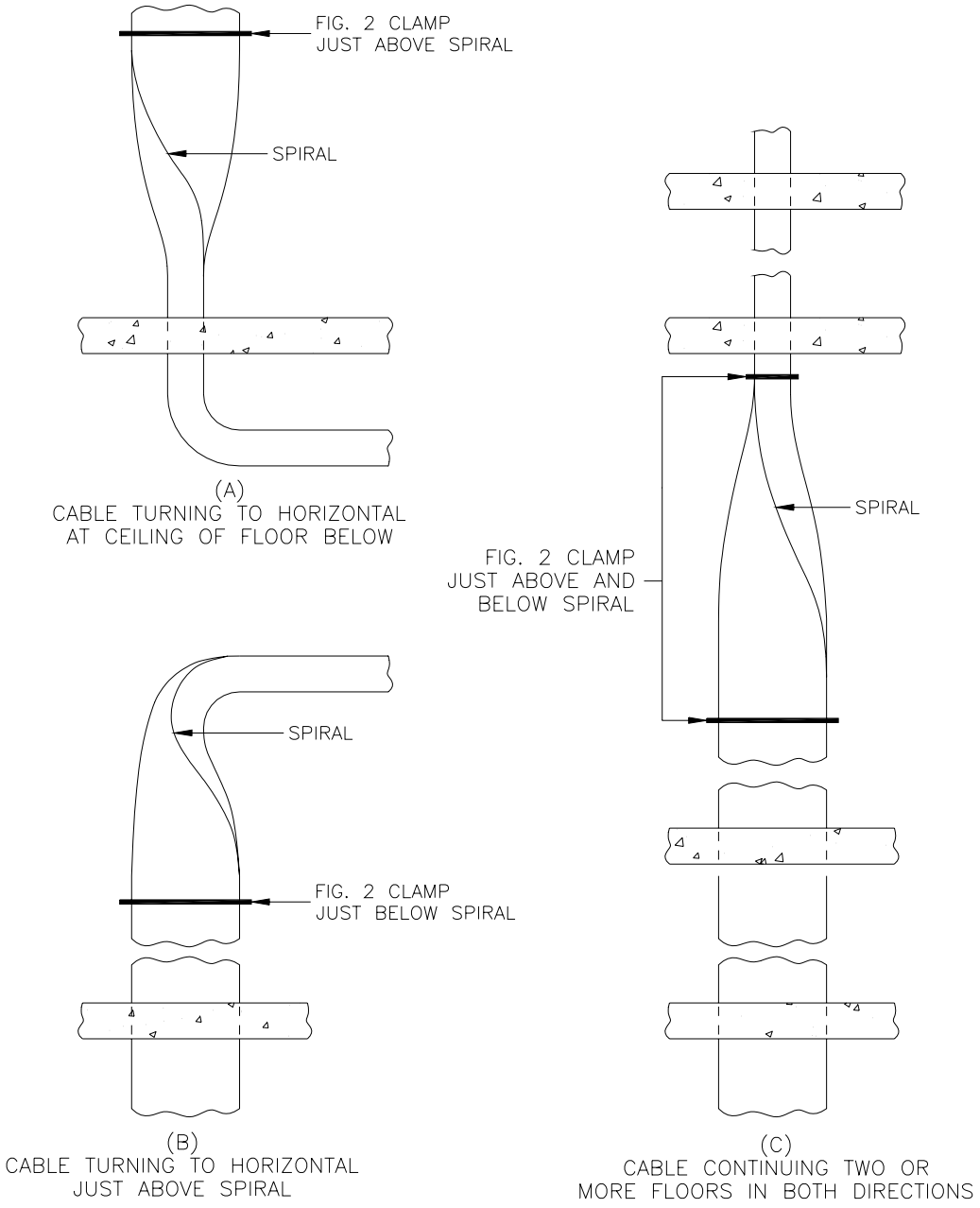


Figure 11. Cable Rack Horn Removal By Bending

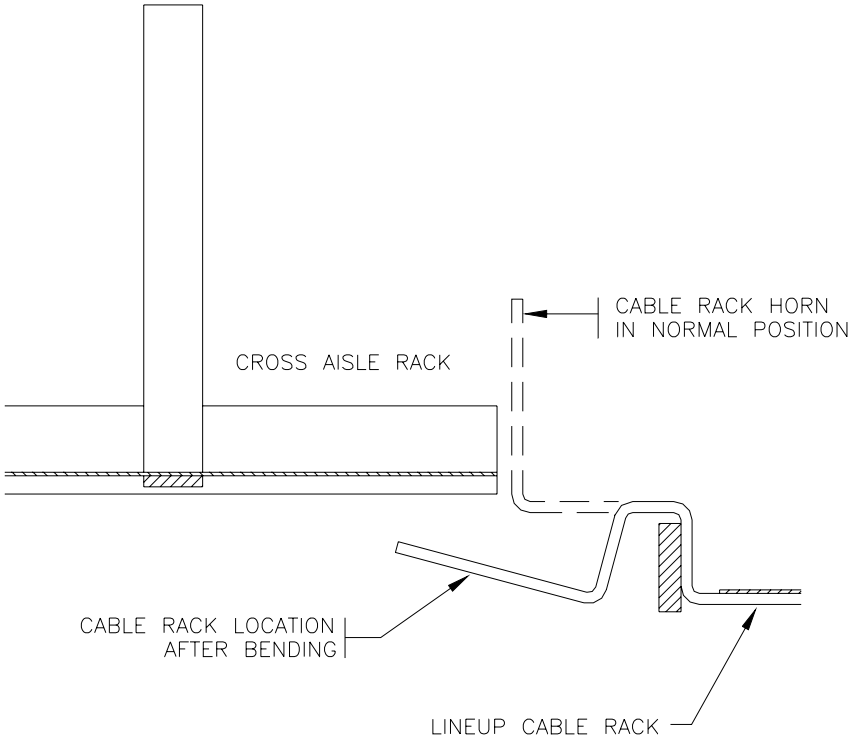


Figure 12. Cable Rack Horn Removal By Cutting