**INTERMEDIATE WALL JOINT DETAIL**

Provide as an interior bend at slab expansion joints.

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**ROADWAY ELEVATION OF RAIL**

- **Top of Abut Wingwall**
- **Traffic Side of Rail**
- **Concrete Rail Expansion Joint**
- **Concrete Rail Footprint**
- **Traffic Side of Rail**

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**TERMINAL CONNECTION DETAILS**

- **Terminal Connectors and associated hardware are to be paid for under the item “Metal Beam Guard Fence.”**
- **Back of rail offset may, with Engineer’s approval, be continued to the end of the railing.**
- **Increase 2” for structures with overlay.**
- **Place 4 additional bars R(#4) 3'-8” in length inside bars S(#4) and centered 2'-0” from end of rail when Terminal Connections are required. Field bend as needed.**

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**ELEVATION SHOWING TYPICAL REINFORCING PLACEMENT**

- **Cross-hatched area must have 1/4” Preferred Blistemless Fiber Material under concrete rail, as shown.**
- **Top of Abut Wingwall**
- **Concrete Rail Footprint**
- **Concrete Rail Expansion Joint**
- **Concrete Rail Expansion Joint. Location of Rail Expansion joint must be at the intersection of $ Slab Expansion Joint.**
- **Rail Footprint and perpendicular to slab outside edge.**

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**PLAN OF RAIL AT EXPANSION JOINTS**

Example showing Slab Expansion Joints without breakbacks.

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**TRAFFIC RAIL**

**TYPE T222**

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**DISCLAIMER:**

The use of this standard is governed by the “Texas Engineering Practice Act.” No warranty of any kind is made by TxDOT for whatever purpose. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use. This standard is made by TxDOT for whatever purpose. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.
CONSTRUCTION NOTES:

This railing may be constructed by the slipform process when a transition is used. The slipform process may be designed by the Engineer. Provide sensor control for both line and grade. Fastening or grouting of the slipform operations is acceptable. Welding may be performed at a minimum spacing of 3 ft between the cage and the anchorage. It is permissible to weld to bars S, WU, WWR, and U at any location on the cage. If increased bracing is needed, provide additional anchorage devices and weld the upper two thirds of the cage. Paint welded areas on epoxies coated steel to prevent reduction of the organic zinc rich primer system. Field bend or cut bars S to the required length and greater to side slot drain.

GENERAL NOTES:

This railing has been successfully evaluated by full-scale crash test to meet MASH TL-4 criteria. This rail can be used for speeds of 50 mph and greater when a TL-3 rated guard fence transition is used. When a TL-2 rated guard fence transition is used, this rail can be used for speeds of 45 mph and less. Do not use this railing on bridges with expansion joints providing more than 5" movement. The Engineer may require modification for select structure types. See appropriate details elsewhere in plans for these modifications. Shop drawings are not required for this rail. Average weight of railing with overlay is 445 plf.

GENERAL NOTES:

Provide Class III concrete. Provide prestressed reinforcement steel as required elsewhere.

Provide Grade 60 reinforcing steel. Epoxy coated reinforcing steel is preferred, and if used, must be accordance with Item 105 "Epoxy Coated Steel." Deformed WWR (ASTM A1064) may be substituted for Bars U and WU if required elsewhere. Deformed WWR (ASTM A1064) may be substituted for Bars S and WWR if required elsewhere. The Contractor must provide additional anchorage devices and weld the upper two thirds of the cage and the anchorage. It is permissible to weld to bars S, WU, WWR, and U at any location on the cage. If increased bracing is needed, provide additional anchorage devices and weld the upper two thirds of the cage. Paint welded areas on epoxies coated steel to prevent reduction of the organic zinc rich primer system. Field bend or cut bars S to the required length and greater to side slot drain.

MATERIAL NOTES:

Provide Grade 60 reinforcing steel. Epoxy coated reinforcing steel is preferred, and if used, must be accordance with Item 105 "Epoxy Coated Steel." Deformed WWR (ASTM A1064) may be substituted for Bars U and WU if required elsewhere. Deformed WWR (ASTM A1064) may be substituted for Bars S and WWR if required elsewhere. The Contractor must provide additional anchorage devices and weld the upper two thirds of the cage and the anchorage. It is permissible to weld to bars S, WU, WWR, and U at any location on the cage. If increased bracing is needed, provide additional anchorage devices and weld the upper two thirds of the cage. Paint welded areas on epoxies coated steel to prevent reduction of the organic zinc rich primer system. Field bend or cut bars S to the required length and greater to side slot drain.

SECTION THRU RAIL

ON ABUTMENT WINGWALLS OR CIP RETAINING WALLS

ON BRIDGE SLAB

OPTIONAL SIDE SLOT DRAIN DETAIL

Note: Side slot drains may be constructed when specified or as directed by the Engineer. Drains should not be placed over railroad tracks, sewer conduits, or sidewalks. When this rail is used as a separator between a roadway surface and a sidewalk surface, side drain slots will not be permitted.