**Structures (Design) Checklist**

**Any item not checked yes on the list shall have a written explanation why the condition cannot or has not been met in the comments column.**

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| --- | --- |
| PIN: |  |
| County: |  |
| Federal Project No.: |  |
| State Project No.: |  |

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| --- | --- | --- | --- |
| **BRIDGES** | **YES** | **NO** | **COMMENTS** |
| Grade or drainage structure is over 20 feet in length measured along the roadway centerline. |  |  |  |
| Bridge construction or repairs are not on state route OR TDOT approval has been obtained. |  |  |  |
| Timber bridges or components have not been used. All bridge decks are reinforced or pre-stressed concrete. |  |  |  |
| All bridge rails are specified according to current TDOT standards OR are rails meeting NCHRP 350 standards. |  |  |  |
| Box and Slab type bridges are specified according to the TDOT Structures Division standard drawings OR are designed according to AASHTO guidelines. |  |  |  |
| Certification that bridges meet structural design criteria per AASHTO Bridge Design Specifications, 17th edition, 2002 OR After October, 2007, all bridge designs meet Load Resistance Factor Design (LRFD) per AASHTO Bridge Design Specifications, current edition has been submitted. |  |  |  |
| Geotechnical Report complete |  |  |  |

Certification of the following based on AASHTO Green Book guidelines have been submitted:

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| --- | --- | --- | --- |
| **GRADE CROSSINGS** | **YES** | **NO** | **COMMENTS** |
| The bridge length shall be the minimum required to accommodate the road or railroad plus the fill slopes (usually 2:1 unless otherwise specified by Geotechnical Study), ditches, and sidewalks, if required. |  |  |  |
| The minimum horizontal clearance for a bridge over a road shall be a distance equal to the width of shoulders plus ditches except that for bridges over federal aid systems shall be 30’-0” from the outside of the travel lane to any substructure. The minimum horizontal clearance for a bridge over a railroad shall be 25’-0” measured from the top of the rail elevation to any substructure or fill slope. |  |  |  |
| A minimum vertical clearance of 14’-6” shall be provided across the full extent of the required horizontal clearance for bridges over local roads and 16’-6” over state routes and interstates. For bridges over railroads, the minimum vertical clearance shall be 23’-6” above the top of rail, unless otherwise specified by the railroad. |  |  |  |
| Any greenways, bicycle or pedestrian lanes have been accounted for in the bridge design. |  |  |  |

Certification of the following has been submitted, when applicable:

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| **HYDRAULIC CROSSINGS** | **YES** | **NO** | **COMMENTS** |
| All hydraulic design has been done according to the Tennessee Hydraulic Memoranda (THM), current version found on the TDOT Structures Division Hydraulics Section web page. |  |  |  |
| Where Federal Emergency Management Agency (FEMA) Flood Insurance Studies are available for a hydraulic crossing, the flow information and water surface profile starting elevations have been used unless a hydraulic or hydrologic study is performed to determine if other data is more appropriate. |  |  |  |
| A scour analysis has been performed according to procedures in the Federal Highway Administration (FHWA) publication HEC-18 for all span bridges in TDOT Region 4 (west Tennessee) and any other part of the state where foundations will not be placed on bedrock. |  |  |  |
| Bridge deck drainage analysis has been performed according to procedures in the FHWA publication HEC-21 and submitted with the hydraulic design file for all span bridges unless the TDOT standard 11-1 (Open) bridge rail is used. |  |  |  |