

CHAPTER 1 – INTRODUCTION

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1.1—SCOPE OF THE SPECIFICATIONS

The following shall supplement *A1.1*.

Bridges vulnerable to coastal storms shall be designed with the provisions in these specifications and those given in *AASHTO Guide Specifications for Bridges Vulnerable to Coastal Storms*.

Bridges located in the Parishes of Calcasieu, Cameron, Iberia, Jefferson, Lafourche, Orleans, Plaquemines, St. Bernard, St. Charles, St. John the Baptist, St. Mary, St. Tammany, Tangipahoa, Terrebonne, and Vermilion must be investigated for their vulnerability to coastal storms. Designers shall study FEMA *Insurance Studies and Flood Insurance Maps* to determine if the bridge sites are located in Zone V or VE. Zones V and VE are defined by FEMA as the areas of 100-year coastal flood with velocity (wave action). All bridges located in Zone V or VE are considered as vulnerable to coastal storms.

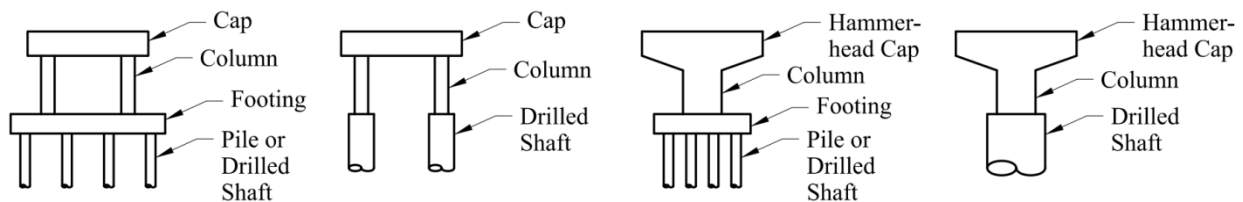
Construction specifications shall be the latest edition of *Louisiana Standard Specifications for Roads and Bridges (Standard Specifications)*. The *Standard Specifications* is subject to amendment whenever necessary by supplemental specifications and special provisions to specific contracts. In the absence of specific information in the *Standard Specifications*, follow the latest edition of *AASHTO LRFD Bridge Construction Specifications*.

1.2—DEFINITIONS

The following shall supplement *A1.2*.

Bridge Design Engineer Administrator—The administrator of LADOTD Bridge Design Section.

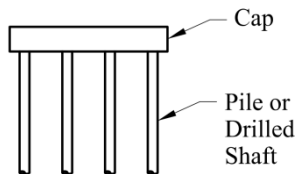
Column Bent—Generally consists of a concrete cap supported by one or more columns. The columns are generally supported by pile or drilled shaft-supported footings or directly supported by drilled shafts.



Typical Column Bent

Pier—Pier and column bent are interchangeable terms. A pier is typically a column bent located in a navigational channel that may be constructed by cofferdam, caisson, or other methods.

Pile/Drilled Shaft Bent—Generally consists of a concrete cap supported by piles or drilled shafts.



Typical Pile/Drilled Shaft Bent

Standard Specifications—The latest edition of *Louisiana Standard Specifications for Roads and Bridges*.

Straddle Bent—Consists of a long crossbeam extending well beyond the bridge footprint and is supported by a column on either side of the roadway or other straddled features.

1.3—DESIGN PHILOSOPHY

1.3.3—Ductility

The following shall replace the third and fourth paragraphs of *A1.3.3*.

For all bridges, the ductility load modifier, η_D shall be taken as 1.00.

1.3.4—Redundancy

The following shall replace the second and third paragraphs of *A1.3.4*.

For all bridges, the redundancy load modifier, η_R shall be taken as 1.00 except for the following cases:

All girders in bridge spans with three or less girders	$\eta_R = 1.10$
All components in arch bridge spans	$\eta_R = 1.10$
Floor beams with spacing > 12 feet	$\eta_R = 1.10$
All components in steel straddle bents	$\eta_R = 1.10$
All components in pile/drilled shaft bents with 3 piles/drilled shafts or less	$\eta_R = 1.05$
All components in column bents or piers with 2 columns or less	$\eta_R = 1.05$

Truss bridges employing only two trusses are not allowed.

Two-girder systems are only allowed for

movable bridges.

1.3.5—Operational Importance

The following shall replace the third and fourth paragraphs of *A1.3.5*.

For all bridges, the Operational Importance Factor, η_I , shall be taken as 1.00.

The Bridge Design Engineer Administrator may, on a case-by-case basis, specify a higher value for bridges deemed of high operational importance and critical to the survival of major communities.

1.4—REFERENCES

AASHTO LRFD Bridge Construction Specification, Latest Edition, American Association of State Highway and Transportation Officials, Washington, DC.

AASHTO Guide Specifications for Bridges Vulnerable to Coastal Storms, Latest Edition, American Association of State Highway and Transportation Officials, Washington, DC.

Louisiana Standard Specifications for Roads and Bridges, Latest Edition, State of Louisiana Department of Transportation and Development, Baton Rouge, LA.