SECTION 500
STRUCTURAL STEEL

501 DESIGN CRITERIA

501.01 GENERAL

Structural steel design criteria shall be as specified in Section 10 of AASHTO except as clarified or modified in this manual.

501.02 DESIGN METHODS

The Service Load Design Method (Allowable Stress Design) shall be used except that the Strength Design Method (Load Factor Design) may be used for major or unusual structures when approved.

501.03 MATERIALS (AASHTO 10.2)

Materials shall conform with the requirements of AASHTO Article 10.2 with the selection based on stress requirements and overall economy.

The preferred maximum thickness of tension flanges is 50 millimeters. Tension flanges thicker than 50 millimeters shall be normalized.

501.04 ALLOWABLE FATIGUE STRESS (AASHTO 10.3.1)

Splices, stiffeners, shear connectors and bracing details shall be designed using categories A through C details in order to limit the fatigue stress.

Category E details shall not be used.

501.05 LOAD CYCLES (AASHTO 10.3.2)

The stress cycle case to be used in AASHTO Table 10.3.2A shall be Case I.

501.06 CHARPY V-NOTCH IMPACT REQUIREMENTS (AASHTO 10.3.3)

Where applicable, the Charpy V-Notch impact requirements for structural steel shall be for Temperature Zone 1 at elevations less than 1800 meters and Temperature Zone 2 at elevations 1800 meters and higher, unless otherwise directed by the Project Manager.

Intermediate stiffeners shall be placed only on the inside face of exterior girders.

The number and location of girder shop and field splices shall be determined so as to minimize fabricated and erected cost of the girders.

All connections except field connections shall be welded. ASTM A325M high strength bolts shall be used for field connections.