

## Index 521-820 27" Concrete Parapet with Pedestrian/Bicycle Bullet Railing

### Design Criteria

***AASHTO LRFD Bridge Design Specifications; Structures Design Guidelines (SDG)***

### Design Assumptions and Limitations

The standard height railing is the Pedestrian / Bicycle Railing (42" height). The Special Height Bicycle Railing (48" height) should only be used where warranted by ***AASHTO LRFD*** C13.9.2.

Index 521-820 cannot be used as a traffic railing. A crashworthy traffic railing is required between Index 521-820 and adjacent traffic lanes.

Use this standard in conjunction with Indexes 515-022, 521-427 , or 521-428 and 550-010, 550-011, 550-012 or 550-013.

### Plan Content Requirements

In the Structures and/or Roadway Plans:

In the Materials Note on the General Notes Sheet, specify the concrete class in accordance with the superstructure or retaining wall environment classification. See ***SDG*** 1.4.

Show and label, by name or Index number, the Pedestrian / Bicycle Bullet Railing on the Plan and Elevation, Typical Section, Superstructure, Approach Slab and Finish Grade Elevations Cross Section sheets, Retaining Wall Control Drawings, and other sheets as required. Specify the type of railing required, e.g., Pedestrian / Bicycle Bullet Railing or Special Height Bicycle Bullet Railing. Include cross references to ***Standard Plans*** Index 550-010, 550-011, 550-012, 550-013 or 515-022 as appropriate.

All concrete required to construct the parapet and Bars 4P and 4S are included in the Estimated Concrete Parapet Quantities. Do not include parapet concrete in the estimated concrete quantities, or Bars 4P and 4S in the reinforcing bar lists and estimated reinforcing steel quantities for supporting bridge decks, approach slabs or retaining walls.

### Payment

**Note: Conduit and EJB's are no longer included in the cost of the concrete parapet.**

Item number	Item Description	Unit Measure
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521-6-31	Concrete Parapet, Retaining Wall System Mounted w/Sidewalk, 27" Height	LF
521-6-11	Concrete Parapet, Pedestrian/Bicycle, 27" Height	LF
515-4-2	Bullet Rail, Double Rail	LF
630-2-16	Conduit, Furnish & Install, Embedded	LF
635-3-13	Junction Box, Furnish & Install, Embedded	EA