



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

ROADWAY DESIGN DIVISION
SUITE 1300 JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-3848
(615) 741-2221

JOHN C. SCHROER
COMMISSIONER

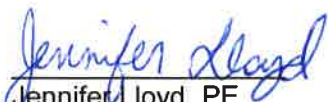
BILL HASLAM
GOVERNOR

INSTRUCTIONAL BULLETIN NO. 17-2

UPDATED SECTION 3-110.02 DESIGN EXCEPTION REQUEST

Effective immediately, *Section 3-110.02 Design Exception Request* of the Roadway Design Guidelines has been updated to conform to FHWA Memorandum released on May 5, 2016 regarding revisions to the Controlling Criteria for Design and Documentation for Design Exceptions. Previously, IB 16-08 updated only Figure 3-1 in Section 3-110.02. The Roadway Design Guidelines available online does not yet reflect these changes; however, the updated Section 3-110.02 is attached to this instructional bulletin.

This IB voids IB 16-08.


Jennifer Lloyd, PE
Civil Engineering Director
Roadway Design Division

KJL: ARH: VLN
February 9, 2017

3-110.02 DESIGN EXCEPTION REQUESTS

Despite the range of flexibility that exists with respect to the controlling elements of design, there are situations in which the accepted criteria are not applicable to the project circumstances or could not reasonably be met. For such instances, when it is appropriate, the design exception process allows for the use of criteria other than the accepted values.

The design exception process requires formal approval for exceptions relating to the following 10 controlling criteria of design: (1) design speed, (2) design loading structural capacity, (3) lane width, (4) cross slopes, (5) horizontal curve radius, (6) vertical clearance, (7) stopping sight distance, (8) superelevation rate, (9) shoulder width, and (10) maximum grade.

Design exception requests for projects shall be submitted to the Director of the Roadway Design Division using **Design Exception and Justification Form**, shown in Figure 3-1. After review the Director of the Roadway Design Division will be forwarding the design exception request to approval authority for final approval.

The approval authority for design exceptions on the Appalachian Development Highway System is with the **FHWA Division Administrator**. The approval authority for design exceptions on the Interstate System, NHS and any other system is the **TDOT Director of the Roadway Design Division**.

All applicable material from the following list shall be addressed in narrative form on the **Design Exception and Justification Form**, shown in Figure 3-1., by the roadway designer. For locally developed projects, the highest local official responsible for the project is responsible for this task.

The completed **Design Exception and Justification Form** including any attachments shall be reviewed by Regional Project Development Director (PDD) and submitted to the Director of Roadway Design Division for final approval or forwarding to approval authority. Approved design exceptions **shall** be noted, with approval date, in the lower right corner of the title sheet.



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TO:			
FROM:			
DATE:			
SUBJECT:			
DESIGN CONTROLLING CRITERIA FOR WHICH EXCEPTION IS REQUESTED:			
APPLICABLE FOR ALL NHS ROADWAYS			
Project No.:			
PIN No.:			
Project Description:			
NHS:	YES	NO	
State Route:	YES	NO	
DESIGN CONTROLLING CRITERIA FOR WHICH EXCEPTION IS REQUESTED:			
APPLICABLE FOR ALL NHS ROADWAYS			
Design Speed	<input type="checkbox"/>	Design Loading Structural Capacity	<input type="checkbox"/>
APPLICABLE FOR NHS ROADWAYS WITH DESIGN SPEED ≥ 50 MPH			
Lane Width	<input type="checkbox"/>	Cross Slopes	<input type="checkbox"/>
Horizontal Curve Radius	<input type="checkbox"/>	Vertical Clearance	<input type="checkbox"/>
Stopping Sight Distance	<input type="checkbox"/>	Superelevation Rate	<input type="checkbox"/>
Shoulder Width	<input type="checkbox"/>	Maximum Grade	<input type="checkbox"/>
DESCRIBE THE REASONING OF THE DESIGN EXCEPTION REQUEST:			

Figure 3-1 - Design Exception and Justification Form – Page 1|4

PROJECT DESIGN DATA:				
Highway Functional Classification: (Green Book 2011, Section 1.3)	Principal Arterial	<input type="checkbox"/>	Arterial	<input type="checkbox"/>
	Connector	<input type="checkbox"/>	Local Road	<input type="checkbox"/>
Rural or Urban:				
Roadway Design Standard Drawing:				
Existing Design Speed:				
Existing Posted Speed:				
Proposed Design Speed:				
Proposed Posted Speed:				
Type of Terrain:	Level	<input type="checkbox"/>	Rolling	<input type="checkbox"/>
			Mountainous	<input type="checkbox"/>
Traffic Data:	ADT(20__):		D:	
	ADT(20__):		T:	
	DHV:		V:	
GEOMETRIC DESIGN DATA FOR LOCATION OF THE REQUESTED DESIGN EXCEPTION:				
	Standard	Existing	Proposed	N/A
Cross Slope (tangent section):	2%			<input type="checkbox"/>
Maximum Superelevation Rate:	8%			<input type="checkbox"/>
Minimum Radius of Curve:				<input type="checkbox"/>
Minimum Stopping Sight Distance:				<input type="checkbox"/>
Passing Sight Distance:				<input type="checkbox"/>
Crest Vertical Curve "K":				<input type="checkbox"/>
Sag Vertical Curve "K":				<input type="checkbox"/>
Maximum Grade:				<input type="checkbox"/>
Design Loading:	HL-93			<input type="checkbox"/>
ROADWAY TYPICAL SECTION:				
	Standard	Existing	Proposed	N/A
Lane Width:				<input type="checkbox"/>
Outside Shoulder Width:				<input type="checkbox"/>
Inside Shoulder Width:				<input type="checkbox"/>
Clear Zone Width:				<input type="checkbox"/>

Figure 3-1 - Design Exception and Justification Form – Page 2|4

GEOMETRIC DESIGN DATA FOR LOCATION OF THE REQUESTED DESIGN EXCEPTION (CONTINUED):				
BRIDGE DESIGN FEATURES:				
	Standard	Existing	Proposed	N/A
Lane Width:				<input type="checkbox"/>
Outside Shoulder Width:				<input type="checkbox"/>
Inside Shoulder Width:				<input type="checkbox"/>
Sufficiency Rating:				<input type="checkbox"/>
Vertical Clearance to Navigational Waterway:				<input type="checkbox"/>
Vertical Clearance to Other Highway:	16 ft			<input type="checkbox"/>
Vertical Clearance to Railroad:	23 ft			<input type="checkbox"/>
OTHER FACTORS CONSIDERED FOR THE EXCEPTION REQUEST:				
	YES	NO	N/A	
SAFETY				
Accident history data has been reviewed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All roadway and roadside safety mitigation measures have been considered and provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
The proposed variance from the minimum roadway design standards does not adversely affect the safety of the facility.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
The Highway Safety Manual is used to justify the design exception.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
OPERATIONS				
The operation of the proposed typical cross-section is comparable with operation of the adjacent cross-sections.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
The proposed design does not cause a reduction in capacity or adversely affect traffic flow of the facility.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
The proposed design does not adversely effect long-term operations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ROADWAY DESIGN				
It is not feasible to meet the minimum roadway design standards due to right- of-way restrictions, environmental impacts, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
The proposed design maintains the same level of service compared to the design based on minimum roadway design standards.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
The proposed design results in a significant cost savings compared to the design based on minimum roadway design standards.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
The proposed design can meet minimum roadway design standards in the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Figure 3-1 - Design Exception and Justification Form – Page 3|4

JUSTIFICATION OF DESIGN EXCEPTION:		
Please provide detailed justification for each item checked "NO" above.		
Attachments Included	<input type="checkbox"/>	
DESIGN EXCEPTION HAS BEEN REVIEWED AND RECOMMENDED FOR APPROVAL BY:		
<i>Signature</i>		<i>Date</i>
Reviewer Comments Included	<input type="checkbox"/>	
DESIGN EXCEPTION HAS BEEN APPROVED BY:		
<i>Signature</i>		<i>Date</i>

Figure 3-1 - Design Exception and Justification Form – Page 4|4