

# KANSAS DEPARTMENT OF TRANSPORTATION

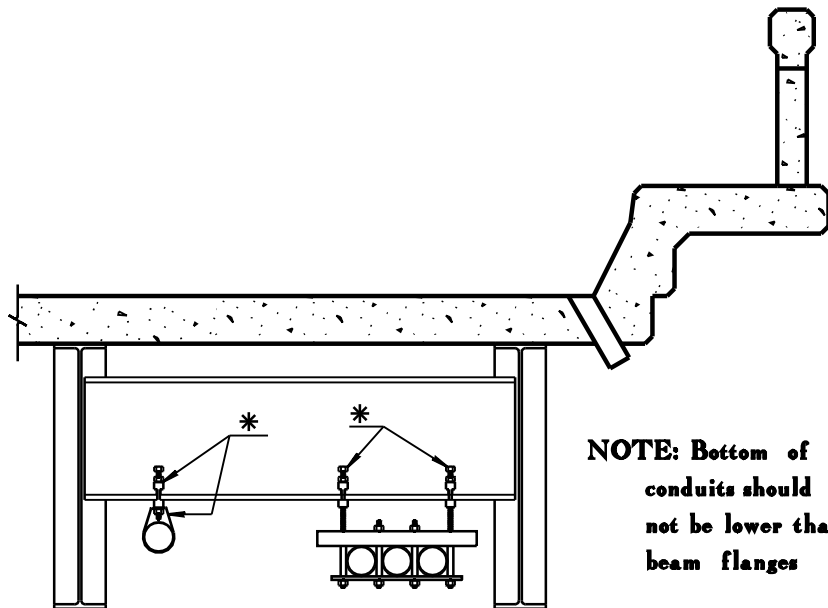
## UTILITY ATTACHMENT PLACEMENT

For a Steel Superstructure Bridge with bent plate diaphragms

Support Spacing  
\_\_\_\_\_ meters  
( \_\_\_\_\_ )feet

Diameter Conduit(s)  
\_\_\_\_\_ mm  
( \_\_\_\_\_ )inches

Weight (Includes Conduit,  
Support System and Cables)  
\_\_\_\_\_ kg/ m  
( \_\_\_\_\_ )lbs./ ft.



**NOTE:** Bottom of conduits should not be lower than beam flanges

### SINGLE OR MULTIPLE CONDUITS - PREFERRED LOCATION -

(See additional sheet for - ALTERNATE LOCATION -)

\* Drilling, welding, or cutting of any structural steel is not allowed.  
Use Conduit or Beam Clamps in place of drilling or cutting.

**NOTE:** All steel materials used in attaching a utility to a structure must be stainless or galvanized.

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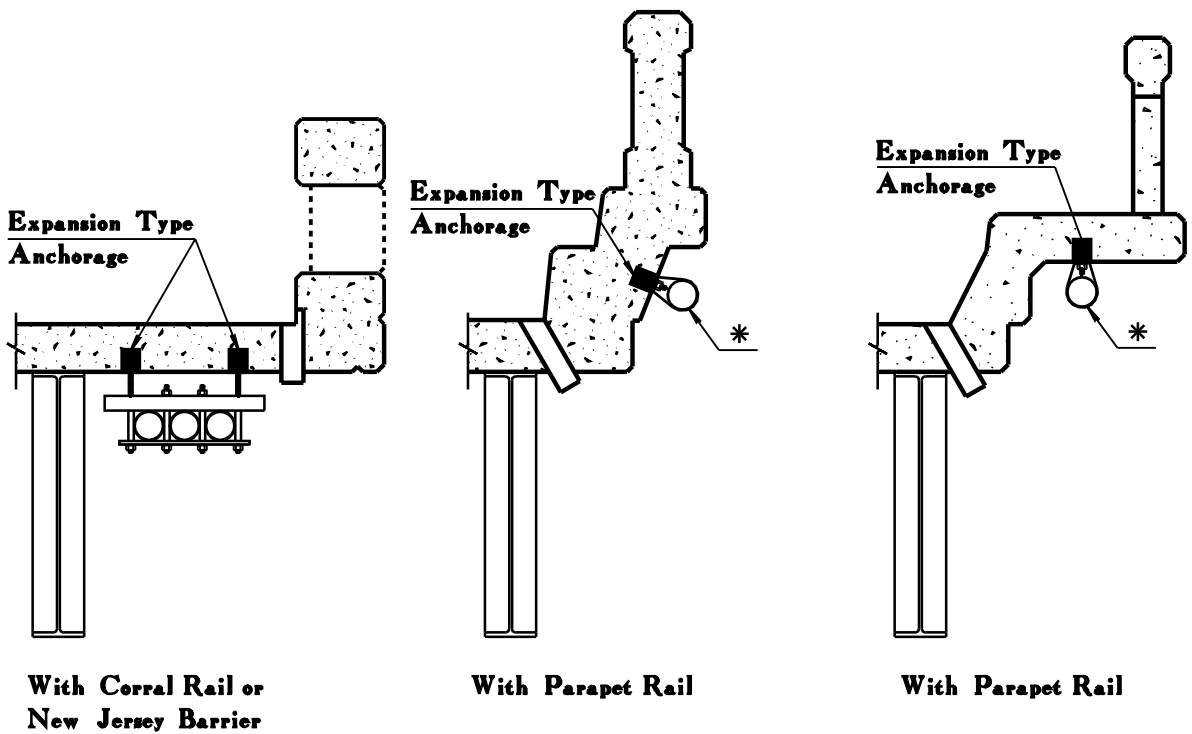
## UTILITY ATTACHMENT PLACEMENT

For a Steel Superstructure Bridge with bent plate diaphragms

Support Spacing  
 \_\_\_\_\_ meters  
 ( \_\_\_\_\_ )feet

Diameter Conduit(s)  
 \_\_\_\_\_ mm  
 ( \_\_\_\_\_ )inches

Weight (Includes Conduit,  
 Support System and Cables)  
 \_\_\_\_\_ kg/ m  
 ( \_\_\_\_\_ )lbs./ ft.



### SINGLE OR MULTIPLE CONDUITS - ALTERNATE LOCATIONS -

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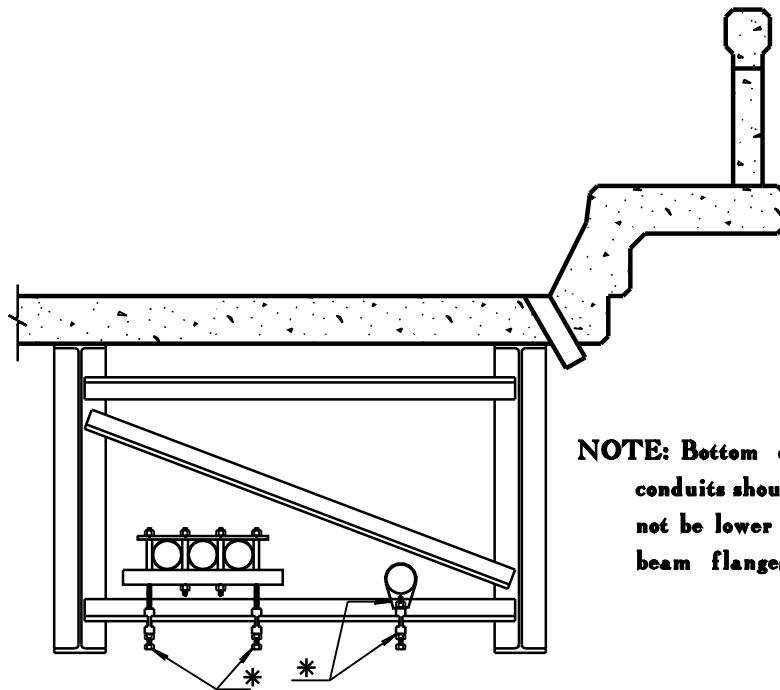
## UTILITY ATTACHMENT PLACEMENT

For a Steel Superstructure Bridge with cross frame diaphragms

Support Spacing  
\_\_\_\_\_ meters  
( \_\_\_\_\_ )feet

Diameter Conduit(s)  
\_\_\_\_\_ mm  
( \_\_\_\_\_ )inches

Weight (Includes Conduit,  
Support System and Cables)  
\_\_\_\_\_ kg/ m  
( \_\_\_\_\_ )lbs./ ft.



**NOTE: Bottom of conduits should not be lower than beam flanges**

**SINGLE OR MULTIPLE CONDUITS  
- PREFERRED LOCATION -**

(See additional sheet for - ALTERNATE LOCATION -)

\* Drilling, welding, or cutting of any structural steel is not allowed.  
Use Conduit or Beam Clamps in place of drilling or cutting.

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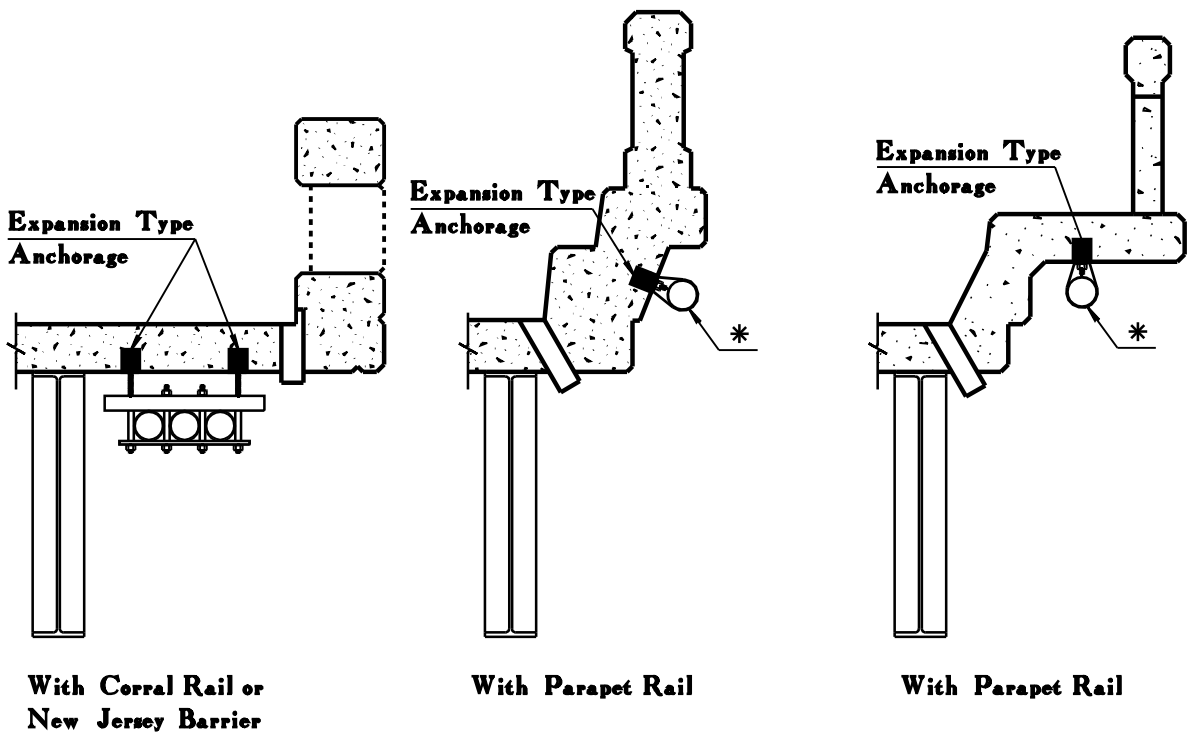
## UTILITY ATTACHMENT PLACEMENT

For a Steel Superstructure Bridge with cross frame diaphragms

Support Spacing  
 \_\_\_\_\_ meters  
 ( \_\_\_\_\_ )feet

Diameter Conduit(s)  
 \_\_\_\_\_ mm  
 ( \_\_\_\_\_ )inches

Weight (Includes Conduit,  
 Support System and Cables)  
 \_\_\_\_\_ kg/ m  
 ( \_\_\_\_\_ )lbs./ ft.



### SINGLE OR MULTIPLE CONDUITS - ALTERNATE LOCATIONS -

\* Drilling, welding, or cutting of any structural steel is not allowed.  
 Use Conduit or Beam Clamps in place of drilling or cutting.

**NOTE: All steel materials used in attaching a utility to a structure must be stainless or galvanized.**

Plot Date : 5/9/2007

View= Plot2

Plotted By : ronalds

Plot File : W:\Bridge Inspection\Br-School\Bridge Insp Manuals\Utility Attachments\utbr men.dgn

# KANSAS DEPARTMENT OF TRANSPORTATION

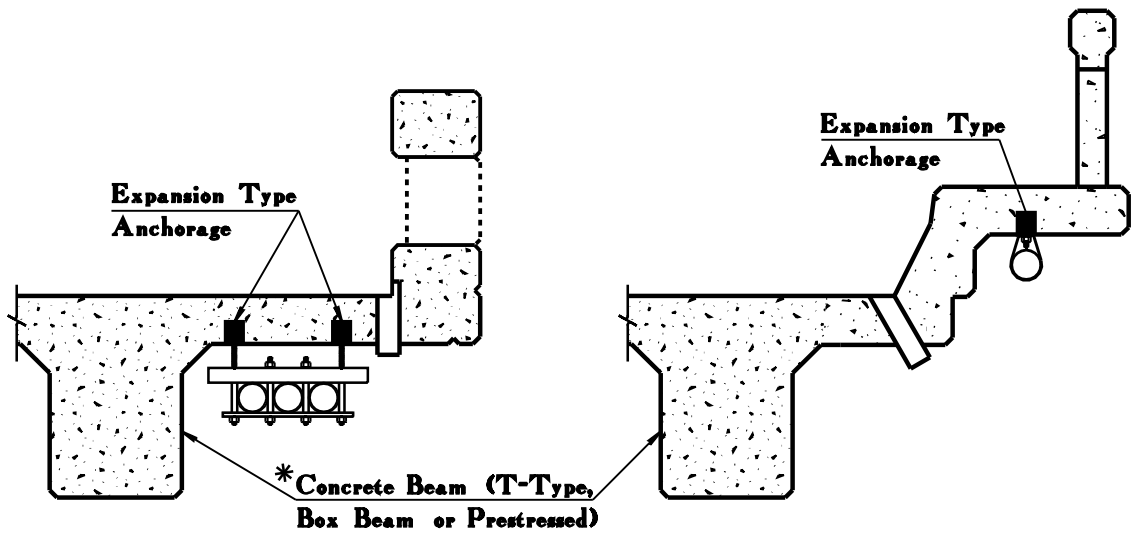
## UTILITY ATTACHMENT PLACEMENT

For Concrete Beam Type Superstructures

Support Spacing  
\_\_\_\_\_ meters  
( \_\_\_\_\_ )feet

Diameter Conduit(s)  
\_\_\_\_\_ mm  
( \_\_\_\_\_ )inches

Weight (Includes Conduit,  
Support System and Cables)  
\_\_\_\_\_ kg/ m  
( \_\_\_\_\_ )lbs./ ft.



With Corral Rail or  
New Jersey Barrier

With Parapet Rail

**\* NOTE: ATTACHMENT ANYWHERE TO THE CONCRETE  
SUPERSTRUCTURE (BEAM) WILL NOT BE ALLOWED.**

**SINGLE OR MULTIPLE CONDUIT  
- ATTACHMENT LOCATION ON CONCRETE BEAM BRIDGES -**

**NOTE: All steel materials used in attaching a utility  
to a structure must be stainless or galvanized.**

# KANSAS DEPARTMENT OF TRANSPORTATION

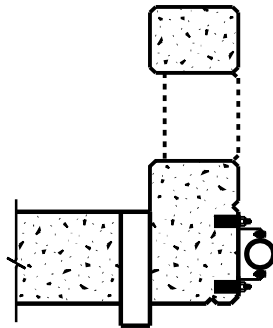
## UTILITY ATTACHMENT PLACEMENT

For a Concrete Slab Type Superstructure

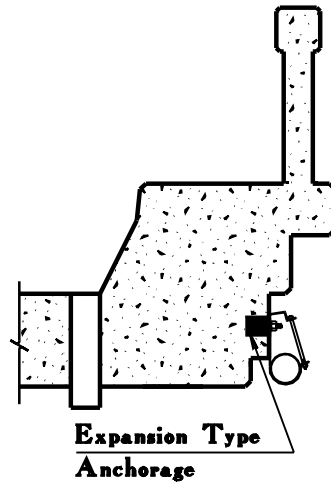
Support Spacing  
\_\_\_\_\_ meters  
( \_\_\_\_\_ )feet

Diameter Conduit(s)  
\_\_\_\_\_ mm  
( \_\_\_\_\_ )inches

Weight (Includes Conduit,  
Support System and Cables)  
\_\_\_\_\_ kg/ m  
( \_\_\_\_\_ )lbs./ ft.



With Corral Rail or  
New Jersey Barrier



With Parapet Rail

### SINGLE CONDUIT - LOCATIONS -

**NOTE: All steel materials used in attaching a utility to a structure must be stainless or galvanized.**

Plot Date : 5/9/2007

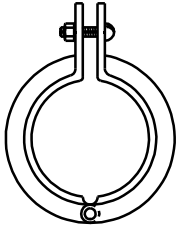
View= Plot3

Plotted By : ronalds

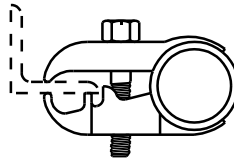
Plot File : W:\Bridge Inspection\BrSchool\Bridge Insp Manuals\Utility Attachments\utbr men.dgn

# KANSAS DEPARTMENT OF TRANSPORTATION

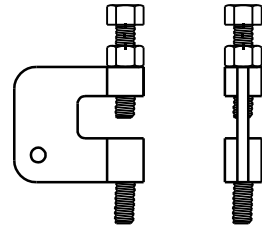
## SOME ACCEPTABLE HANGER & CLAMP TYPES



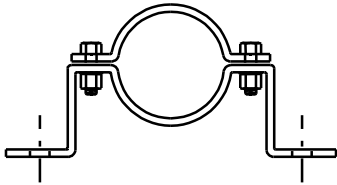
**SPLIT RING  
HANGER**



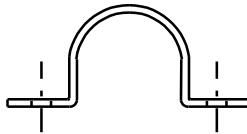
**PARALLEL PIPE AND  
CONDUIT CLAMP**



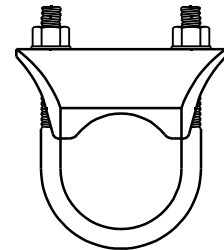
**"C" CLAMP  
WITH LOCKNUT**



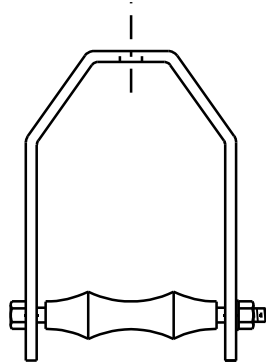
**OFFSET  
PIPE CLAMP**



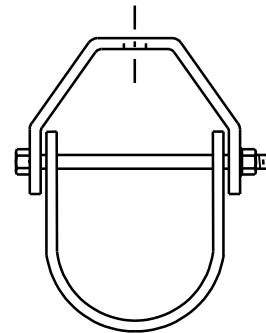
**HOLD DOWN  
PIPE CLAMP**



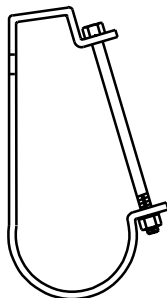
**RIGHT ANGLE  
PIPE CLAMP**



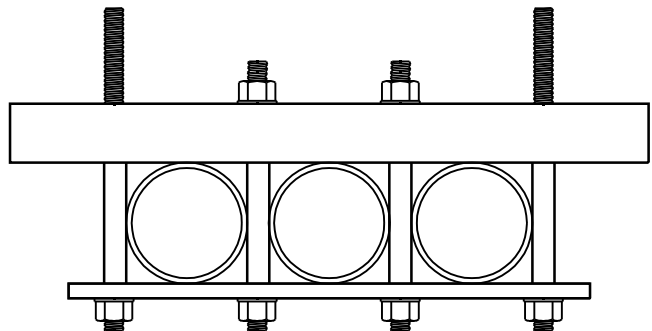
**PIPE ROLLER HANGER**



**CLEVIS HANGER**



**T-SLOT HANGER**



**DUCT SUPPORT SYSTEM**

Plot Date : 5/9/2007

View= Plot4

Plotted By : ronads

Plot File : \\A\Bridge Inspection\B\School\Bridg Insp Manuals\Utility Attachments\ulbr man.dgn