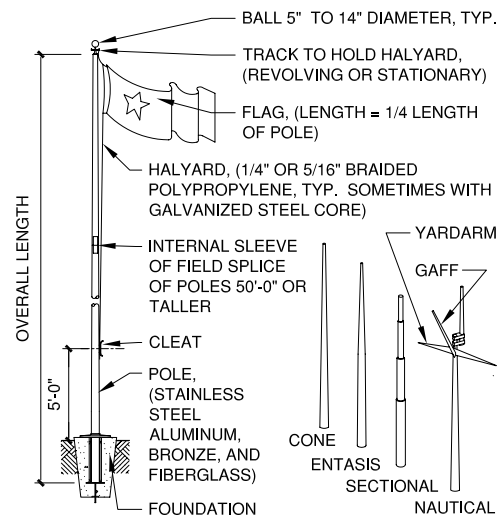
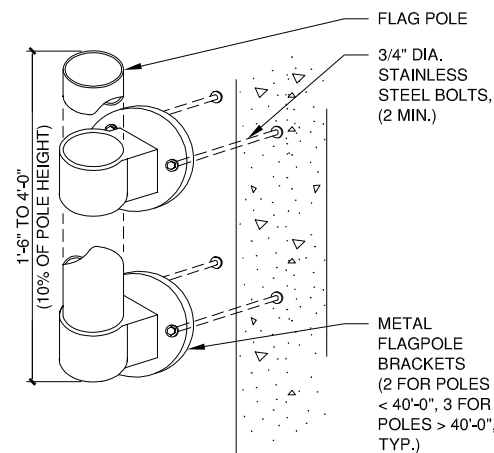


## FLAGS AND FLAGPOLES



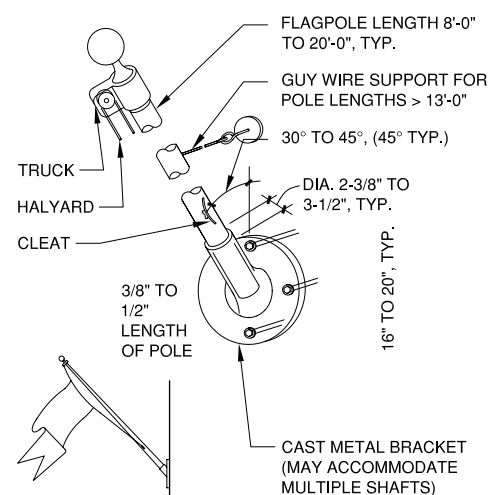
Flagpoles must withstand wind loads while the flag is flying. The combination wind load on pole and flag should be considered. Refer to wind load tests by the National Association of Architectural Metal Manufacturers (NAAMM).

### FLAGPOLE DESIGN

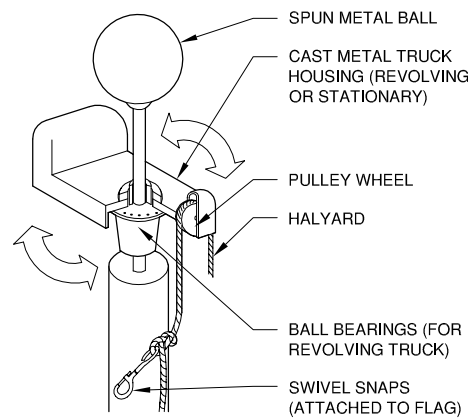


Brackets are made of cast aluminum, bronze, and stainless steel; designs vary.

### VERTICAL WALL-MOUNTED FLAGPOLE

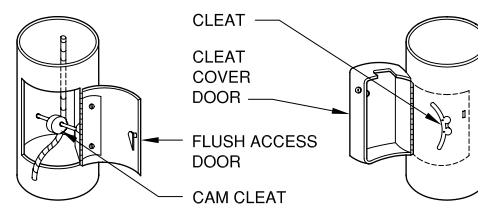


### OUTRIGGER WALL-MOUNTED FLAGPOLE

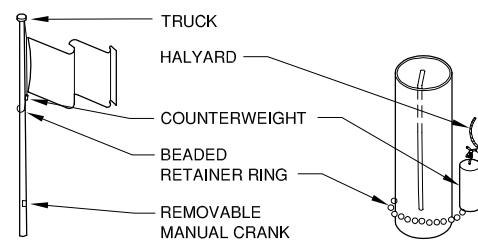
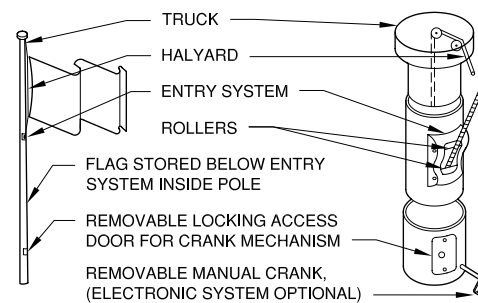


A revolving truck allows free movement of the flag while flying; a second truck is typically used as backup only, not simultaneously with the first truck.

### DOUBLE TRUCK DETAIL



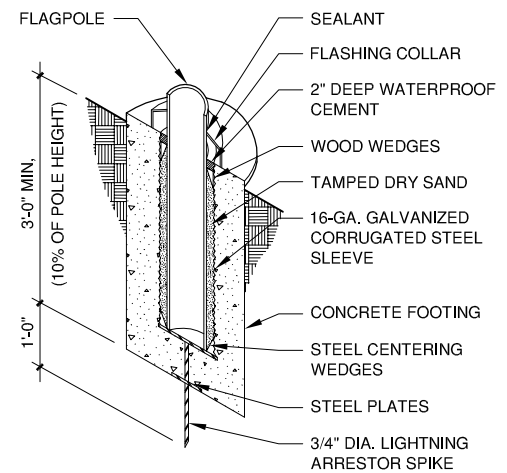
### VANDALPROOF CLEAT DETAILS



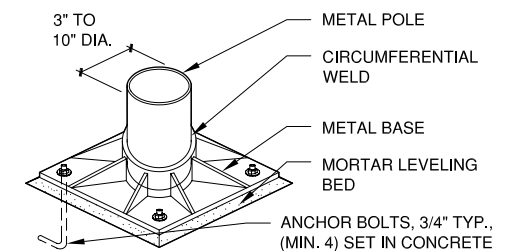
### VANDALPROOF FLAGPOLE DESIGN

### SUGGESTED FLAG SIZES

FOR GROUND-SET POLES		FOR VERTICAL WALL-SET POLES		FOR ROOF-SET POLES		FOR OUTRIGGER POLES	
EXPOSED POLE HEIGHT (FT)	FLAG SIZE (FT)	EXPOSED POLE HEIGHT (FT)	FLAG SIZE (FT)	EXPOSED POLE HEIGHT (FT)	FLAG SIZE (FT)	POLE LENGTH (FT)	FLAG SIZE (FT)
15	3 x 5	12 to 15	4 x 6	15	4 x 6	8	3 x 5
20 or 25	4 x 6	16 or 30	5 x 8	20 to 30	5 x 8	10 to 12	4 x 6
30 or 35	5 x 8	35 or 40	6 x 10	35 or 40	6 x 10	15 to 16	5 x 8
40 or 45	6 x 10	above top of wall		45 to 50	8 x 12	18 to 23	6 x 10
50, 55, or 60	8 x 12			60 to 65	10 x 15		
65 or 70	10 x 15			70 to 75	10 x 15		
80 or 90	10 x 15						
100	12 x 18						

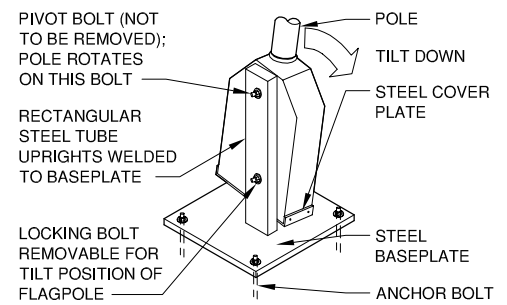


### FOUNDATION DETAIL

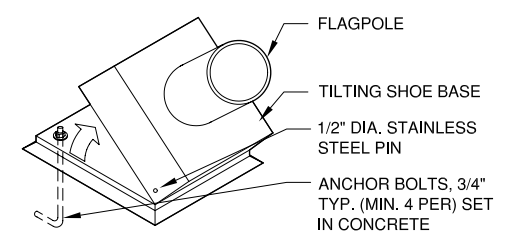


Electrical wiring may be threaded through the pole.

### SHOE BASE DETAIL



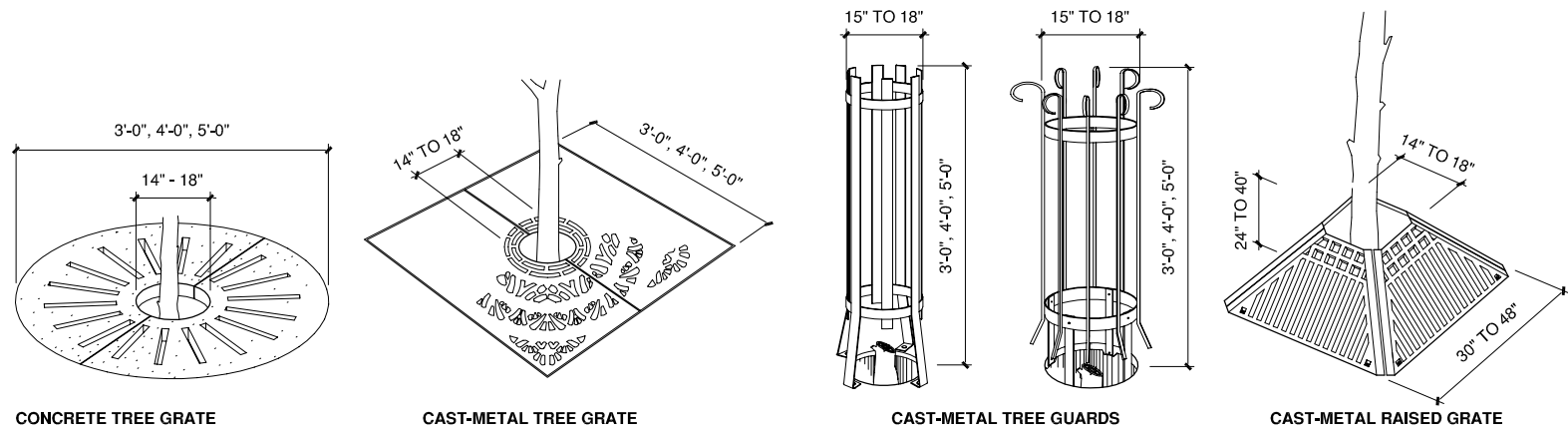
### COUNTERBALANCED TILTING POLE



### HINGED TILTING POLE

610 Site and Street Furnishings

**SITE AND STREET FURNISHINGS**



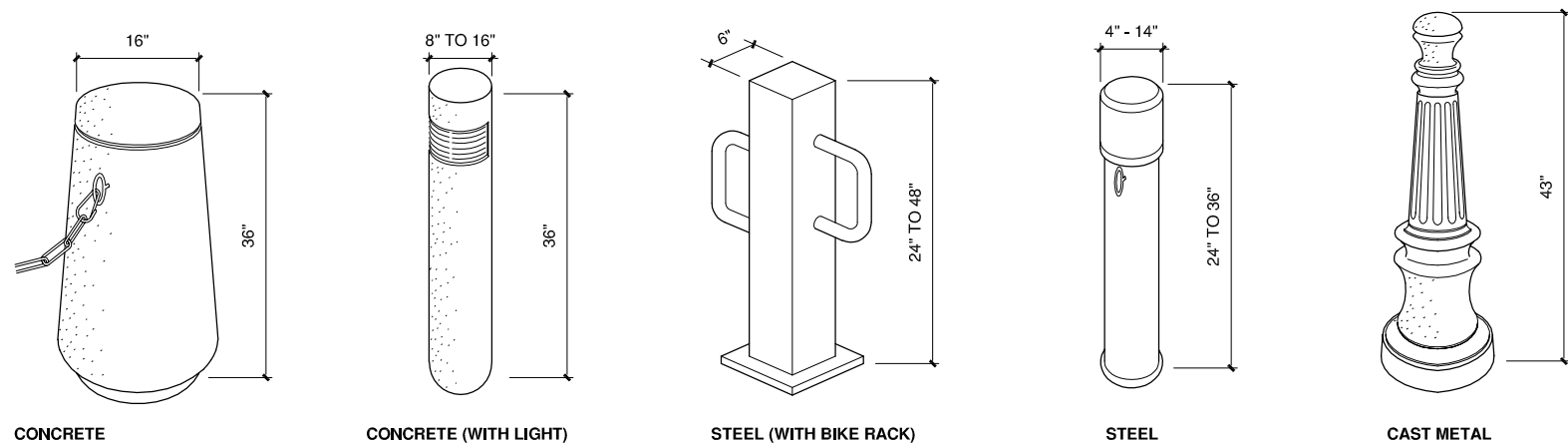
CONCRETE TREE GRATE

CAST-METAL TREE GRATE

CAST-METAL TREE GUARDS

CAST-METAL RAISED GRATE

**TREE PROTECTION**



CONCRETE

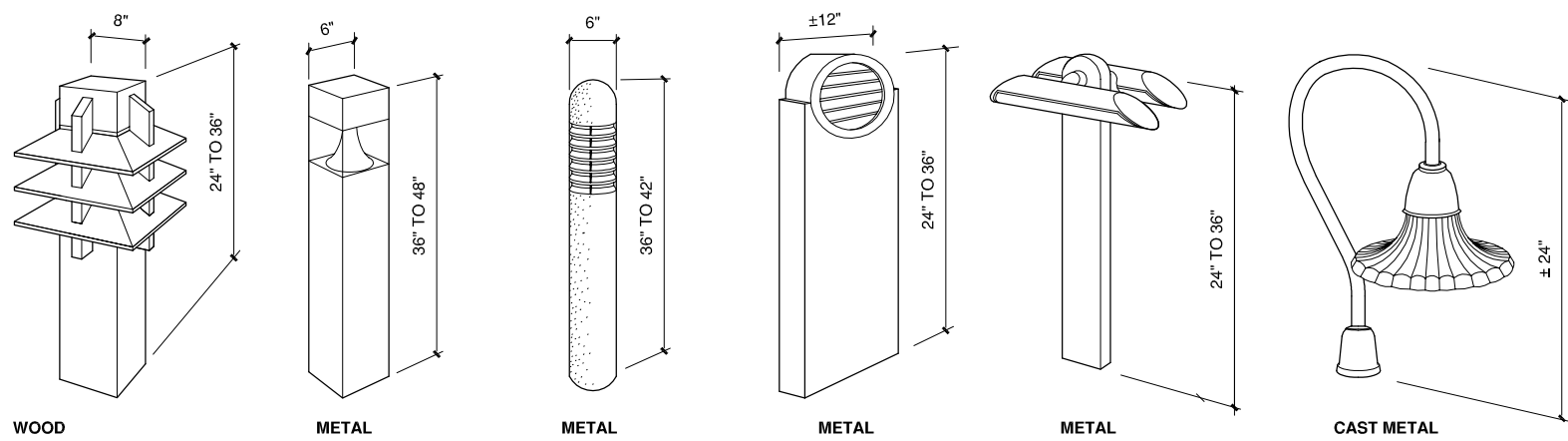
CONCRETE (WITH LIGHT)

STEEL (WITH BIKE RACK)

STEEL

CAST METAL

**BOLLARDS**



WOOD

METAL

METAL

METAL

METAL

CAST METAL

**LANDSCAPE LIGHTS**

Richard J. Vitullo, AIA, Oak Leaf Studio, Crownsville, Maryland.

**PART 3 PROCESS, IMPLEMENTATION, AND APPLICATION**