



Bridge Construction Manual

1.0 INTRODUCTION

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General: This Manual is intended to better communicate the intent of the plans, Standard Specifications for State Road and Bridge Construction, Special Provisions, and Project Special Provisions to KDOT Inspectors, Contractors and Design Consultants. The content of this Manual has been compiled from observations of construction methods that have been proven to be successful in the situations where they were used. The construction methods described here are not the only successful methods of completing a particular construction task. Information found in this Manual is not meant to supersede any contract documents; it is intended to be used in conjunction with those documents. Conflicts should be pursued to obtain the most appropriate solution to the concern. This may, in turn, cause eventual changes to the plan details, specifications, and this Manual to avoid future conflicts of intent. This Manual is a constantly evolving work. Reviewing the Manual often will keep one abreast of the current practice. Your comments are appreciated. Below is a list of bridges, culverts, expansion joints & substructures types with their structure definition codes. Four letter code is for open spans, three letter is for culverts.

DATABASE CHARACTER SUPERSTRUCTURE/STRUCTURE TYPE CODES

CANSYS / PONTIS / BROMS alpha character fields

Material Type	Superstructure/Structure Type	Design Type
A = Aluminum	AR = Arch	= Not Applicable: superstructure types of Arch, RCB, RFB, all Pipes, Tunnel, and Low-Water Crossing
B = Stone	AT = Soil Nail/Tie-Back	A = Aesthetic (Wall)
C = Corrugated Metal	BC = Box Girder, Composite Design	B =
D = Geotextile Fabric	BG = Box Girder	C = Continuous: superstructure designed to extend continuously over one or more supports
E = Earth (soil)	BM = Beam	D = Drop-Panel: vertical change in member height
F = Composite (Fiberglass, PVC, etc.)	BN = Bin	E = None (for BROMS temporary use)
G = Galvanized Steel	CB = Box Culvert	F = Fixed: superstructure members are rigidly connected to the substructure
H =	CS = Concrete Slab	G =
I = Wrought Iron	CT = Cantilever	H = Continuous and Parabolic Haunch: slab or girder beams deepened at supports and decrease in size at the center
J =	DG = Deck T-Girder or Orthotopic	I =
K =	DT = Deck Truss	J =
L = Lightweight Concrete	ER = Earth	K =
M = Stone Masonry	FA = Filled Spandrel Arch	L = Linear Haunch: straight-line variation in member height
N = None (for BROMS temporary use)	FB = Rigid Frame Box	M =
O =	FC = Girder-Floorbeam, Composite Design	N =
P = Prestressed Concrete	FG = Girder Floorbeam System	O =
Q =	GB = Gabion	P = Encased: steel beams encased in concrete
R = Reinforced Concrete	GV = Gravity	Q =
S = Steel	GC = Rigid Frame, Composite Design	R = Circular Haunch: circular variation in member height
T = Timber	HL = High Mast Lighting Tower	S = Simple: unrestraining support at each span end
U = Unknown (for BROMS temporary use)	HT = High Truss	T = Tied: arched superstructure members are rigidly connected by longitudinal tie beams
W = Weathering Steel	HY = Sign (Highway), Bridge Mounted	U =
X = Post-Tension Concrete	IS = Illinois Bulletin Slab	V =
Y = Precast Concrete	IT = Inverted T-Girder	W =
Z =	LP = Long Span Pipe	X = Retaining (Wall)
	LT = Low Truss	Y = Hydraulic (Wall)
	LW = Low-Water Crossing	Z = Noise (Wall)
	MA = Mast Arm Structure	
	MB = Mechanically Stabilized Earth, Block	
	MC = Rolled Beam, Composite Design	
	ML = Mechanically Stabilized Earth, Panel	
	MP = Pipe	
	NK = Unknown (for BROMS temporary use)	
	OA = Open Spandrel Arch	
	ON = None (for BROMS temporary use)	
	PF = Panel Frame	
	PO = Privately Owner Overhead Structure	
	RC = Riveted Plate Girder, Composite Design	
	RF = Rigid Frame	
	RG = Rivet Plate Girder	
	SB = Sign Structure, Butterfly	
	SC = Girder-Stringer-Floorbeam, Composite Design	
	SD = Soldier Pile	
	SG = Girder, Stringer Floorbeam System	
	SH = Sheet Pile	
	SL = Sign Structure, Cantilever	
	SP = Structural Plate Pipe	
	SO = Sign Structure, Span Truss with Cantilever	
	SS = Structural Slab	
	ST = Sign Structure, Span Truss	
	SV = Semi-Gravity	
	TA = Through Arch	
	TG = Through Girder	
	TS = Single Tapered Tube Span	
	TU = Tunnel	
	VS = Voided Slab	
	WC = Welded Plate Girder, Composite Design	
	WG = Welded Plate Gider	

Post-Tensioned and Prestress

Post Tensioned Concrete Slab Haunched-XCSH



XBGC

Post Tensioned Concrete Box Girder Continuous-



Prestressed Deck Girder Continuous-PDGC



Prestressed Concrete Beam Continuous-PBMC



Steel Types

K-Frame, Slope Leg Steel Rigid Frame Continuous-SRFC



(Grasshopper)

Steel Beam Simple-SBMS



Weathering Steel Welded Plate Girder Continuous-WWGC



Steel Welded Girder Haunched-SWGH



Steel Welded Girder Simple - SWGS



Steel Riveted Girder Continuous - SRGC



Concrete Types

Reinforced Concrete Slab Haunched-RCSH



Reinforced Box Gider Continuous-RBGC



Reinforced Concrete Through Arch Fixed-RTAF



Marsh Arch

Reinforced Concrete Illinois Bulletin Continuous - RISC



Reinforced Concrete Open Spandrel Arch Fixed - ROAF



(Spandrel Arch)

Reinforced Concrete Deck Girder Simple - RDGS



Culverts

Reinforced Concrete Box - RCB



Rigid Frame Box - RFB



Reinforced Concrete Filled Spandrel Arch Fixed - RFAF



Reinforced Concrete Arch - RAR



Corrugated Metal Pipe - CMP



Masonry Arch - MAR



SubStructure Types

U-Type Abutment



Pedestal Abutment



Wall Pier



Column Bent Pier



Column Bent with Web Wall on Drilled Shafts



Cantilever Pier (Tee-Pier)



Expansion Joints

Elastomeric Strip Seal



Stripseal



Sliding Plate



Modular



Delastiflex



Finger Joint



Pourable Joint



Transflex



Steel Trusses & Arches

Steel High Truss Continuous – SHTC



Steel Low Truss Simple - SLTS



Steel Through Arch Tied - STAT



Steel Deck Truss Haunched - SDTH



Steel Deck Truss Continuous - SDTC



Steel Low Truss Continuous – SLTC

