PART 0 DESIGN STANDARDS

0.01 GENERAL DESIGN GUIDELINES

A. Consider provision of foot scrapers at main building entrances from playgrounds. DPS standard detail may be used; obtain detail from DPS Project Manager.

B. Metal gratings

1. Ensure compliance with ADA accessibility guidelines in pedestrian areas.

a) Maximum 3/4” clear opening (sufficient to prevent a ¾” sphere from passing through) in other pedestrian and play areas including grass fields and other landscape areas.

2. Individual grating sections maximum 120 pounds weight

3. Detail gratings with bolt-down accessories to prevent easy removal.

C. Manhole frames and covers: Non-rocking design with machined bearing surfaces to prevent movement or noise under traffic

D. Tree rings: Refer to standard Section 02870.

E. Bollards / guard posts

1. Refer to standard Section 02000.

2. Bollards shall be fixed, not removable, and shall be filled with concrete.

3. Removable bollards may be used only where unavoidable, and with approval of the DPS Project Manager.

a) Design removable bollards with fittings permitting them to be locked using padlocks.

b) Where bollard removal is required for emergency vehicle access, provide fittings to permit double locking (pad locks by DPS and the emergency response agency) so that either DPS or the Emergency Response agency may remove bollard by unlocking their padlock only.

F. Stage dressing and other overhead open grids

1. At stages and platforms, 4'-0" o.c.,perpendicular to stage opening

2. Grid at other locations

3. Secure to structure above w/ appropriate anchors and hangers.

4. Mount with open side down.

G. Expansion joint covers should be metal. Avoid resilient type expansion joint covers/fillers.

H. Metal stairs

1. Metal pan type with concrete fill (use interior only, not acceptable exterior)

2. Closed riser, w/ rounded nosings

3. Bolt connected to surrounding structure

I. Penthouse access

1. Penthouse access shall be by interior ship’s ladder with railing.

J. Ladders

1. Sturdy, rigid rails

2. 1" minimum diameter rungs

3. Rungs shall be deformed rebar or other non-slip design.

4. Ladders shall have landing support over parapet tops or gravel stop edges.

5. Ladder designs shall meet OSHA standards.
6. Provide roof access ladders where roof levels change by more than 3 feet.
7. Where ladder terminates in a roof scuttle hatch, consider provision of ladder stringer extension device (also see standards Section 07700).

K. Stage risers shall have handrails.

L. Railings
1. Stainless steel pipe (no tubing) at swimming pools and lunchroom serving lines
2. All other railings shall be Schedule 40 steel pipe.

M. Bollards
1. Steel pipe, minimum 4” diameter galvanized schedule 40
2. Ornamental/architectural bollards only with approval of the DPS Project Manager
3. Non-ornamental bollards shall be field painted safety yellow.
4. Bollards shall be filled with concrete (non-ornamental only), unless the bollard is to be removable.

N. Detailing
1. Detail all anchorage conditions.
2. Detail all special fabrication details.
3. Detail all embed conditions.

O. Material specs
1. Specify metal type and gauges for all components of each fabrication.
2. Specify prime painting and touch-up at damaged paint.

P. Anchorages (specify based on substrate)
1. Use of percussion actuated fasteners is prohibited.
2. Nelson studs for concrete substrates
3. Metal plates w/ anchor bolts for masonry substrates
4. Provide solid blocking w/ plaster ring for plaster and gypsum board substrates.
5. Provide metal wall bracket filler plates wherever mounting brackets are attached to supporting structure or blocking through gypsum board, plaster or tile.
6. Where railings are set in concrete foundations, walks or walls; core drill anchorage sleeves and install railings with non-shrink, non-metalic grout formed to create positive drainage away from the installation point.

PART 1 GENERAL

1.01 APPLICATOR QUALIFICATION/CERTIFICATION

A. All welders to be employed in the work shall have certification of having satisfactorily passed appropriate American Welding Society (AWS) qualification tests within the previous 12 months.

1.02 SPECIAL PERMITTING REQUIREMENTS

A. Hotwork requirements are identified in the General Conditions of the Contract for Construction.

PART 2 PRODUCTS

2.01 MATERIALS

A. Specify all materials used in metal fabrications including:

1. Materials
2. Gauges
3. Finish (where appropriate)
4. ASTM standards
5. “Pot metal” (cast zinc) is prohibited

B. Trench covers: 3/16" (minimum) checker plate steel

C. Stage dressing supports and other overhead open grids: 1" Unistrut

D. Grout

1. Non-shrink, non-metalic

E. Primers and protective coatings

1. Shop-applied
2. Do not apply primers to or galvanize areas to be welded.

2.02 RAILING FABRICATION

A. All railings shall terminate with a closure. Provide 90 degree bend and return to walls at all railing ends unless otherwise indicated.

B. Fabricate inside stair railings to return and connect to adjacent rails at landings.

C. Railings parallel to walls shall have a 1-1/2" minimum clear dimension between railings and walls.

D. Provide weep holes at the low point(s) of closed railing systems.

PART 3 PART 3 – EXECUTION

3.01 GENERAL

A. Remove burrs and rough edges. Hem or tool exposed edges to prevent injury.

B. Conceal screws and bolts to the greatest extent possible.

C. Bollard installation

1. Minimum embedment depth 3’-0” in concrete with 6” of concrete below embedment depth (regardless of embedment depth).
2. Foundation diameter shall be 8” greater than the diameter of bollard to be installed.

END OF SECTION 05500