

**DATE:** September 22, 2009

**SUBJECT:** Waiver of Design Requirements that cannot be met for driveways, local roads and related State highway improvements

**TO:** District Executives

**FROM:** R. Scott Christie, P.E. /s/  
Deputy Secretary for Highway Administration

Design waiver procedures used in the Department's Highway Occupancy Permit (HOP) program for driveways and local roads are being implemented as part of a general review of this program. This strike-off letter is time increasing. It is intended to update procedures to address design waiver requests as part of an HOP application. This Department policy will be published in the HOP Manual (Pub. 170) and the HOP Guidelines (Pub. 282). This policy will facilitate Department reviews and provide guidance on procedures to follow when an applicant requests a design waiver with respect to an HOP project.

The changes are effective immediately and the attached design waiver procedures will be incorporated into Chapter 3.7 of the HOP Manual (Pub. 170) and Chapter 3.6 of the HOP Guidelines (Pub. 282) with the next revisions to these manuals. In addition, Chapter 5.4, Waiver of Regulatory Design Requirements will be deleted from both manuals with the next revisions to the manuals. The following policies are attached:

- Pub. 170, Chapter 3.7, Waiver of Design Requirements that cannot be met for driveways, local roads and related State highway improvements (Attachment 1)
- Pub. 282, Chapter 3.6, Waiver of Design Requirements that cannot be met for driveways, local roads and related State highway improvements (Attachment 2)

The design requirements that the applicant must comply with when applying for a driveway/local road permit are as follows:

- Driveway and local road design criteria necessary to ensure safe and reasonable access to the State highway.
- Related State highway improvement design requirements necessary to mitigate traffic and drainage impacts.

When design and mitigation requirements related to the proposed driveway or local road cannot be met, the five conditions identified under "Waiver of Design Requirements" (67 Pa. Code § 441.5(e)) must be satisfied.

With the added design flexibility due to the adoption of the Smart Transportation Guidebook criteria as well as the new Policies and Procedures for Transportation Impact Studies, it is anticipated that there will be a decline in the amount of waivers being pursued. However, when such a request is pursued, it is important to have a clear consistent approach to address these types of requests.

The policy's intent is to identify what constitutes a formal design waiver in accordance with Chapter 441 requirements as well as defining the procedures to be followed. This policy has been developed in cooperation with the Office of Chief Counsel.

If you have any questions in regard to the attached policy, please contact Glenn C. Rowe, P.E., PTOE, Acting Director, Bureau of Highway Safety and Traffic Engineering, at (717) 787-7350.

#### Attachments

CC: Daniele Spila, Director, Policy Office  
William Cressler, Office of Chief Counsel  
Tom Haist, Office of chief Counsel  
All Highway Administration Bureau Directors  
Brian Weidman, ADE Construction, District 8-0  
Scott Fletcher, ADE Services, District 6-0  
All District Permit Managers  
All District Traffic Engineers  
Jeff Roback, Field Operations and Special Projects, Bureau of Municipal Services  
Stephen Heil, Paperwork Management Unit, Bureau of Office Services  
BHSTE Division Chiefs

**Waiver of Design Requirements that cannot be met for driveways/local roads and related State highway improvements****1. Background**

The design requirements that the applicant must comply with when applying for a driveway/local road permit are as follows:

- A. Design requirements for the driveway/local road for which access to the State highway system has been applied for, and
- B. Design requirements for related State highway improvements which increased traffic generated by the proposed driveway/local road may necessitate

Design requirements involving any of the elements as identified below that cannot be met require a Design Waiver satisfying each of the five conditions mandated by 67 Pa. Code §441.5(e). Those conditions are as follows:

- A. No other reasonable access is available to or from the property;
- B. The applicant has done all that can reasonably be done to satisfy the design requirements;
- C. If additional land is required, the applicant provides satisfactory evidence that it cannot be purchased at a reasonable price;
- D. No traffic problem (i.e., no unacceptable operational or safety problem) will be created; and
- E. The applicant executes an indemnification satisfactory to the Commonwealth. [Refer to SOL 470-09-7 on the form of indemnification (to be incorporated in Chapter 3 of Publications 170 and 282 with the next update to the manual)]

Design requirements for the driveway/local road for which a permit is sought are those specifically set forth in Chapter 441 (e.g. those relating to location and geometrics) and those relating to Level of Service (LOS). Requirements and background relating to LOS are contained in the Policies and Procedures for Transportation Impact Studies (TIS Guidelines); SOL 470-09-4, to be incorporated in Appendix B of Pubs. 170 and 282 with the next update of the manuals.

Design requirements for related highway improvements are those incorporated into Chapter 441 by reference (i.e. Design Manual, Part 2, the TIS Guidelines, etc.). As stated in Chapter 441, applicant/permittees are responsible for related highway improvements which increased traffic or surface drainage may necessitate, 67 Pa. Code §441.6(4)(i), and all work under the permit shall conform to all requirements and standards of the Department, 67 Pa. Code §441.6(3).

The granting of a design waiver should be a rare and unusual occurrence rather than a regular method for authorizing driveways/local roads and highway improvements which would

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otherwise not comply with the regulations and design requirements. It should be granted only if the District Executive or higher Departmental authority (if necessary) determines that neither public safety nor the highway/bridge infrastructure would be adversely affected by granting the waiver. As stated in 67 Pa. Code §441.7(b), access driveways shall be permitted only at locations in which sight distance is adequate, the free movement of traffic is not impaired, and no hazard or undue traffic congestion will be created.

Consideration must be given to all project conditions such as service life; safety benefits; compatibility with adjacent sections of unimproved roadways, driveways and local roads; and the length of time the highway will function under an acceptable level of service. Full justification must be provided for the retention, limited improvement, or partial mitigation of substandard features.

## **2. Specific elements requiring a Design Waiver**

The specific elements relating to driveways/local roads and related highway improvements requiring formal Design Waiver approval are as follows:

- A.** Driveway/local road location(s)
- B.** Driveway/local road geometrics
- C.** Intersection LOS
- D.** Design Speed-Design waivers for the design speed are for the design elements that do not meet the required design speed for the project. The design speed for a project is based upon the posted speed of the roadway. If the roadway does not have a posted speed limit, an 88.5 km/h (55 mph) speed limit applies. Design speeds are not applicable to tee intersections, since slow or stop conditions preclude attainment.
- E.** Lane Width
- F.** Shoulder Width
- G.** Bridge Width
- H.** Structural Capacity
- I.** Horizontal Alignment
- J.** Vertical Alignment
- K.** Grade
- L.** Stopping Sight Distance (SSD) and Headlight Sight Distance (HLSD) at locations other than driveways or local roads
- M.** Cross Slope
- N.** Superelevation
- O.** Vertical Clearance
- P.** Horizontal Clearance (other than Clear Zone)

When one of these design requirements cannot be met, the applicant and the District shall follow the subsequent procedures for submitting and reviewing the request for a design waiver.

### 3. **Design Waiver Request**

#### Applicant

An applicant that intends to request a design waiver must first request a Design Waiver Scoping Field View (Field View). The request for a Field View must be in writing to the District Executive. It must identify the design requirement(s) that may not be met and provide sufficient details for the District to determine what disciplines are necessary for review of the possible request. Design waiver requests may not be submitted until after a Field View has been conducted by the District Design Waiver Review Team, discussed below, the applicant and/or the applicant's consulting engineer. The District Design Waiver Review Team has the option to waive the Field View after review of the Scoping Field View request.

**A formal request for a design waiver** shall be submitted by the applicant. The request shall be a stand-alone document prepared in accordance with the Design Waiver Data Checklist (below), addressed to the District Executive and sealed by a professional engineer. The submission shall be submitted concurrent with the Highway Occupancy Permit (HOP) application.

When a design waiver relating to LOS is requested, the TIS shall be included with the waiver request as well as documentation regarding the attempts pursued to comply with Conditions 1 or 2 as outlined in the TIS Guidelines. Compliance with these procedures may eliminate the need for a Design Waiver relating to LOS.

**Prior to submitting a formal request for a design waiver relating to LOS, the applicant must first pursue and demonstrate attempts to comply with either mitigation Condition 1 (Marginal LOS Degradation) or Condition 2 (Significant LOS Degradation) as detailed in the TIS Guidelines. Submissions on design waivers relating to LOS that do not demonstrate compliance with Condition 1 and Condition 2 acceptable to the District Executive shall not be considered and shall be returned to the applicant for further information.**

#### District Office

The District Executive will determine the appropriate personnel to be included on the District Design Waiver Review Team (Review Team). The Review Team may include staff from the District Permit Unit, District Traffic Unit, District Design Unit, and/or other appropriate unit based on the request being made. The design waiver review should be a collaborative effort of key personnel who are knowledgeable in the field. At least one person must have considerable traffic engineering experience. For design waivers relating to LOS, the District Traffic Engineer shall be a part of the Review Team.

The Review Team shall attend the scoping field view unless waived. The Review Team shall review the submission request for compliance with the Design Waiver Data Checklist and provide the District Executive with a recommendation and all relevant information needed to

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determine an appropriate action on the request. The District Executive decides whether a design waiver should be granted unless the waiver relates to a limited access highway, structural capacity, or projects categorized as “moderately complex” or “complex” in accordance with Design Manual, Part 1A, Chapter 3, in which case further review is required.

For non-interstate limited access highway projects with waiver requests involving the first three elements listed in Section 2, the District Executive shall forward the design waiver request to the Director of the Bureau of Highway Safety and Traffic Engineering (BHSTE) for a decision.

For non-interstate projects requiring the approval from the Director of the Bureau of Design (BOD) (waiver requests involving the remaining elements listed in Section 2) and for interstate projects requiring Federal Highway Administration (FHWA) approval, the District Executive shall forward the design waiver request to the BHSTE for routing. Requests not prepared in accordance with these guidelines will be returned to the District for further action.

When required to be submitted to the BHSTE, design waiver requests shall be submitted to the BHSTE only after the District Design Waiver Review Team has conducted a safety evaluation of the proposed HOP project in accordance with these guidelines and the District Executive has concluded that, based on engineering judgment, the proposed design with the design waiver does not compromise highway safety.

#### **4. Design Waiver Data Checklist**

Design waiver requests must address the following matters as determined applicable by the Review Team at the Field View. Minutes of the Field View shall be prepared by the applicant’s consulting engineer and submitted for review and approval by the Review Team prior to the submission of a design waiver request. This summary data checklist is not all inclusive and should not be considered a substitute for sound engineering judgment to be exercised by the applicant’s consulting engineer, the Review Team and the District Executive:

- A. Project Information.** Provide project identification information including: County, State Route (SR), Section, Project Length, driveway(s) and local road(s) location and Segment/Offsets, beginning and ending Segment/Offsets, Functional Classification, Urban or Rural Area, and proposed construction year. Design waivers of the required 4.9 meter (16 foot) vertical clearance on an Interstate Highway may require coordination with the Director of Military Traffic Management Command, if requested by the Department.
- B. Submission Documentation.** Design waiver requests must include the following items:
  - 1.** Project Location Map
  - 2.** Crash History Evaluation, as described in Item L below, if required

3. Plan Sheets, Profile Sheets, Typical Sections, and Cross Sections where applicable if not previously included in a Field View submission
  4. Scoping Field View minutes, approved by the Review Team
  5. If applicable, bridge sufficiency rating and letter from District Bridge Engineer stating the maximum deck width attainable without total reconstruction, if the proposed project involves a design waiver for bridge width
  6. Ramp Design Sheet (Table 4.2 of DM-2) if a Design Waiver request is being submitted for ramp length or geometry
- C. Governing Criteria.** Describe the proposed work and the design criteria (from Chapter 441 or the Design Manual) that govern design of the driveway/local road or related State highway improvement. Include existing and proposed typical section geometrics such as lane width, shoulder width, bridge width, number of lanes, etc., as required by the District.
- D. Traffic Information.** Provide traffic information including Current and Design Average Daily Traffic (ADT), Percent Trucks, Design Hour Volume (DHV), Level of Service, and Truck Design Size.
- E. Speed Information.** Provide Design Speed, Posted Speed, and Running Speed at each section in the project where running speed is expected to vary from the posted speed.
- F. Deficiencies of Proposed Design.** Specifically identify the substandard design element(s) that requires a design waiver and the design standard that would be required without a design waiver. Reference the source and page number of the document that specifies the governing design criteria (i.e., Chapter 441, Design Manual, Department TIS Guidelines, etc.). Provide the American Association of State Highway and Transportation Officials (AASHTO) design criteria if this is different from the Department's design criteria.
- G. Estimated Costs.** If cost is a justification for the Design Waiver, provide the current estimated cost with a design waiver included and the estimated cost to meet standard design criteria without a design waiver.
- H. Compatibility with adjacent highway areas.** An explanation of the compatibility of the design waiver(s) and the proposed design compared to the geometrics of existing roadway sections, driveways or local roads, as applicable both within and adjacent to the proposed project.
- I. Bridge related design criteria.** A description of structure impacts, if applicable. Impacts typically affect bridge deck width, horizontal clearance to substructure, vertical clearance, load capacity or safety. Include the required bridge width and the width to which the existing bridge can be widened without total replacement for deck replacement projects, partial superstructure replacement projects, and projects where the abutments and or piers are reused. Include the latest bridge sufficiency rating, the effect of the proposed work on any load restrictions, and the design life of the bridge with and without the proposed work.

- J. Construction Impacts.** The impacts of the proposed project during construction (with and without the proposed design waiver(s)) including traffic control operations, detours, and access to residences and businesses within the limits of the proposed Highway Occupancy Permit work.
- K. Right of Way Impacts.** Right-of-way impacts of the proposed project with and without the proposed design waiver(s) on adjacent residences and businesses. Include how the proposed design reduces these impacts while providing a safe highway. If additional right-of-way would be required to construct the project without the proposed design waiver, the applicant must provide satisfactory evidence that the required right-of-way cannot be purchased at a reasonable price. An appraisal would be appropriate for this purpose, as well as a copy of an offer letter made to the affected property owner. Evidence acceptable to the District that the applicable municipality will not agree to condemn required land on behalf of PennDOT for the applicant could also be considered.
- L. Crash History Evaluation.** For design waivers relating to State highway design features, evaluate the traffic crash history within the project limits to determine what existing highway safety concerns are present, and then identify how these safety concerns would be addressed by:
1. The proposed project designed using the design waiver(s); and
  2. The proposed project designed using full-design criteria required by Chapter 441, the Design Manual, the TIS Guidelines or other Department standard or requirement.
  3. The evaluation shall consist of a safety study which includes the following items as a minimum:
    - a. A five year traffic crash history (engineering extract, both summary and resume pages) using the most recent five year period.
    - b. A listing of any crash cluster list locations within the project limits (intersection, curve, tree, etc.).
    - c. A comparison of the actual crash rate and the fatal crash rate to the statewide averages found in the current homogeneous report. Obtain all necessary data from the District Safety Engineer.
    - d. A narrative description which describes the important aspects of the safety study items addressed. The description must address any differences in traffic crash remediation between a project designed using the recommended design waiver(s) versus a project designed using full design criteria.
    - e. If determined appropriate by the District, provide collision diagrams and/or other information that might be useful. This safety study shall be kept together in a separate file within the Highway Occupancy Permit project file.
  4. Prior to reviewing the study, the District, based on the type of design waiver requested and the data and information included, must determine if the safety study

file, and all items within that file, should be labeled "*Confidential: In-Depth Accident Investigation/Safety Study* ." In accordance with Section 3754 of the Vehicle Code (75 Pa.C.S. §3754) and 23 U.S.C. §409, a safety study will be protected from disclosure in litigation and should not be disclosed pursuant to a subpoena without the specific written consent of the PennDot's Office of Chief Counsel. However, the Department may be required to disclose the study under the Right to Know Law (RTKL). Requests for a study under that law should be referred to the Department's RTKL Officer who will ensure that they are reviewed by the Office of Chief Counsel. Labeling the study confidential will segregate the data and information for purposes of determining whether it may or must be disclosed.

- M. Mitigation Measures.** Describe the mitigation measures that will be incorporated into the project design to lessen the impact of the design waiver with respect to safety (remediating crashes, capacity, etc.). Mitigation measures may include advisory signing, improved delineation, lighting, reduction in the posted speed, clearing roadside obstructions, striping-out shoulder area to provide longer effective ramp lengths, etc.
- N. Future Projects.** Describe the dates and types of future Department highway projects and maintenance upgrades that are proposed for the project and adjacent sections of highway. This future project and maintenance data can be obtained from the appropriate Engineering District. Describe the advantages and disadvantages of meeting the full criteria on the subject project with respect to the future upgrades. Photographs of existing conditions are recommended and can assist in assessing geometric constraints.
- 1.** If the deficient condition would be temporary due to a future Department project or anticipated highway improvements by another applicant, the applicant can identify monetary or land contributions that they would be willing to make towards those future improvements.
- O. Design Longevity.** The date when the highway is expected to become obsolete due to increased or changed traffic demands, pavement distresses (includes resurfacing or reconstruction interval), bridge rehabilitation or replacement, etc.
- P. Justification.** A complete justification for the design waiver and mitigation measures, if any, shall be provided. Highway safety is the predominant concern. When documenting incremental differences in cost and/or right-of-way acquisition in comparing design alternatives (with or without a design waiver), the level of detail required need only reflect the purposes of design waiver justification. Round numbers indicating a general magnitude of the differences, generated by information readily available at the time is sufficient. The intent is to minimize the level of effort required to compile the information, while assuring that the Department properly documents its sound engineering decisions.
- Q. Indemnification.** If the applicant is requesting additions, deletions or changes to the Form M-950 IDW, justification is required in accordance with SOL 470-09-7, on the

form of indemnification (to be incorporated in Chapter 3 of Pubs. 170 and 282 with the next update to the manuals).

## **5. Design Waiver Review Process**

A final decision *should* be made on requests for design waivers/exceptions within 30 days of receipt; a final decision *must* be made within 60 days. The design waiver process is part of the Highway Occupancy Permitting process. Thus, in accordance with the Pennsylvania Municipalities Planning Code (MPC), all design waiver requests associated with an HOP require a formal response from PennDOT to the applicant within 60 calendar days from receipt of the design waiver request.

A formal response is one that is made in writing. That response may be one of the following:

- A. Design Waiver request returned for additional information.** Return the request for additional information if the request does not adequately and completely address the requirements of the regulation, Department design standards and, if necessary, these guidelines.
- B. Design Waiver approved.** If approved, a formal approval memo on PennDOT letterhead shall be prepared and signed by the District Executive, based on written recommendations from the District Design Waiver Review Team containing engineering justification and rationale. This memo approving the design waiver will be attached as Exhibit A to the Indemnification executed by the applicant.
  - 1.** The memo shall include a recitation of the facts, the relevant design requirements, and the full justification for the waiver approval addressing the five regulatory conditions established by 67 Pa. Code §441.5(e). The memo may include reference to the request for a design waiver and must conclude that, based on the District Design Waiver Review Team's evaluation and engineering judgment, the proposed design using the design waiver(s) does not compromise highway safety. A sample approval memo is posted on the Department's Wide Area Network (WAN). Each HOP issued with a waiver must be personally signed by the District Executive or higher Departmental authority (if applicable).
  - 2.** The request for a design waiver cannot be approved without the applicant furnishing an indemnification, covenant and insurance policy in accordance with SOL 470-09-7, on the form of indemnification (to be incorporated in Chapter 3 of Pubs. 170 and 282 with the next update to the manuals), as required by Chapter 441.5(e).
- C. Design Waiver approved with conditions.** Certain conditions may be tied to a particular design waiver approval such as allowing a temporary design waiver that will be corrected as part of a second phase of construction scenario. In this case, the waiver approval memo shall indicate the conditions in which approval was granted.
  - 1.** The design waiver approval shall be attached as Exhibit A to the indemnification executed by the applicant.

**D. Design Waiver denied.** If the District Executive denies the request, a formal denial letter shall be sent to the applicant indicating the specific reason(s) for the denial and indicating the particular regulatory and design requirements not being met, including the operational, design or safety rationale for the denial.

1. The denial shall include the following statement: “The applicant may appeal under 2 Pa.C.S. §§ 501--508 (relating to practice and procedure of Commonwealth agencies), 1 Pa. Code Part II (relating to general rules of administrative practice and procedure) and Chapter 491 (relating to administrative practice and procedure), by submitting a written request for a hearing within 30 days after the mailing of the document containing the determination, to the Administrative Docket Clerk, Office of Chief Counsel, 400 North Street, Harrisburg, Pennsylvania 17120-0041. A filing fee as prescribed under Chapter 491, made payable to the "Commonwealth of Pennsylvania," must accompany each request.
2. The District Executive may consult with the Director for BHSTE and/or the Director for BOD, and must coordinate with BHSTE and BOD in instances where the design waiver request affects limited access highway, structural capacity, or projects categorized as “moderately complex” or “complex” in accordance with Design Manual, Part 1A, Chapter 3.
3. If the District Executive does not have a Professional Engineer (P.E.) license, a P.E. shall provide an approval recommendation prior to the District Executive’s approval.

**6. Bureau of Design, Bureau of Highway Safety and Traffic Engineering and Federal Highway Administration review**

This statewide policy does not delegate design waiver authority for applications that require Central Office, BOD, BHSTE and/or Federal Highway Administration (FHWA) reviews. Refer to Section 3 for instances requiring Central Office and/or FHWA approval. Design waiver requests forwarded to Central Office for review shall be accompanied by a copy of the HOP application package.

Because FHWA is not bound by the Municipalities Planning Code’s (MPC) 60 calendar day requirement, the applicant shall be requested to sign a letter waiving this if review by the FHWA will be required in accordance with federal law, regulation or the current delegation agreement between the Department and FHWA. If the applicant refuses to sign such a letter, the application must be denied within the 60-day period. The reason for denial would be failure to obtain approval from FHWA.

BOD and BHSTE, in conjunction with FHWA when required, will return the request for additional information, approve, approve with conditions, or deny the design waiver request as set out above and notify the District. The District will, in turn, notify the applicant.

**7. Design Waiver Documentation/Recording**

The approved design waiver request, crash history study (if any), approval letters, and other appropriate correspondence related to design waivers must be retained with the Highway

Occupancy Permit project file(s), and must be included with the permanent Highway Occupancy Permit project records. For design waivers relating to LOS, a copy of the request and approval shall be included in the appendix of the final approved TIS.

The design waiver will be recorded with the permit and/or the indemnification, as appropriate, in accordance with 67 Pa. Code §441.5(f).

**Waiver of Design Requirements that cannot be met for driveways/local roads and related State highway improvements****1. Background**

The design requirements that the applicant must comply with when applying for a driveway/local road permit are as follows:

- A. Design requirements for the driveway/local road for which access to the State highway system has been applied for, and
- B. Design requirements for related State highway improvements which increased traffic generated by the proposed driveway/local road may necessitate

Design requirements involving any of the elements as identified below that cannot be met require a Design Waiver satisfying each of the five conditions mandated by 67 Pa. Code §441.5(e). Those conditions are as follows:

- A. No other reasonable access is available to or from the property;
- B. The applicant has done all that can reasonably be done to satisfy the design requirements;
- C. If additional land is required, the applicant provides satisfactory evidence that it cannot be purchased at a reasonable price;
- D. No traffic problem (i.e., no unacceptable operational or safety problem) will be created; and
- E. The applicant executes an indemnification satisfactory to the Commonwealth. [Refer to SOL 470-09-7 on the form of indemnification (to be incorporated in Chapter 3 of Publications 170 and 282 with the next update to the manual)]

Design requirements for the driveway/local road for which a permit is sought are those specifically set forth in Chapter 441 (e.g. those relating to location and geometrics) and those relating to Level of Service (LOS). Requirements and background relating to LOS are contained in the Policies and Procedures for Transportation Impact Studies (TIS Guidelines); SOL 470-09-4, to be incorporated in Appendix B of Pubs. 170 and 282 with the next update of the manuals.

Design requirements for related highway improvements are those incorporated into Chapter 441 by reference (i.e. Design Manual, Part 2, the TIS Guidelines, etc.). As stated in Chapter 441, applicant/permittees are responsible for related highway improvements which increased traffic or surface drainage may necessitate, 67 Pa. Code §441.6(4)(i), and all work under the permit shall conform to all requirements and standards of the Department, 67 Pa. Code §441.6(3).

The granting of a design waiver should be a rare and unusual occurrence rather than a regular method for authorizing driveways/local roads and highway improvements which would otherwise not comply with the regulations and design requirements. It should be granted only if the District Executive or higher Departmental authority (if necessary) determines that neither

public safety nor the highway/bridge infrastructure would be adversely affected by granting the waiver. As stated in 67 Pa. Code §441.7(b), access driveways shall be permitted only at locations in which sight distance is adequate, the free movement of traffic is not impaired, and no hazard or undue traffic congestion will be created.

Consideration must be given to all project conditions such as service life; safety benefits; compatibility with adjacent sections of unimproved roadways, driveways and local roads; and the length of time the highway will function under an acceptable level of service. Full justification must be provided for the retention, limited improvement, or partial mitigation of substandard features.

## **2. Specific elements requiring a Design Waiver**

The specific elements relating to driveways/local roads and related highway improvements requiring formal Design Waiver approval are as follows:

- A.** Driveway/local road location(s)
- B.** Driveway/local road geometrics
- C.** Intersection LOS
- D.** Design Speed - Design waivers for the design speed are for the design elements that do not meet the required design speed for the project. The design speed for a project is based upon the posted speed of the roadway. If the roadway does not have a posted speed limit, an 88.5 km/h (55 mph) speed limit applies. Design speeds are not applicable to tee intersections, since slow or stop conditions preclude attainment.
- E.** Lane Width
- F.** Shoulder Width
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- H.** Structural Capacity
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- L.** Stopping Sight Distance (SSD) and Headlight Sight Distance (HLSD) at locations other than driveways or local roads
- M.** Cross Slope
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When one of these design requirements cannot be met the applicant and the District shall follow the subsequent procedures for submitting and reviewing the request for a design waiver.

### 3. Design Waiver Request

#### Applicant

An applicant that intends to request a design waiver must first request a Design Waiver Scoping Field View (Field View). The request for a Field View must be in writing to the District Executive. It must identify the design requirement(s) that may not be met and provide sufficient details for the District to determine what disciplines are necessary for review of the possible request. Design waiver requests may not be submitted until after a Field View has been conducted by the District Design Waiver Review Team, discussed below, the applicant and/or the applicant's consulting engineer. The District Design Waiver Review Team has the option to waive the Field View after review of the Scoping Field View request.

**A formal request for a design waiver** shall be submitted by the applicant. The request shall be a stand-alone document prepared in accordance with the Design Waiver Data Checklist (below), addressed to the District Executive and sealed by a professional engineer. The submission shall be submitted concurrent with the Highway Occupancy Permit (HOP) application.

Where a design waiver relating to LOS is requested, the TIS shall be included with the waiver request as well as documentation regarding the attempts pursued to comply with Conditions 1 or 2 as outlined in the TIS Guidelines. Compliance with these procedures may eliminate the need for a Design Waiver relating to LOS.

**Prior to submitting a formal request for a design waiver relating to LOS, the applicant must first pursue and demonstrate attempts to comply with either mitigation Condition 1 (Marginal LOS Degradation) or Condition 2 (Significant LOS Degradation) as detailed in the TIS Guidelines. Submissions on design waivers relating to LOS that do not demonstrate compliance with Condition 1 and Condition 2 acceptable to the District Executive shall not be considered and shall be returned to the applicant for further information.**

#### District Office

The District Executive will determine the appropriate personnel to be included on the District Design Waiver Review Team (Review Team). The Review Team may include staff from the District Permit Unit, District Traffic Unit, District Design Unit, and/or other appropriate unit based on the request being made. The design waiver review should be a collaborative effort of key personnel who are knowledgeable in the field. At least one person must have considerable traffic engineering experience. For design waivers relating to LOS, the District Traffic Engineer shall be a part of the Review Team.

The Review Team shall attend the scoping field view unless waived, review the request submission for compliance with the Design Waiver Data Checklist and provide the District Executive with a recommendation and all relevant information needed to determine appropriate

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action on the request. The District Executive decides whether a design waiver should be granted unless the waiver relates to a limited access highway, structural capacity, or projects categorized as “moderately complex” or “complex” in accordance with Design Manual, Part 1A, Chapter 3, in which case further review is required.

For non-interstate limited access highway projects with waiver requests involving the first three elements listed in Section 2, the District Executive shall forward the design waiver request to the Director of the Bureau of Highway Safety and Traffic Engineering (BHSTE) for a decision.

For non-interstate projects requiring the approval of the Director of the Bureau of Design (BOD) (waiver requests involving the remaining elements listed in Section 2) and for interstate projects requiring Federal Highway Administration (FHWA) approval, the District Executive shall forward the design waiver request to the BHSTE for routing. Requests not prepared in accordance with these guidelines will be returned to the District for further action.

When required to be submitted to the BHSTE, design waiver requests shall be submitted to the BHSTE only after the District Design Waiver Review Team has conducted a safety evaluation of the proposed HOP project in accordance with these guidelines and the District Executive has concluded that, based on engineering judgment, the proposed design with the design waiver does not compromise highway safety.

#### **4. Design Waiver Data Checklist**

Design waiver requests must address the following matters as determined applicable by the Review Team at the Field View. Minutes of the Field View shall be prepared by the applicant’s consulting engineer and submitted for review and approval by the Review Team prior to the submission of a design waiver request. This summary data checklist is not all inclusive and should not be considered a substitute for sound engineering judgment to be exercised by the applicant’s consulting engineer, the Review Team and the District Executive:

- A. Project Information.** Provide project identification information including: County, State Route (SR), Section, Project Length, driveway(s) and local road(s) location and Segment/Offsets, beginning and ending Segment/Offsets, Functional Classification, Urban or Rural Area, and proposed construction year. Design waivers of the required 4.9 meter (16 foot) vertical clearance on an Interstate Highway may require coordination with the Director of Military Traffic Management Command, if requested by the Department.
- B. Submission Documentation.** Design waiver requests must include the following items:
  - 1.** Project Location Map
  - 2.** Crash History Evaluation, as described in Item L below, if required

3. Plan Sheets, Profile Sheets, Typical Sections, and Cross Sections where applicable if not previously included in a Field View submission
  4. Scoping Field View minutes, approved by the Review Team
  5. If applicable, bridge sufficiency rating and letter from District Bridge Engineer stating the maximum deck width attainable without total reconstruction, if the proposed project involves a design waiver for bridge width
  6. Ramp Design Sheet (Table 4.2 of DM-2) if a Design Waiver request is being submitted for ramp length or geometry
- C. Governing Criteria.** Describe the proposed work and the design criteria (from Chapter 441 or the Design Manual) that govern design of the driveway/local road or related State highway improvement. Include existing and proposed typical section geometrics such as lane width, shoulder width, bridge width, number of lanes, etc., as required by the District.
- D. Traffic Information.** Provide traffic information including Current and Design Average Daily Traffic (ADT), Percent Trucks, Design Hour Volume (DHV), Level of Service, and Truck Design Size.
- E. Speed Information.** Provide Design Speed, Posted Speed, and Running Speed at each section in the project where running speed is expected to vary from the posted speed.
- F. Deficiencies of Proposed Design.** Specifically identify the substandard design element(s) that requires a design waiver and the design standard that would be required without a design waiver. Reference the source and page number of the document that specifies the governing design criteria (i.e., Chapter 441, Design Manual, Department TIS Guidelines, etc.). Provide the American Association of State Highway and Transportation Officials (AASHTO) design criteria if this is different from the Department's design criteria.
- G. Estimated Costs.** If cost is a justification for the Design Waiver, provide the current estimated cost with a design waiver included and the estimated cost to meet standard design criteria without a design waiver.
- H. Compatibility with adjacent highway areas.** An explanation of the compatibility of the design waiver(s) and the proposed design compared to the geometrics of existing roadway sections, driveways or local roads, as applicable both within and adjacent to the proposed project.
- I. Bridge related design criteria.** A description of structure impacts, if applicable. Impacts typically affect bridge deck width, horizontal clearance to substructure, vertical clearance, load capacity or safety. Include the required bridge width and the width to which the existing bridge can be widened without total replacement for deck replacement projects, partial superstructure replacement projects, and projects where the abutments and or piers are reused. Include the latest bridge

sufficiency rating, the effect of the proposed work on any load restrictions, and the design life of the bridge with and without the proposed work.

- J. Construction Impacts.** The impacts of the proposed project during construction (with and without the proposed design waiver(s)) including traffic control operations, detours, and access to residences and businesses within the limits of the proposed Highway Occupancy Permit work.
- K. Right of Way Impacts.** Right-of-way impacts of the proposed project with and without the proposed design waiver(s) on adjacent residences and businesses. Include how the proposed design reduces these impacts while providing a safe highway. If additional right-of-way would be required to construct the project without the proposed design waiver, the applicant must provide satisfactory evidence that the required right-of-way cannot be purchased at a reasonable price. An appraisal would be appropriate for this purpose, as well as a copy of an offer letter made to the affected property owner. Evidence acceptable to the District that the applicable municipality will not agree to condemn required land on behalf of PennDOT for the applicant could also be considered.
- L. Crash History Evaluation.** For design waivers relating to State highway design features, evaluate the traffic crash history within the project limits to determine what existing highway safety concerns are present, and then identify how these safety concerns would be addressed by:
1. The proposed project designed using the design waiver(s); and
  2. The proposed project designed using full-design criteria required by Chapter 441, the Design Manual, the TIS Guidelines or other Department standard or requirement.
  3. The evaluation shall consist of a safety study which includes the following items as a minimum:
    - a. A five year traffic crash history (engineering extract, both summary and resume pages) using the most recent five year period.
    - b. A listing of any crash cluster list locations within the project limits (intersection, curve, tree, etc.).
    - c. A comparison of the actual crash rate and the fatal crash rate to the statewide averages found in the current homogeneous report. Obtain all necessary data from the District Safety Engineer.
    - d. A narrative description which describes the important aspects of the safety study items addressed. The description must address any differences in traffic crash remediation between a project designed using the recommended design waiver(s) versus a project designed using full design criteria.



When documenting incremental differences in cost and/or right-of-way acquisition in comparing design alternatives (with or without a design waiver), the level of detail required need only reflect the purposes of design waiver justification. Round numbers indicating a general magnitude of the differences, generated by information readily available at the time is sufficient. The intent is to minimize the level of effort required to compile the information, while assuring that the Department properly documents its sound engineering decisions.

- Q. Indemnification.** If the applicant is requesting additions, deletions or changes to the Form M-950 IDW, justification is required in accordance with SOL 470-09-7, on the form of indemnification (to be incorporated in Chapter 3 of Pubs. 170 and 282 with the next update to the manuals).

## **5. Design Waiver Review Process**

A final decision *should* be made on requests for design waivers/exceptions within 30 days of receipt; a final decision *must* be made within 60 days. The design waiver process is part of the Highway Occupancy Permitting process. Thus, in accordance with the Pennsylvania Municipalities Planning Code (MPC), all design waiver requests associated with an HOP require a formal response from PennDOT to the applicant within 60 calendar days from receipt of the design waiver request.

A formal response is one that is made in writing. That response may be one of the following:

- A. Design Waiver request returned for additional information.** Return the request for additional information if the request does not adequately and completely address the requirements of the regulation, Department design standards and, if necessary, these guidelines.
- B. Design Waiver approved.** If approved, a formal approval memo on PennDOT letterhead shall be prepared and signed by the District Executive, based on written recommendations from the District Design Waiver Review Team containing engineering justification and rationale. This memo approving the design waiver will be attached as Exhibit A to the Indemnification executed by the applicant.
- 1.** The memo shall include a recitation of the facts, the relevant design requirements, and the full justification for the waiver approval addressing the five regulatory conditions established by 67 Pa. Code §441.5(e). The memo may include reference to the request for a design waiver and must conclude that, based on the District Design Waiver Review Team's evaluation and engineering judgment, the proposed design using the design waiver(s) does not compromise highway safety. A sample approval memo is posted on the Department's Wide Area Network (WAN). Each HOP issued with a waiver must be personally signed by the District Executive or higher Departmental authority (if applicable).

2. The request for a design waiver cannot be approved without the applicant furnishing an indemnification, covenant and insurance policy in accordance with SOL 470-09-7, on the form of indemnification (to be incorporated in Chapter 3 of Pubs. 170 and 282 with the next update to the manuals), as required by Chapter 441.5(e).
- C. Design Waiver approved with conditions.** Certain conditions may be tied to a particular design waiver approval such as allowing a temporary design waiver that will be corrected as part of a second phase of construction scenario. In this case, the waiver approval memo shall indicate the conditions in which approval was granted.
1. The design waiver approval shall be attached as Exhibit A to the indemnification executed by the applicant.
- D. Design Waiver denied.** If the District Executive denies the request, a formal denial letter shall be sent to the applicant indicating the specific reason(s) for the denial and indicating the particular regulatory and design requirements not being met, including the operational, design or safety rationale for the denial.
1. The denial shall include the following statement: “The applicant may appeal under 2 Pa.C.S. §§ 501--508 (relating to practice and procedure of Commonwealth agencies), 1 Pa. Code Part II (relating to general rules of administrative practice and procedure) and Chapter 491 (relating to administrative practice and procedure), by submitting a written request for a hearing within 30 days after the mailing of the document containing the determination, to the Administrative Docket Clerk, Office of Chief Counsel, 400 North Street, Harrisburg, Pennsylvania 17120-0041. A filing fee as prescribed under Chapter 491, made payable to the "Commonwealth of Pennsylvania," must accompany each request.
  2. The District Executive may consult with the Director for BHSTE and/or the Director for BOD, and must coordinate with BHSTE and BOD in instances where the design waiver request affects limited access highway, structural capacity, or projects categorized as “moderately complex” or “complex” in accordance with Design Manual, Part 1A, Chapter 3.
  3. If the District Executive does not have a Professional Engineer (P.E.) license, a P.E shall provide an approval recommendation prior to the District Executive’s approval.

**6. Bureau of Design, Bureau of Highway Safety and Traffic Engineering and Federal Highway Administration review**

This statewide policy does not delegate design waiver authority for applications that require Central Office, BOD, BHSTE and/or FHWA reviews. Refer to Section 3 for instances requiring Central Office and/or FHWA approval. Design waiver requests forwarded to Central Office for review shall be accompanied by a copy of the HOP application package.

Because FHWA is not bound by the Municipalities Planning Code’s (MPC) 60 calendar day requirement, the applicant shall be requested to sign a letter waiving this if review by the FHWA will be required in accordance with federal law, regulation or the current delegation

agreement between the Department and FHWA. If the applicant refuses to sign such a letter, the application must be denied within the 60-day period. The reason for denial would be failure to obtain approval from FHWA.

BOD and BHSTE, in conjunction with FHWA when required, will return the request for additional information, approve, approve with conditions, or deny the design waiver request as set out above and notify the District. The District will, in turn, notify the applicant.

#### **7. Design Waiver Documentation/Recording**

The approved design waiver request, crash history study (if any), approval letters, and other appropriate correspondence related to design waivers must be retained with the highway occupancy permit project file(s), and must be included with the permanent Highway Occupancy Permit project records. For design waivers relating to LOS, a copy of the request and approval shall be included in the appendix of the final approved TIS.

The design waiver will be recorded with the permit and/or the indemnification, as appropriate, in accordance with 67 Pa. Code §441.5(f).