

**KANSAS DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION TO THE  
STANDARD SPECIFICATIONS, 1990 EDITION**

NOTE: This special provision is generally written in the imperative mood. The subject, "the *Contractor*" is implied. Also implied in this language are "*shall*", "*shall be*", or similar words and phrases. The word "*will*" generally pertains to decisions or actions of the Kansas Department of Transportation.

**SECTION 700**

**BRIDGE BACKWALL PROTECTION SYSTEM**

**1.0 DESCRIPTION.**

Furnish waterproofing protection system to be applied to the face of the concrete abutment.

BID ITEM	UNIT
Bridge Backwall Protection System	Unit shown on Plans

**2.0 MATERIALS.**

Furnish materials conforming to the requirements provided in the Materials Division:

Bridge Backwall Protection System	Section 1700
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**3.0 CONSTRUCTION REQUIREMENTS.**

Clean all concrete surfaces which are to be covered with the bridge backwall protective system. Remove all dirt and laitance from the concrete surfaces.

Provide the Project Engineer with a copy of the manufacturer's recommendations for installation. Apply the bridge backwall protection system as recommended by the manufacturer. If coal-tar membrane is used as the protection system, apply the coal-tar membrane according to subsection 729.03.

**4.0 MEASUREMENT AND PAYMENT.**

The Engineer will measure the area of bridge backwall protection system and compute the quantity to the nearest unit as shown on the Plans. Plan quantity may be accepted, provided the area is completed as detailed on the Plans. Payment for "Bridge Backwall Protection System" at the Contract unit price will be full compensation for the specified work.

## **SECTION 1700**

### **BRIDGE BACKWALL PROTECTION SYSTEM**

#### **1.0 DESCRIPTION.**

This specification covers waterproofing protection systems to be applied to the face of a concrete abutment against which a backfill will be placed. Requirements for the systems are performance oriented, and not limited to any single methodology to accomplish the desired results.

#### **2.0 REQUIREMENTS.**

##### **(a) General.**

All systems shall be made up of permanent non-biodegradable materials possessing the waterproofing protection qualities outlined below. All materials incorporated into a system must be environmentally acceptable, and not prohibited by any regulatory body. Bridge backwall protection systems shall be handled, stored and installed in strict compliance with the manufacturer's recommendations.

##### **(b) Specific Requirements:**

(1) The system shall provide an impermeable layer which adheres to the concrete surface. Such adherence may require the presence of water to activate the system. The activated system shall prevent lateral movement of water at the interface between the concrete and the impermeable layer.

(2) The system shall be self healing when punctured by sharp objects. It shall have the capability to flex and bridge over, or move into and seal any cracks which may develop in the concrete.

(3) Bentonite based systems shall contain a minimum of five kilograms of evenly distributed bentonite per square meter of system surface area.

(4) A coal-tar membrane protective coat meeting the requirements of subsection 1708 of the Standard Specifications is an acceptable bridge backwall protective system without further prequalification as long as environmental regulations do not prohibit use of the material.

### **3. PREQUALIFICATION.**

(a) All bridge backwall protection systems intended for use under this specification shall be prequalified. Manufacturers desiring to supply material for Department jobs shall submit a written request to the Chief of Materials and Research, with the following information for each type and brand name:

- (1) Name, address and telephone number of the manufacturer. Include the name of the preferred contact person.
- (2) Brand name of the system.
- (3) Complete technical information on the system, including test reports addressing requirements cited above. Small sales samples of the system shall be included. Larger samples will be requested if further testing is necessary.
- (4) Information regarding recommended usage and application instructions. Specifically identify any concrete surface or system curing requirements.
- (5) Material Safety Data Sheets.

(b) The information will be reviewed by the Chief of Materials and Research, and the manufacturer will be advised as to whether or not the product is prequalified.

(c) A list of prequalified bridge backwall protection systems will be maintained in the Bureau of Materials and Research. Products will remain prequalified as long as the formulation and manufacturing processes remain unchanged, and field experience indicates that the material functions appropriately. Changes in formulation or manufacturing processes will require a new prequalification review.

### **4.0 BASIS OF ACCEPTANCE.**

The basis of acceptance of bridge backwall protection systems furnished under this specification shall be as follows:

- (a) Prequalification as required above.
- (b) Receipt and approval of a Type C certification as specified in Section 2600.
- (c) Visual inspection at destination for condition and conformance with dimensional and other requirements.

**(d)** Coal tar systems shall be accepted as specified in subsection 1708.

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108040000 Br. Backwall Protect Sy.

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