



COLORADO

Department of Transportation

Division of Project Support

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MEMORANDUM

TO: REGION TRANSPORTATION DIRECTORS, PROGRAM ENGINEERS, AND RESIDENT ENGINEERS
FROM: SCOTT MCDANIEL, P.E., DIRECTOR OF DIVISION OF PROJECT SUPPORT
DATE: NOVEMBER 10, 2016
SUBJECT: DIVISION OF PROJECT SUPPORT MEMO 2016-04 / CHANGE TO FHWA 13 CONTROLLING DESIGN CRITERIA

On May 5th, 2016 FHWA sent an Information Memorandum to all state DOT's titled "Revisions to the Controlling Criteria for Design and Documentation for Design Exceptions." In the attached memo they discuss the background and process used to modify the existing controlling criteria. Below is a summary of those changes:

"The following 10 criteria are considered controlling for the design of projects on the NHS: Design Speed, Lane Width, Shoulder Width, Horizontal Curve Radius, Superelevation Rate, Stopping Sight Distance, Maximum Grade, Cross Slope, Vertical Clearance, and Design Loading Structural Capacity. Stopping sight distance (SSD) applies to horizontal alignments and vertical alignments except for sag vertical curves. Of the 10 controlling criteria, only design loading structural capacity and design speed apply to all NHS facility types. The remaining eight criteria are applicable only to "high-speed" NHS roadways, defined as Interstate highways, other freeways, and roadways with a design speed greater than or equal to 50 mph (80 km/h)."

As codified in 23 CFR 625.3(f), exceptions may be approved on a project basis for designs that do not conform to the minimum or limiting criteria set forth in the standards, policies, and standard specifications adopted in 23 CFR 625. CDOT is in support of FHWA's Performance Based Practical Design Concept, encouraging designers to consider deviation from design values noted throughout the AASHTO Green Book when it is appropriate based upon the project context. When deviated values are considered, these should be thoroughly evaluated and documented to ensure the safety of the traveling public.

For further information on the Performance Based Practical Design concept, please review at the following link:

<https://www.fhwa.dot.gov/design/pbpd/>

Consideration should also be given to measures that were evaluated for mitigating the potential adverse impacts of the proposed design exception. A list of possible mitigation strategies is included in Chapter 4 of the FHWA publication Mitigation Strategies for Design Exceptions at:



<http://safety.fhwa.dot.gov/geometric/pubs/mitigationstrategies/index.htm>

Design exceptions, subject to approval by FHWA, or on behalf of FHWA if an STA has assumed the responsibility through a Stewardship and Oversight agreement, are required for projects on the NHS only when the controlling criteria described above are not met.

The FHWA requires supporting documentation of design exceptions to include all of the following:

- Specific design criteria that will not be met.
- Existing roadway characteristics.
- Alternatives considered.
- Comparison of the safety and operational performance of the roadway and other impacts such as right-of-way, community, environmental, cost, and usability by all modes of transportation.
- Proposed mitigation measures.
- Compatibility with adjacent sections of roadway.

The level of analysis should be commensurate with the complexity of the project.

NHS is defined in the FHWA Memorandum as Interstate highways, other freeways, and roadways with a design speed greater than or equal to 50 mph (80 km/h). The 2016 FHWA/CDOT Stewardship agreement delegates authority to CDOT to approve exceptions to design standards for projects on the NHS and non-NHS and is hereby modified to be more specific as follows:

Facility	Approval Authority
Interstate	For design exceptions on the Interstate, CDOT prepares design exception justification and supporting documentation, submits to FHWA for review and approval. Electronic copy retained in ProjectWise project file for permanent record.
NHS Non-Interstate*	For design exceptions off of the interstate but on the NHS, CDOT prepares design exception justification and supporting documentation and approves. Electronic copy retained in ProjectWise project file for permanent record.
Non-NHS*	For design exceptions off of the interstate but on the NHS, CDOT prepares design exception justification and supporting documentation and approves. Electronic copy retained in ProjectWise project file for permanent record.

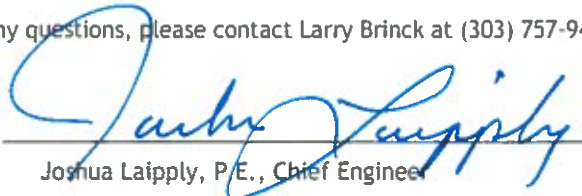
*Note: If Project has a PoDI plan then design exceptions will need to be submitted to FHWA for review and approval.

For a link to the 2016 FHWA CDOT Stewardship Agreement go to <https://www.codot.gov/business/designsupport/cdot-fhwa-stewardship-agreement>.

Moving forward, a Design Bulletin will be issued updating the CDOT Form 463 Design Data and Form 464 Design Variance to reflect the updated changes for design controlling criteria.

If you have any questions, please contact Larry Brinck at (303) 757-9474 or Ryan Sorensen at (303) 757-9326.

I concur:


Joshua Laipply, P.E., Chief Engineer

11/9/2016
Date

Attachments

