

3. INVENTORY RATING: All culverts with an inventory rating for NBI Item No. 66 of 236 (HS20) or greater will be eligible.
(Includes all but about 27 culverts.)
4. CONDITION RATING: All culverts with a condition rating for NBI Item No. 62 of 6 or greater will be eligible.
(Includes all but about 58 culverts.)
5. ADT: The volume of traffic will not be a factor.
6. ADTT: The volume of trucks will not be a factor.
7. REPAIR HISTORY: Any culvert that has a history of major maintenance or structural repairs performed within the past 2 years will be inspected at a 2 year interval until the structure otherwise conforms to the other criteria items.
8. OVERLOAD ASSESSMENT: Due to the nature of this class of structures, the normal level of overloads now being permitted statewide is not a factor for establishing the interval of inspection.

DISCUSSION

As you are aware, Arizona has a large number of culverts defined as bridges on our highways, roads, and streets. Nearly all of these structures, and countless thousands of minor structures, have been constructed under one of two primary class of standards developed by Arizona. Our 1930 standards, developed by the Arizona Highway Department, were in use from about 1929 to the early 1970's when the current generation of culvert standards were issued. Both issues have been approved for use by the FHWA on projects statewide under all jurisdictions. A new generation of standards will be developed in SI units in the near future.

These standards are conservatively designed, very constructable, and have produced thousands of quality, maintenance free structures. All were designed for or are equivalent to HS20 loading or better, and were revised periodically to be consistent with current AASHTO Specifications. The fact that only about 50 out of 3350 structures built since 1930 have a condition rating less than 6 is a significant justification for a change in the inspection interval.

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Except for occasional vehicular collisions at the wings, culverts are not vulnerable to vehicular damage. Further, due to the fill covering the structure and the short spans, vehicle loading is not a significant factor.

Culvert appurtenances, such as aprons, wings, check dams and bank protection are susceptible to scour related damage that could require special inspection after heavy runoff. District Maintenance staff do a limited inspection of all State owned culverts in conjunction with their routine annual inspection of minor structures. They also perform special inspections after heavy flows in local areas. If structural problems are suspected, our Bridge Management Staff are called in to perform in-depth inspections.

As with all new or recently rehabilitated structures, the first inspection interval following the 90 day initial inspection will remain at two years.

JURISDICTION

It is the intent of this application for change that it apply to all bridge owners in Arizona. ADOT currently inspects for 53 out of 58 local government agencies as well as several federal agencies, all having culvert inventory. The remaining 5 local agencies who self-inspect have all expressed interest in changing the frequency and will conform to the approved interval criteria.

REQUESTED INTERVAL

The Arizona Department of Transportation requests approval of an inspection interval of 4 years for culverts conforming to the above criteria.

Please advise if additional information is needed. We appreciate your consideration in this matter.

Very truly yours,



F. Daniel Davis, P. E.
State Bridge Engineer

FDD:WRB:wrb