SECTION 260529 - SUPPORTING DEVICES

PART 1 - GENERAL

1.1 WORK INCLUDES

A. Base and Alternate Bids:
   1. Contractor Provide:
      a. Conduit and equipment supports
      b. Anchors and fasteners.

1.2 REFERENCES

A. NECA - National Contractors Association.

B. ANSI/NFPA 70 - National Electrical Code, 2008 edition.

C. IBC, 2003 - International Building Code: seismic hazard and performance.

1.3 SUBMITTALS

A. Submit under provisions of Division 1.

B. Product Data: Provide manufacturer's catalog data for fastening systems.

C. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by Product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of Product.

1.4 REGULATORY REQUIREMENTS

A. Conform to requirements of ANSI/NFPA 70.

B. Furnish products listed and classified by UL as suitable for purpose specified and shown.

PART 2 - PRODUCTS

2.1 PRODUCT REQUIREMENTS

A. Materials and Finishes: Provide adequate corrosion resistance.

B. Provide materials, sizes, and types of anchors, fasteners and supports to carry the loads of equipment and conduit. Consider weight of wire in conduit when selecting products.

C. Anchors and Fasteners:
   1. Concrete Structural Elements: Use expansion anchors and preset inserts.
   2. Steel Structural Elements: Use beam clamps, steel ramset fasteners and welded fasteners.
   3. Concrete Surfaces: Use self-drilling anchors and expansion anchors.
   4. Hollow Masonry, Plaster, and Gypsum Board Partitions: Use toggle bolts and hollow wall fasteners.
   5. Solid Masonry Walls: Use expansion anchors and preset inserts.
   6. Sheet Metal: Use sheet metal screws.
   7. Wood Elements: Use wood screws.

D. Steel Channel
   1. Description: Galvanized, Huskey HP-200, Kindorf B-901, Unistrut P-1000 or B-Line B22. Combine channels to provide adequate strength and stability to support equipment as indicated on plans and approved by the Architect/Engineer. Steel channel shall be sized to prevent buckling, shall be clamped to pipe or equipment rods utilizing a minimum of three ductile iron clamps at each restraint location when required. Welding of support rods is not acceptable. Rod clamp assemblies shall have an Anchorage Preapproval "R" Number from OSHPD in the State of California.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Do not fasten supports to pipes, ducts, mechanical equipment, and conduit.

C. Spring-steel fasteners specifically designed for supporting single conduits or tubing may be used instead of malleable-iron hangers for 1-1/4-inch and smaller raceways serving lighting, receptacle, and communications circuits above suspended ceilings and concealed within walls. However, spring -steel fasteners (beam, purlin, wire, rod, etc.) designed for friction-fit attachment are not acceptable. Fasteners must use a minimum of one mechanical (set screw, bolt and clamp) element for attachment.

D. Do not use powder-actuated anchors.

E. Do not drill or cut structural members.

F. Fabricate supports from structural steel or steel channel. Rigidly weld members or use hexagon head bolts to present neat appearance with adequate strength and rigidity. Use spring lock washers under all nuts.

G. Install surface-mounted cabinets and panel boards with minimum of four anchors.

H. In wet and damp locations use steel channel supports to stand cabinets and panel boards one inch off wall.

I. Use sheet metal channel to bridge studs above and below cabinets and panel boards recessed in hollow partitions.

J. Touch-up any material damaged during construction.

K. Provide support to meet seismic requirements. Where necessary provide the services of a registered structural engineer to calculate and engineer support systems or restraints. Submit to Architect/Engineer results and documents (sealed drawings) for any such systems or restraints.

END OF SECTION 260529