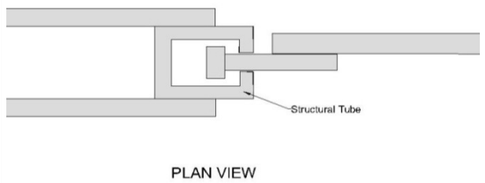
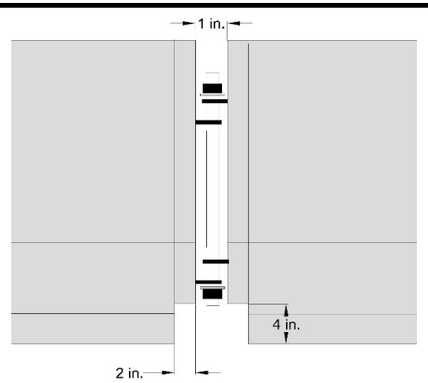
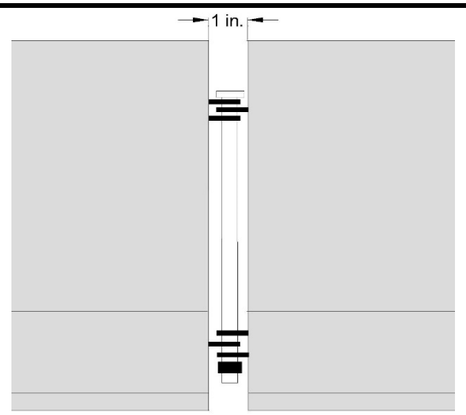
Work Zone Barrier - Concrete Barrier

Recent NCHRP Research includes NCHRP Project 20-7 (257) Synthesis Crash Tested Concrete Barrier Designs and Anchoring Methods

NAME/MANUFACTURER	ILLUSTRATION	TEST LEVEL		SECTION DETAILS	ANCHORAGE DETAILS	DISTINGUISHING CHARACTERISTICS
		NCHRP 350	MASH			
F- Shape Pre-Cast Concrete Barrier						
Rockingham Precast (B42)		TL-3		*Section Dimensions:* Height: 2'-7" Width: 2' Length: 12' *Section Connections* "T" shaped steel plate and slotted steel tube.	*Foundation Type:* Asphalt and concrete *Unanchored Installation:* Must have a minimum of 59' of barrier in advance of the BLON and 59' of barrier at the trailing end of the system, when used on high-speed routes. Dynamic Deflection: 3.77'; Test Length: 156'	The Rockingham precast concrete barrier uses standard F shape concrete units with an integrated connection. The connection consist of a "T" shaped steel plate cast into the concrete and the opposite end contain a slotted steel tube. The units are connected togther by lifting one and lowering it so that the T end slides into the slot in the tube of the other end.
Virginia DOT - Modified MB-7D Portable Concrete Barrier (B54, B151, B164)		TL-3		*Section Dimensions:* Height: 2'-7" Width: 2' Length: 10' or 20' *Section Connections* Pin and loop connection	*Foundation Type:* Asphalt and concrete *Unanchored Installation:* Must have a minimum of 20' of barrier in advance of the BLON and 20' of barrier at the trailing end of the system. Dynamic Deflection (20' section): 6'; Test Length: 142'	The modified Virginia DOT portable concrete barrier uses F-shaped concrete barrier with a pin and loop connection. Steel pin passes throught two fabricated loops at the top and bottom of the barrier and is secured with a washer and a hex nut.
Oregon DOT Standard Precast Concrete Barrier (B86)		TL-3		*Section Dimensions:* Height: 2'-7" Width: 2' Length: 12.5' *Section Connections* Pin and loop connection	*Foundation Type:* Asphalt and concrete Dynamic Deflection: 2.5'; Test Length: 12.5'	Standard Precast concrete barrier consist of precast concrete F-shape segments connected together with a pin and loop. The pin and loop connection consists of two steel loops near the top of one segment and a single loop at the bottom of the segement. When segments connect together they form three loops on each end. The steel pin in placed in the loops to connect, no washers or nuts are used.

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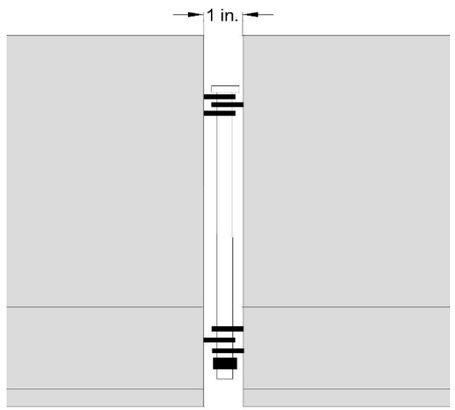
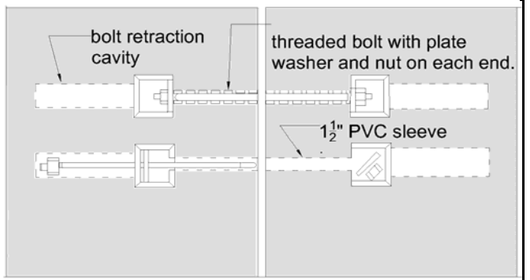
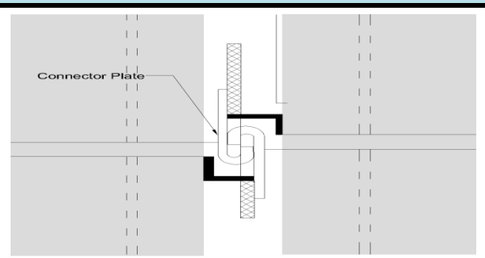
		NCHRP 350	MASH			
F- Shape Pre-Cast Concrete Barrier						
Oregon DOT Precast Concrete Tall Barrier (B86, B86A)		TL-3, TL-4		*Section Dimensions:* Height: 3'-6" Width: 2'-2" Length: 10' *Section Connections* Pin and C-channel connection	*Foundation Type:* Asphalt and concrete Dynamic Deflection (TL-3): 2.6'; Test Length: 200' Dynamic Deflection (TL-4): 2.7'; Test Length: 200'	Precast concrete tall barrier consist of precast concrete F-shape segments connected together with two sets of perforated C-shaped steel channels. The connections of the C-channel fits together with a bolt holding the segments together attached with a nut welded to the bottom.
F-Shape Concrete Traffic Barrier with Quick-Bolt Connection (B190)			TL-3	*Section Dimensions:* Height: 2'-8" Width: 2' Length: 30' *Section Connections* Quick-bolt connection	*Foundation Type:* Asphalt and concrete Dynamic Deflection: 2.6'; Test Length: 240'	The Quick-bolt connections are cast into the end of each F-shape concrete traffic barrier. The connection is made with two steel rods with a plate washer and nut used on each end of the threaded rod.
New Jersey Shape Pre-Cast Concrete Barrier						
J-J Hooks Temporary Barrier Connection (B52)		TL-3		*Section Dimensions:* Height: 2'-8" Width: 2' Length: 12' *Section Connections* J-J Hooks connection	*Foundation Type:* Asphalt and concrete Dynamic Deflection: 4.27'; Test Length: 192'	J-J hooks connection can be used with both F-shape and New Jersey shaped barriers where the base width is 2 ft. These "hooks" are formed with steel plates which are connected through the barrier by reinforcing bars.

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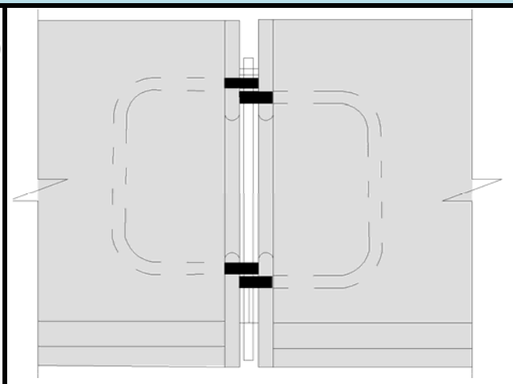
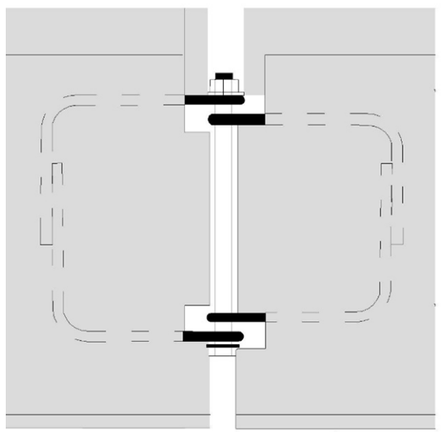
NAME/MANUFACTURER	ILLUSTRATION	TEST LEVEL		SECTION DETAILS	ANCHORAGE DETAILS	DISTINGUISHING CHARACTERISTICS
		NCHRP 350	MASH			
New Jersey Shape Pre-Cast Concrete Barrier						
Caltrans K-rail (B61)		TL-3		*Section Dimensions:* Height: 2'-8" Width: 2' Length: 20' *Section Connections* Pin and loop connection.	*Foundation Type:* Asphalt and concrete *Anchored Installation:* Each section are staked to the ground with four steel stakes, driven through holes cast in the lower sloped section of the k-rail near each corner. Dynamic Deflection: 0.8'; Test Length: 160'	The K-rail is a New Jersey profile concrete barrier connected with a steel pin through four steel loops.
Ohio DOT NJ-Shape Portable Concrete Barrier (B93)		TL-3		*Section Dimensions:* Height: 2'-8" Width: 2' Length: 10' *Section Connections* Pin and loop connection.	*Foundation Type:* Asphalt and concrete *Unanchored Installation:* Must have a minimum of 37.5' of barrier in advance of the BLON and 112.5' of barrier at the trailing end of the system. Dynamic Deflection: 5.5'; Test Length: 244'	The Ohio DOT portable concrete barrier uses New Jersey shaped concrete barrier with a pin and loop connection. The pin is secured at the bottom with a plate washer and a hex nut.

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