

## **GUIDANCE FOR TEMPORARY PAVEMENTS**

### **Introduction:**

This document provides guidance for designing temporary roadway sections that will be in service for approximately zero to three years. A temporary pavement structure is one that will be completely removed at the end of its limited service life. Permanent pavement structures are outside the scope of this document and should be designed separately. This document may be used by State and/or consultant personnel that are responsible for designing temporary pavements.

The main objective when designing a temporary pavement is to provide adequate structural capacity suitable for the limited duration of its use. Despite a shortened service life, temporary pavements shall be constructed using the same materials and to the same quality of a permanent pavement structure.

Please contact the Pavement Design Unit at 860-594-3287 if you have any questions.

### **Recommendations:**

Service life is the primary consideration in selecting temporary pavements; however, engineering judgment should always be utilized. Considering the specific site conditions is essential. In cases with high truck volumes, or poor soil conditions, increasing pavement thickness may be warranted.

Select one of the two pavement structures below depending on the temporary pavement's anticipated service life:

#### **Category A: Single Season Design**

- 3" HMA S0.5 (Traffic Level 2) placed in one single lift, on
- 8" Subbase

#### **Category B: Multiple Season Design (through winter shutdown)**

- 4" HMA S0.5 (Traffic Level 2) placed in two equal lifts, on
- 16" Subbase

### **Notes:**

1. The designs above are not site specific. To ensure that these temporary structures can provide sufficient structural support at the project location and for the traffic/soil conditions present, a pavement design analysis should be performed using the Department's "ESAL Calculator" and "Flexible Pavement Design Tool" [posted on the CTDOT Pavement Design Unit webpage](#).
2. These analyses should be done with available surficial soil and traffic data while accounting for the reduced design life of the temporary pavement structure (to be selected by the designer and reflected in the ESAL calculation). Reliability levels (R) should be

properly chosen for the functional classification of the roadway. The allowable terminal serviceability (Pt) may be reduced to 2.0, under the assumption that the temporary pavement will be removed and/or replaced at the completion of the project.

3. If the initial temporary pavement structure above provides adequate structural capacity based on the design analysis, then it is recommended to be incorporated as written. Generally, the material depths shown (asphalt and granular base) should not be reduced.
4. If the initial temporary pavement structure above provides inadequate structural capacity based on the design analysis, then it is recommended to increase the depth of the asphalt and/or granular base layers until a sufficient pavement structure is reached.
5. If an increase of asphalt thickness is required, HMA S0.5 may be used in lifts between 2"-3". As needed, HMA S0.5 may be replaced with HMA S0.375, which should be placed at lifts between 1.5"-2.0".
6. Subbase can be directly substituted with Processed Aggregate Base (PAB) in the temporary pavement structure since PAB is generally considered a stiffer material.
7. Temporary pavement structures must satisfy all requirements for permanent pavement structures in accordance with [CTDOT's Standard Specifications](#), regardless of the intended design life.
8. It is recommended to pay for any temporary pavement work using special provision Item No. 0406002A – “Temporary Pavement.” The latest version of the specification can be accessed using the link below, or will be provided by the Pavement Design Unit if needed:

[Pavement Design Unit Specs](#) (CTDOT Pavement Design – SharePoint site)  
DOT Pavement Design\Documents\Shared\Special Provisions

Alternatively, temporary pavement structures may be paid using the individual pay items covered under the CTDOT Standards when developing Contract documents. The following items are recommended at a minimum (actual items need to be determined on a project specific basis).

- Item No. 0202000 – Earth Excavation
- Item No. 0209001 – Formation of Subgrade
- Item No. 0212000 – Subbase (or 0304002 – Processed Aggregate Base)
- Item No. 0406171 – HMA S0.5 (or 0406172 – HMA S0.375, or other mix)
- Item No. 0406236 – Material for Tack Coat