GENERAL NOTES

1. Temporary concrete barrier systems on roadways may be any of the following:

   a. The FDOT Type K Temporary Concrete Barrier system (Design Standard Index 414). F-Shape Units. For temporary concrete barrier systems on bridges see Design Standard Index No. 414.

   b. Proprietary temporary concrete barrier systems meeting NCHRP Report 350 Test Level 3 criteria which are included on the Approved Products List.

2. Barrier units of dissimilar types may be interconnected within a single line barriers using transition units.

3. Alignment, length of need, anchorage and end treatment shall be in accordance with this Index.

4. Temporary concrete barrier units shown herein shall not be used for permanent barrier construction regardless of unit length.

5. If the plans specify Barrier (Temporary) (Type K), substitution with other barrier types is not permitted.

6. If the plans specify temporary concrete barrier system, substitution with water filled barriers is not permitted.

7. Where existing flexible pavement is not present, construct a minimum 2" thick temporary Asphalt Pad using Miscellaneous Asphalt Pavement in accordance with Specification Section 339 with the exception that the use of a pre-emergent herbicide is not required. No separate payment will be made for the Asphalt Pad.

8. Barrier Delineators meeting the requirements of Specifications Section 993 are to be mounted on top of temporary concrete barriers that are used as barriers along traveled ways in work zones. The barrier delineators are to be spaced at 50' centers in alignment transitions and 100' at all other locations. Color must match adjacent longitudinal pavement marking.

9. Barrier units used for work zone traffic control and other temporary applications shall be paid for under the contract unit price for Barrier (Temporary), LF.

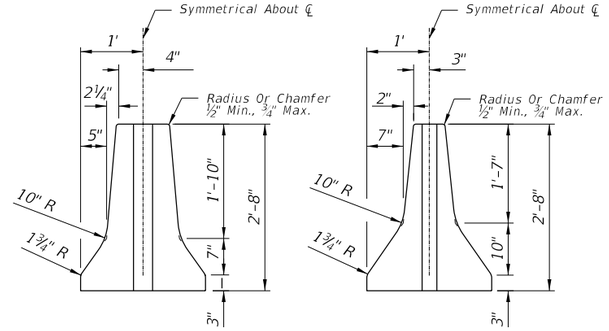
10. Deflection space shall be clear of any grass, construction debris, stockpiled materials, equipment, and objects.

11. Placing alternate temporary barrier systems with heights greater than 32 inches within the work zone may obstruct the clear sight distance at intersections and driveways. Prior to placing these barrier systems, the contractor shall submit a Certification Statement that the clear sight distance meets the requirements of Index 546, signed and sealed by a Florida Professional Engineer.

12. Minimum temporary concrete barriers installed per run shall be 16 units.

OFFSET AND DEFLECTION SPACE REQUIREMENTS

Installation	Shielding	Work Zone Speed	Offset to Travelway	Deflection Space
Left or Right Shoulder	Above Ground Hazards	45 mph or Less	1' min, 2' preferred	2' min.
		50 mph and Greater	2' min, 4' preferred	4' min.
	Drop-Off Hazards	45 mph or Less	1' min, 2' preferred	2' min.
		50 mph and Greater		
		a. Drop-offs 4' or Less and NO traffic below	2' min, 4' preferred	2' min.
		b. All drop-off conditions other than 'a'	2' min, 4' preferred	4' min.
Separating Traffic	Adjacent Opposing Traffic	45 mph or Less	1' min, 2' preferred	1' min., 2' prefered
		50 mph and Greater	2' min, 4' preferred	2' min., 4' preferred

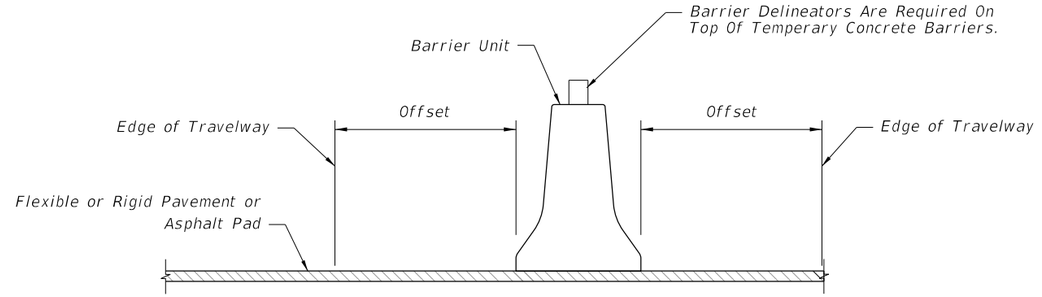


F-SHAPE N.J. SHAPE

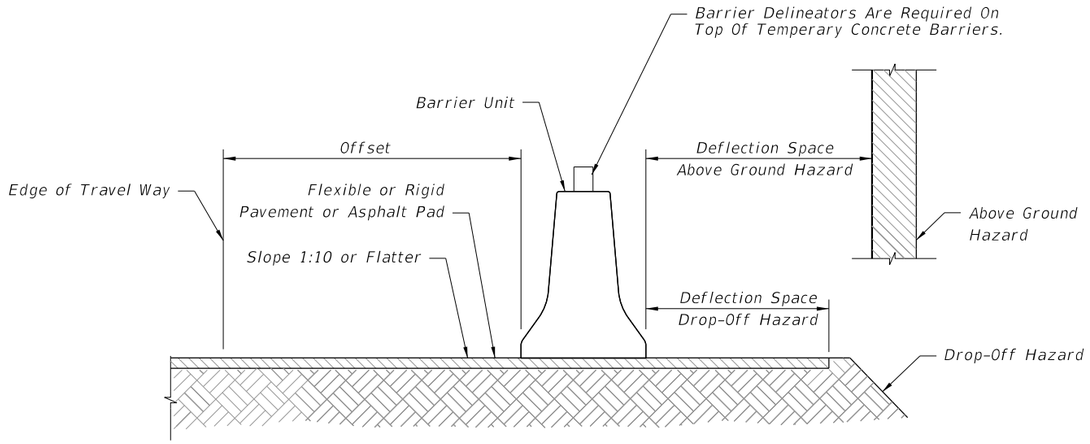
END VIEWS

REINFORCEMENT AND OTHER UNIT FABRICATION DETAILS NOT SHOWN.

PERMITTED BARRIER UNIT END VIEWS



MEDIAN INSTALLATION



ROADWAY INSTALLATION

11/6/2017 7:04:24 AM

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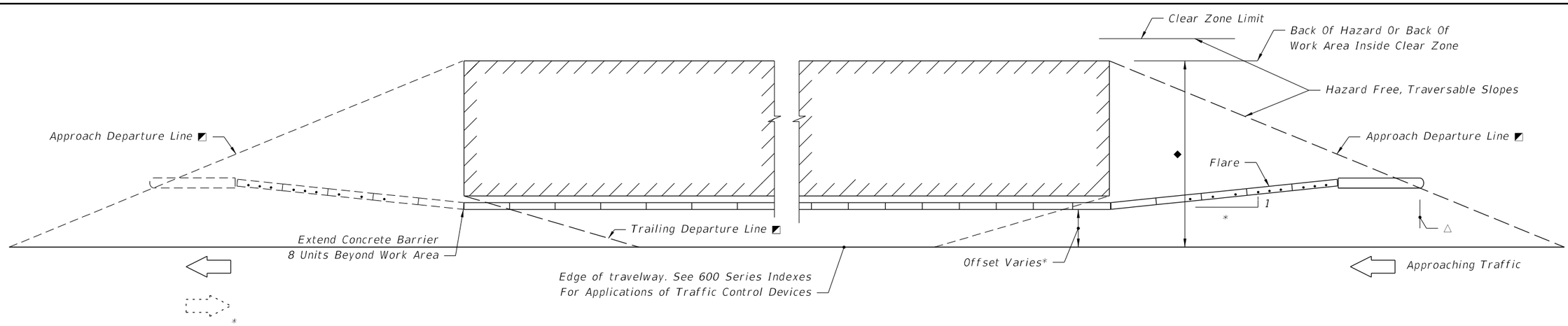
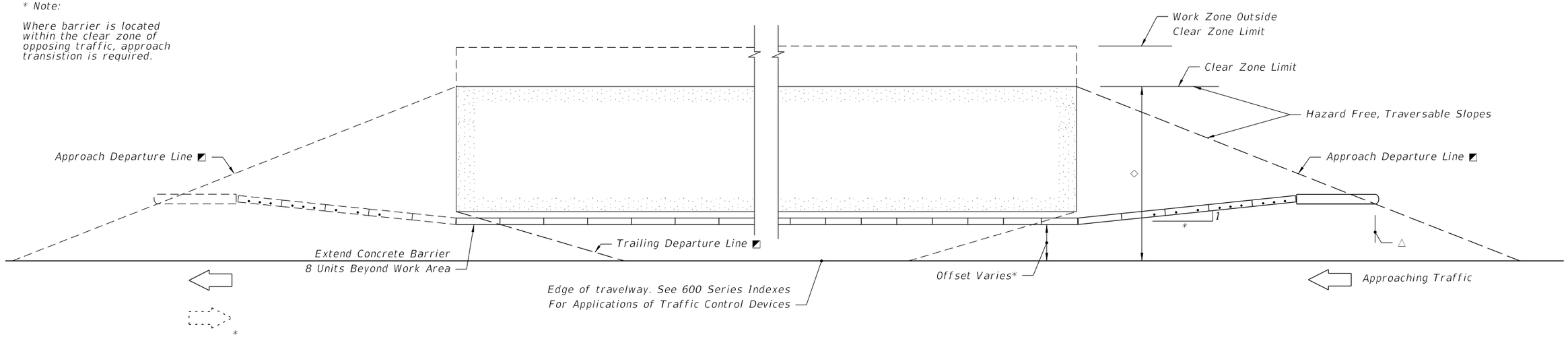


* Note:

Where barrier is located within the clear zone of opposing traffic, approach transistion is required.



△ *The approach departure line location is determined by the line intersect with the back of the hazard or the area to be shielded, however the intersect offset distance is not to be beyond the clear zone limit. The trailing departure line is determined by the line intersect with the front of the downstream end of the hazard or the area to be shielded.*

The length of barrier needed is the distance from the approach departure line intersect with the upstream toe of the temporary concrete barrier to the trailing departure line intersect with the downstream toe of the temporary concrete barrier.

Temporary concrete barrier end units shall be located at or outside the clear zone or shielded by other barriers, earth embedment or a crash cushion.

Proprietary redirective crash cushions designed for use with temporary concrete barriers have the beginning length of need and departure line intersect point indicated on the respective APL drawing for each proprietary crash cushion. Where redirective crash cushions are located on the departure line by their length of need reference point, the upstream end unit must be aligned with the crash cushion, and the temporary concrete barrier's end unit secured with bolts or stakes. See Sheets 3 through 6 for configurations requiring end unit anchorage.

* *The offset of the temporary concrete barriers from the near traffic lane, flare rate and flare length are to be in conformance with the alignment called for in the plans and the alignments called for by Department Design Standards specified in the plans; in absence of either plan requirement, the offset shall be as determined by the Engineer, and, unless other flare rates are approved by the Engineer the flare rates to be applied are 1:10 or flatter for speeds ≤ 45 mph and 1:15 or flatter for speeds ≥ 50 mph; see Index No. 642 for other flare rates on freeway facilities.*

The surface cross slope approaching the barrier and continuing across the required deflection space shall not exceed a rate of 1 vertical: 10 horizontal.

◩ *Departure Rates*
1:16 For Speeds ≤ 45 mph
1:13 For Speeds ≥ 50 mph

◆ *Area Shielded When Work Zone Hazards Or The Work Area Occupy Space Less Than Clear Zone Width*

◇ *Area Shielded When Work Zone Hazards Or The Work Area Extend To Or Beyond Clear Zone Limit*

Dot Indicates Number And Position Of Bolts Or Stakes

ALIGNMENT AND LENGTH OF NEED

10/24/2016 9:45:01 AM

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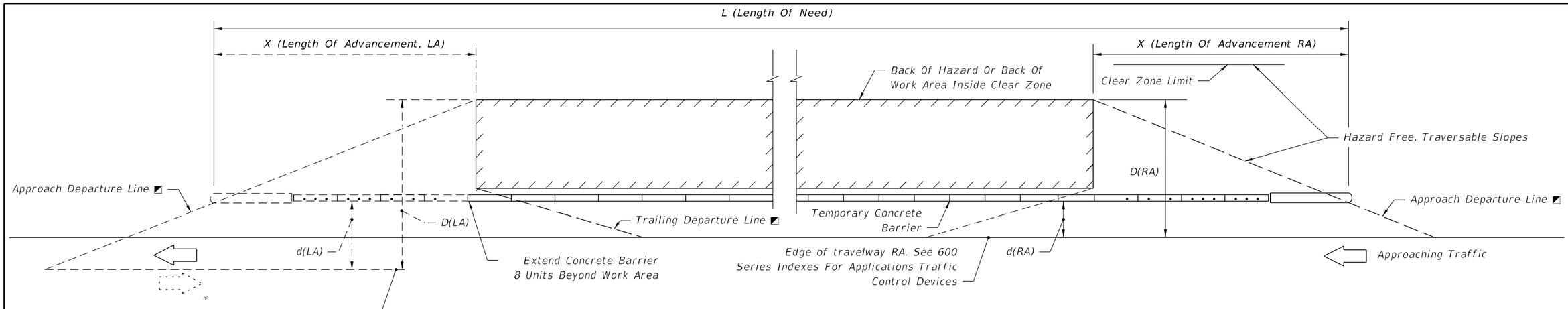

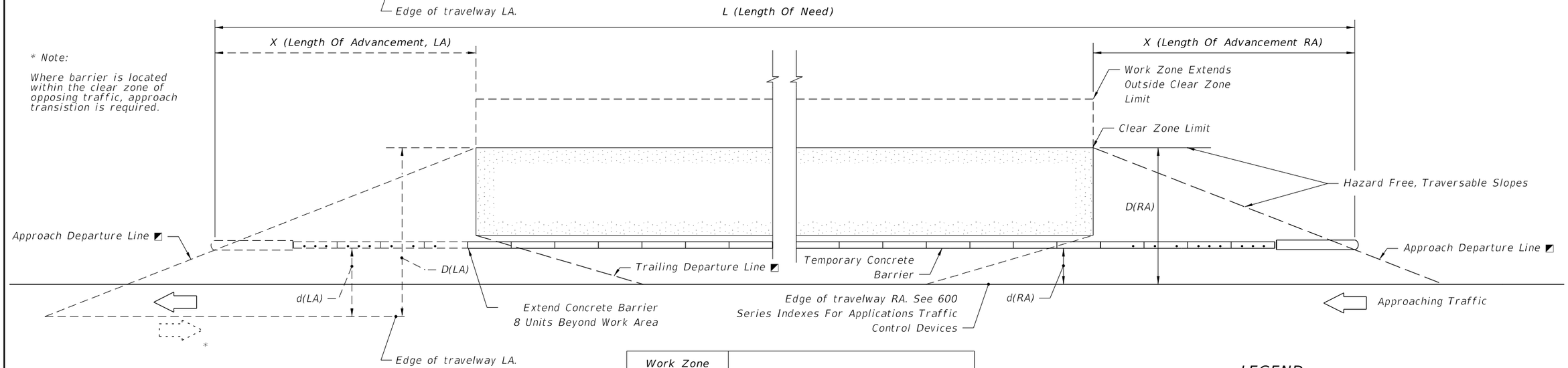

* Note:

Where barrier is located within the clear zone of opposing traffic, approach transistion is required.

CLEAR ZONE WIDTHS FOR WORK ZONES

The term 'clear zone' describes the unobstructed relatively flat area, impacted by construction, extending outward from the edge of the traffic lane. The table below gives clear zone widths in work zones for medians and roadside conditions other than for roadside canals; where roadside canals are present, clear zone widths are to conform with the distances to canals as described in the PPM, Volume 1, Chapter 4.

CLEAR ZONE WIDTHS FOR WORK ZONES		
WORK ZONE SPEED (MPH)	TRAVEL LANES & MULTILANE RAMPS (feet)	AUXILIARY LANES & SINGLE LANE RAMPS (feet)
60–70	30	18
55	24	14
45–50	18	10
30–40	14	10
ALL SPEEDS CURB & GUTTER	4' BEHIND FACE OF CURB	4' BEHIND FACE OF CURB

Work Zone Speed (mph)	X (Length Of Advancement) Ft.
≤45	= 16 (D–d)
≥50	= 13 (D–d)

Equation Variables:

L=(Length of Need) = The distance a longitudinal barrier must be extended in advance of an area of concern in order to adequately shield the hazard.

X=(Length of advancement) = The distance a longitudinal barrier must be extended in advance of an area of concern in order to adequately shield the hazard

D(RA), D(LA) = Distance in feet from the near edge of the travel way to the back of the hazard or the clear zone limit, which ever is less

d(RA), d(LA) = Distance in feet from the near edge of the travel way to the face of the Barrier

Departure line = A line extending from the Point of Departure to the back of a hazard or clear zone. The point at which a barrier intersects the departure line establishes the beginning of both the Length of Need and the Length of Advancement.

LEGEND

LA : Left Approach
RA : Right Approach

◩ Departure Rates
1:16 For Speeds ≤ 45 mph
1:13 For Speeds ≥ 50 mph

Area Shielded When Work Zone Hazards Or The Work Area Occupy Space Less Than Clear Zone Width

Area Shielded When Work Zone Hazards Or The Work Area Extend To Or Beyond Clear Zone Limit

Dot Indicates Number And Position Of Bolts Or Stakes

STRAIGHT ALIGNMENT AND LENGTH OF NEED

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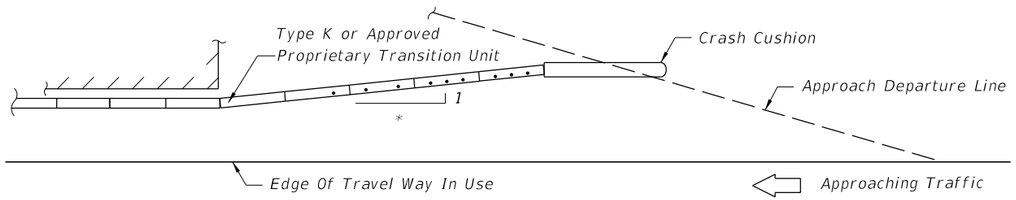
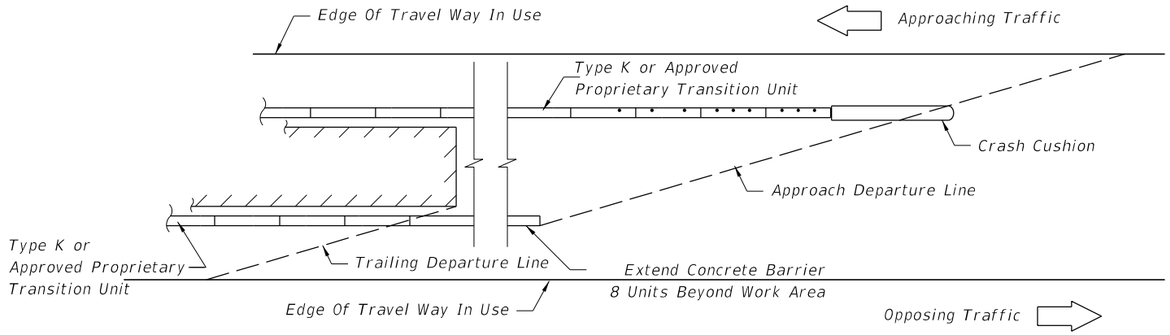
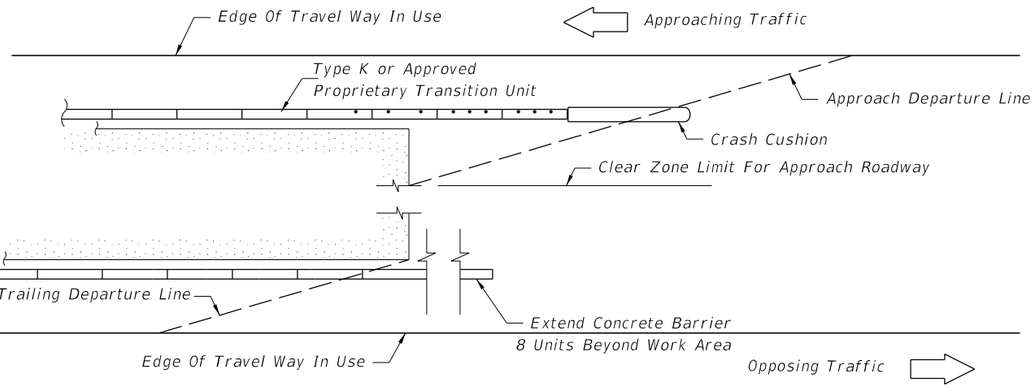


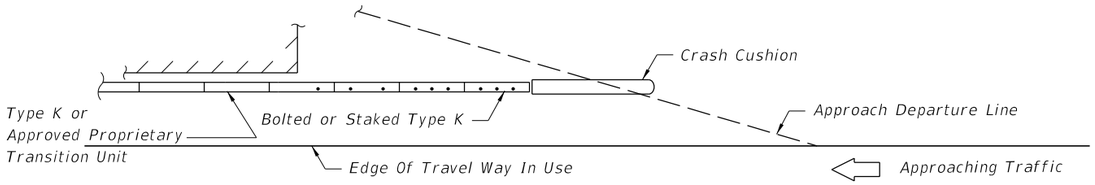
* Flare rates to be applied are 1:10 or flatter
for speeds ≤ 45 mph and 1:15 or flatter
for speeds ≥ 50 mph



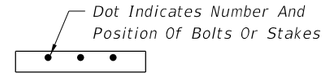
MEDIAN HAZARDS WITHIN CLEAR ZONES BOTH ROADWAYS



MEDIAN HAZARDS EXTENDS TO OR BEYOND CLEAR ZONES BOTH ROADWAYS



LEGEND



BARRIER END UNIT ANCHORAGE

10/24/2016 9:45:07 AM

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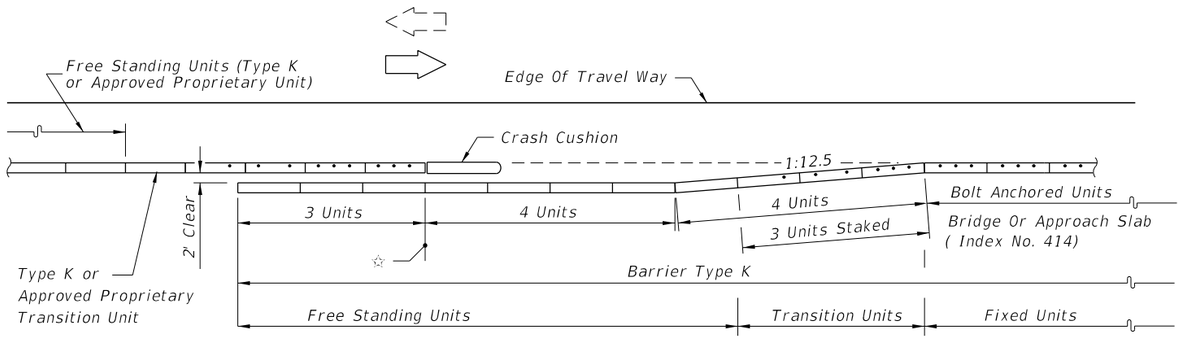
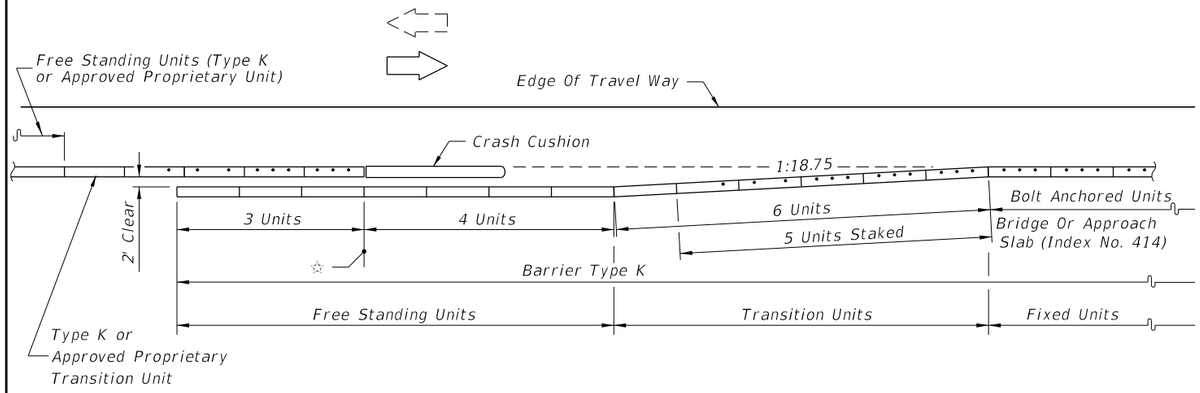


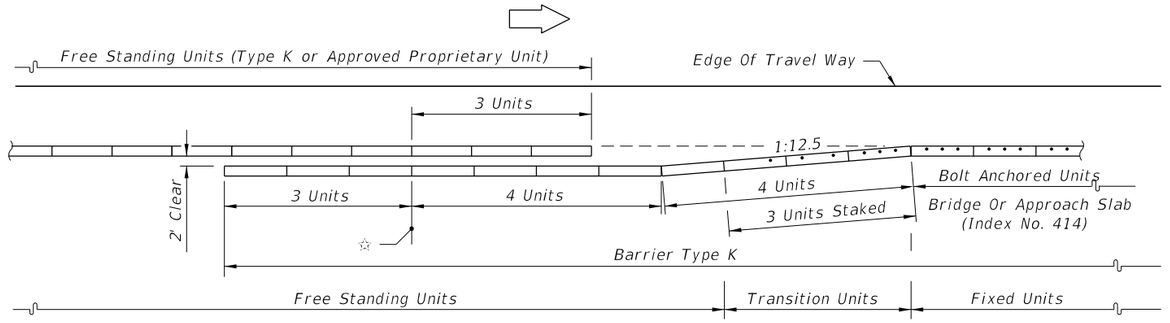
45 MPH OR LESS



50 MPH OR GREATER

☆ Overlap Reference Line

APPROACH SHOULDER BARRIER ON UNDIVIDED FACILITIES



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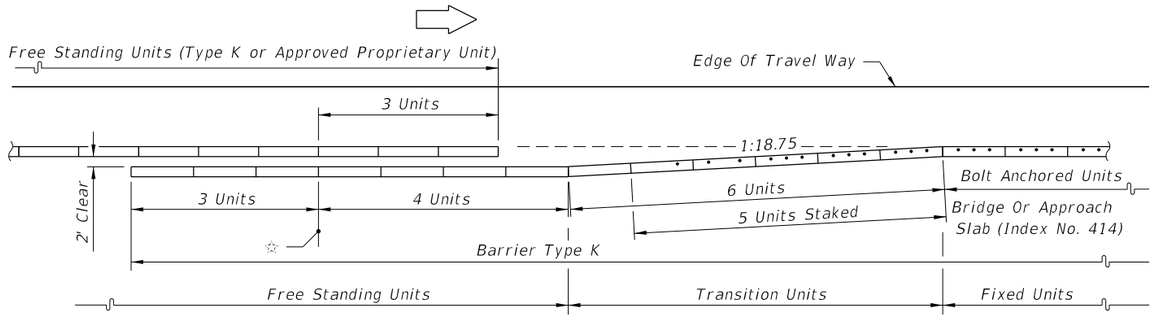
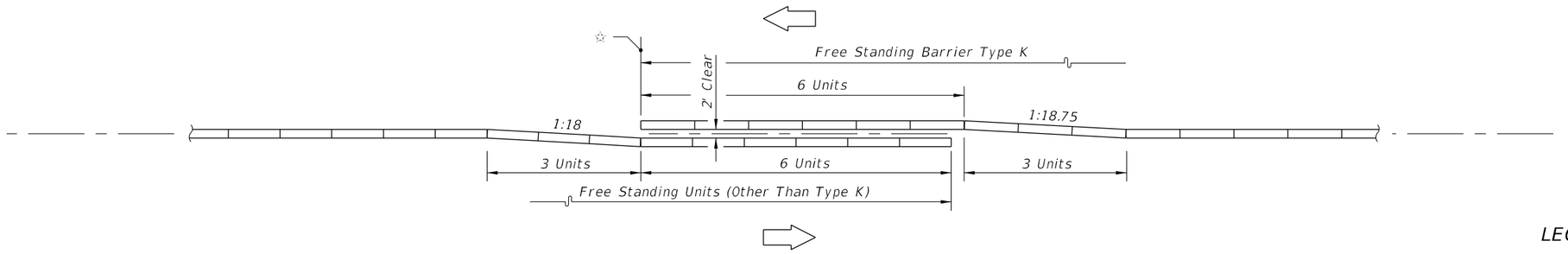


50 MPH OR GREATER

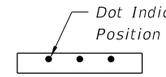
APPROACH SHOULDER BARRIER ON DIVIDED FACILITIES



INTERIOR MEDIAN BARRIER

CONTINUATION OF BARRIER • FROM OTHER TYPE BARRIERS TO BARRIER TYPE K

LEGEND



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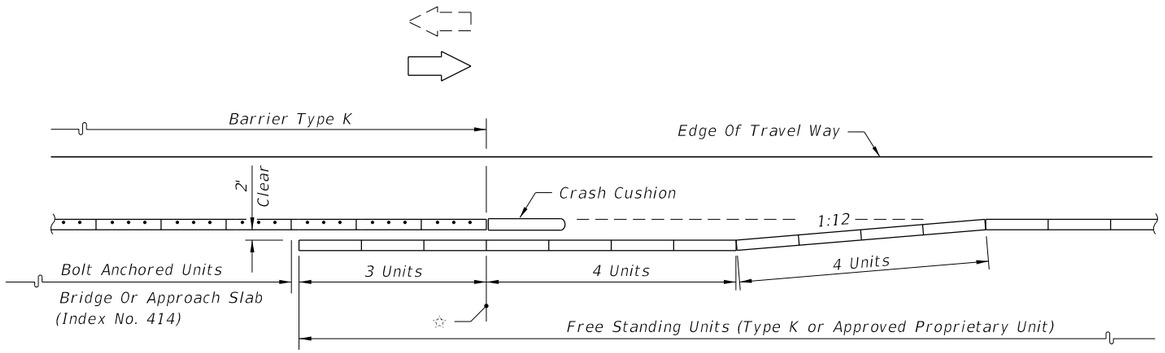
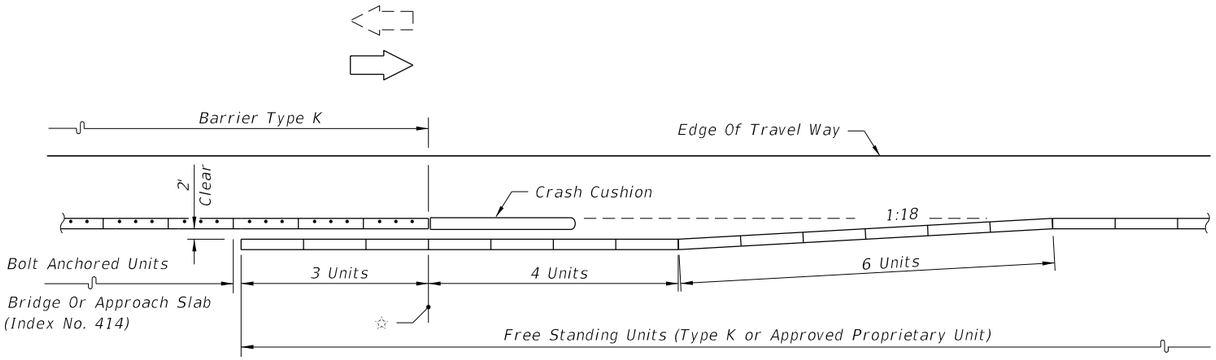


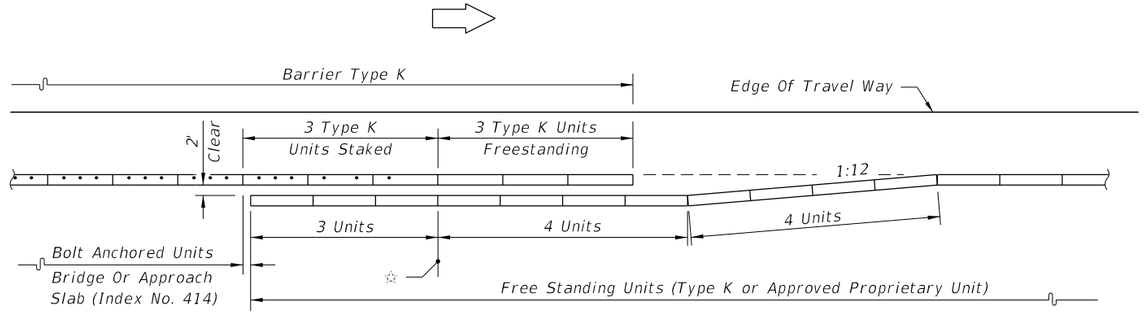
45 MPH OR LESS



50 MPH OR GREATER

☆ Overlap Reference Line

DEPARTURE (TRAILING) SHOULDER BARRIER ON UNDIVIDED FACILITIES



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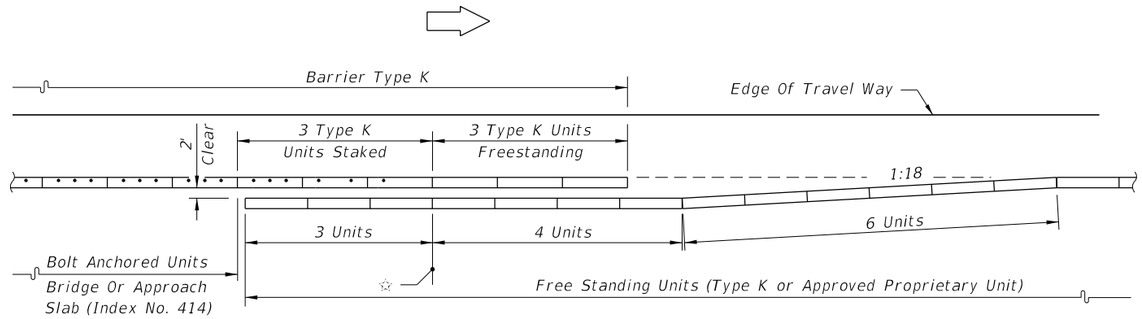
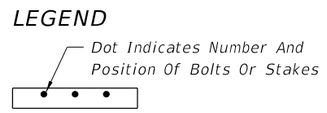


50 MPH OR GREATER

DEPARTURE (TRAILING) SHOULDER BARRIER ON DIVIDED FACILITIES



CONTINUATION OF BARRIER • FROM BARRIER TYPE K TO OTHER TYPE BARRIERS

BARRIER TYPE K ON BRIDGES AND APPROACH SLABS

10/24/2016 9:45:13 AM

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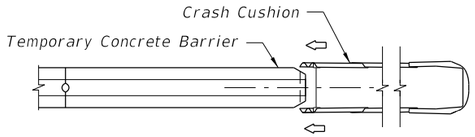
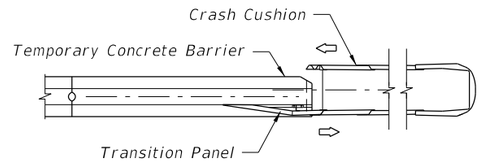


UNIDIRECTIONAL -
SEPARATED TRAFFIC



BIDIRECTIONAL -
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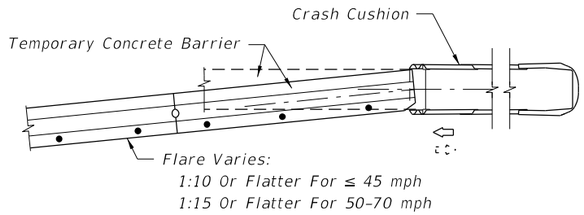
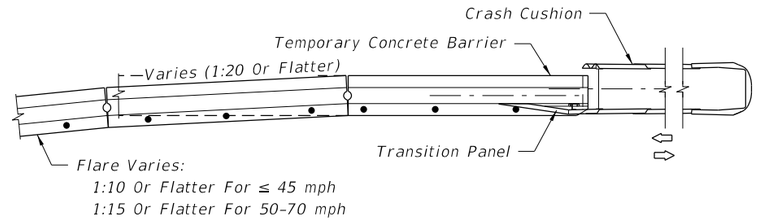


TWO-WAY TRAFFIC WITH CRASH CUSHION LOCATED OUTSIDE
OPPOSING LANE CLEAR ZONE OR ONE-WAY TRAFFIC



TWO-WAY TRAFFIC WITH CRASH CUSHION LOCATED
WITHIN OPPOSING LANE CLEAR ZONE

SHOULDER - RIGHT OR LEFT (RIGHT SIDE SHOWN)

END TREATMENT WHEN SHIELDED BY A CRASH CUSHION

NOTES FOR END SHIELDING

1. Redirective crash cushions are the principal (standard) device to be used for shielding approach ends of temporary concrete barriers. The contractor has the option to construct any of the redirective crash cushions listed on the Approved Products List at "102 Temporary Crash Cushion", subject to the uses and limitations described on their respective drawings. The last four Temporary Concrete Barrier units abutting crash cushions must be anchored to a paved surface in accordance with Design Standards Index 414.

2. Temporary redirective crash cushions shall be installed in accordance with the manufacturer's specifications and recommendations. Temporary crash cushions can be either new or functionally sound used devices. Performance of intended function is the only condition for acceptance, whether the crash cushion is new, used, refurbished, purchased, leased, rented, on loan, shared between projects, or made up of mixed new and used components.

3. Temporary Crash Cushions shall not be bolted down on bridge superstructures that contain post-tensioned tendons within the concrete deck (top flange of concrete box girders) or on bridge superstructures consisting of longitudinally prestressed, transversely post-tensioned, solid or voided concrete slab units. Gating crash cushions shall be used where bolting is not allowed.

4. Assemble and install Crash Cushions according to the limitations noted on the Approved Products List (APL) webpage, the manufacturer's specifications, and the applicable crash cushion drawings posted on the APL.

5. Optional temporary redirective crash cushions are to be paid for per locations under the contract unit price for Crash Cushion (Redirective Option) (Temporary), L0.

6. A yellow Type I Object Marker shall be centered 3' in front of the crash cushion nose. Mounting hardware shall be in conformance with Section 993 of the Standard Specifications for Road and Bridge Construction.

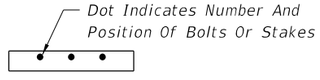
   As an option, the contractor may install reflective sheeting on the nose of the crash cushion. The sheeting to be used must be solid yellow, Type III or better and must be a product listed on the Department's Approved Products List (APL). The sheeting to be applied to the nose of the crash cushion shall be a minimum of 360 square inches with a minimum height of 15 inches.

7. Equipment, stockpile material, etc., shall not be placed behind the crash cushion.

8. When subjected to reverse direction hits, construct Transition Panels from Temporary Concrete Barrier to Crash Cushions; for additional details refer to the applicable crash cushion drawings on the APL.

9. Galvanize metallic components to meet the requirements for Steel Guardrail, Section 967 of the Standard Specifications for Road and Bridge Construction.

LEGEND



SHIELDING ENDS WITH REDIRECTIVE CRASH CUSHIONS (REDIRECTIVE OPTION)

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