STATE OF ALABAMA

HIGHWAY DEPARTMENT

GUIDELINES FOR OPERATION

SUBJECT: SHOULDER TREATMENT

The purpose of this is to set forth guidelines on shoulder treatment on the State Highway System of Alabama other than Interstate.

There shall be three (3) acceptable methods of treating highway shoulders. They are:

1. Pave 2.4 meters and stabilize the remaining shoulder width.
2. Pave 1.2 meters and stabilize the remaining shoulder width.
3. Stabilize full width of shoulder.

CONSIDERATION MAY BE GIVEN TO METHOD ONE ON:

a. Highway projects which are a part of a general route improvement where segments of that route have been constructed with paved shoulders on <u>both</u> sides of that project, but not necessarily adjacent to that project.
b. Specially funded projects which are not in financial competition with other projects in Alabama.
c. On any two-lane project with a current ADT greater than 2500 except for bridge replacement projects, 3-R projects, or other spot improvements on highways which currently do not have paved shoulders-.
d. On any four-lane project with a current ADT greater than 5500 except for bridge replacement projects or other spot improvements on highways which currently do not have paved shoulders.
e. Highway projects traversing topographic conditions that will encourage high use of shoulders, regardless of current ADT.
f. Non-Interstate highway projects involving full access control.

Consideration shall be given on all projects which contain shoulders paved to widths greater than 1.2 meters in areas of the state with potential bicycle usage to providing on the outside shoulder a surface textured treatment only to the inner portion of the paved shoulder. On shoulders where a "G" treatment is used, its width should be 1.2 meters. Where scoring is used to provide the textured surface, a single pass of the machine on the inner edge of the shoulders will be sufficient.

CONSIDERATION MAY BE GIVEN TO METHOD TWO ON:

a. Any two-lane project with a current ADT greater than 1800 except for bridge replacement projects, 3-R projects, or other spot improvements on highways which currently do not have paved shoulders.
b. Any four-lane project with current ADT greater than 4000 except for bridge replacement projects or other spot improvements on highways which currently do not have paved shoulders.
c. Any two-lane or four-lane project which does not meet the ADT requirements above but which has 18% or greater trucks.

METHOD THREE SHALL BE USED ON ALL OTHER PROJECTS NOT USING ONE OR TWO:

With the above methods, the following is understood:

1. Turf shoulders established on compacted granular soil are considered stabilized shoulders.
2. On four-lane highways where paved shoulders are warranted, the inside shoulders may be paved a width of 1.2 meters.
3. On highways which have more than four traffic lanes, other than auxiliary lanes, consideration may be given to paved shoulders.

RECOMMENDED FOR APPROVAL: _____
BUREAU CHIEF/DIVISION ENGINEER

APPROVAL: _____
PRE-CONSTRUCTION ENGINEER

APPROVAL: _____ 8-18-93
HIGHWAY DIRECTOR DATE

420.04 Method of Measurement.

The accepted quantities of latex rubber-open graded plant mixed seal will be measured as provided in Article 410.08.

420.05 Basis of Payment.

(a) UNIT PRICE COVERAGE.

Latex Rubber-Open Graded Plant Mixed Seal, measured as noted above, will be paid for at the contract unit price bid in accordance with Article 410.09.

(b) PAYMENT WILL BE MADE UNDER ITEM NO.:

420-A Latex Rubber-Open Graded Plant Mixed Seal, Mix _____ - per Ton

SECTION 428
SCORING BITUMINOUS PAVEMENT SURFACE

428.01 Description.

This Section shall cover the work of scoring bituminous plant mix pavement surfaces at Locations shown on the plans or directed by the Engineer. The scoring shall consist of forming impressions, or grooves, at regular intervals in the shoulder pavement surface.

428.02 Materials.

N/A

428.03 Construction Requirements.

(a) GENERAL.

It is intended that areas of the pavement surface designated by the plans or Engineer to be scored shall be so done as to produce a rumble strip effect to alert inattentive drivers.

The size, shape, and spacing of the grooves formed during the scoring procedure shall be as shown on the plans unless a different configuration is approved by the State Construction Engineer. Unless ordered otherwise by the Engineer, all grooves shall be perpendicular to the pavement edge.

(b) EOUIPMENT.

The scoring equipment shall consist of a modified self-propelled steel wheel, or combination steel wheel and rubber tire, roller of a sufficient size to satisfactorily perform the work. Only rubber tires having a smooth or slick tread design will be permltted. The roller shall be equipped with a water system to moisten the drum and tires to prevent picking up the bituninous material.

The roller shall be modified by welding or otherwise attaching semicircular pipes or rods, of the size and configuration necessary to form the impressions called for by the plans, to the center of one steel roller drum on each rol ler The roller shall be equipped with an acceptable guide, clearly visible to the operator, in order that proper alignment of the completed scored shoulder is obtained.

(c) OPERATIONAL REPUIREHENTS.

The equipment shall be operated in a workmanlike manner that will satisfactori ly produce a pavement surface having uniform grooves of the dimensions and spacing as shown on the plans or specified in this Article.

Rollers used to construct scored shoulders shall be positioned by using methods which will avoid scoring at locations other than those designated on the plans or directed. Scoring of the shoulders shall be performed inmediately behind the breakdown rolling operation and as closely behind the paver as possible while maintaining acceptable results. Each Longitudinal Line of grooves shall be accomplished in one pass of the roller.

Specific density requirements for the pavement surface to be scored are waived; houcver, the pavement shall be compacted to the satisfaction of the Engineer.

428.04 Method of Measurement.

The scoring of bituminous pavement surface ordered and accepted will be measured in linear feet of each row of grooves placed. When more than one row of grooves is required on a surface, each row will be measured separately.

428.05 Basis of Payment.

(a) UNIT PRICE COVERAGE.

The scoring of bituninous pavement surface, measured as noted above, will be paid for at the contract unit price bid which shall be full compensation for the scoring of the pavement, and for all materials, equipment, tools, labor, and incidentals necessary to complete the work.

(b) PAYMENT WILL BE MADE UNDER ITEM NO.:

428-A Scoring Bituminous Pavement Surface - per Lin. Ft.

SECTION 430
SOIL OR AGGREGATE TYPE SURFACE

430.01 Description.

The work under this Section shall consist of constructing a temporary or permanent surface course of soil type material (Selected Soil, Granular Soil or Soil Aggregate, etc.) or graded aggregate type material.

The plans or proposal will designate the type of material to be used.

430.02 Material.

All material furnished for use shall meet the appropriate requirements of Division 800, Materials, for the classification of material specified by the pay item.

430.03 Construction Requirements.

(a) EQUIPMENT.

Selection of the appropriate type of equipment to satisfactorily accomplish the work, will in general, be at the option of the Contractor.

(b) PREPARATION OF UNDERLYING SURFACE.

Before placing the surface material the subgrade shall comply with the requirements of Subarticle 301.03(a) If this material is to be used in a temporary manner for handling traffic, the requirements for underlying surface preparation may be modified and control elevation stakes will not be necessary.

(c) PLACING, SPREADING AND SHAPING.

Local type materials (Selected Soil, Granular Soil and Soil Aggregate) shall be yard mixed as described in Item 301.03(c)3 before being hauled to the roadbed.

Approved surfacing material may be dumped directly on the prepared subsurface and the material spread to the width and depth shown on the plans or as directed.

Water shall be added if so directed.

Mixing will not be required unless so specified on the plans. If mixing is specified, it shall be performed in accordance with the requirements of item 301.03(c)2.

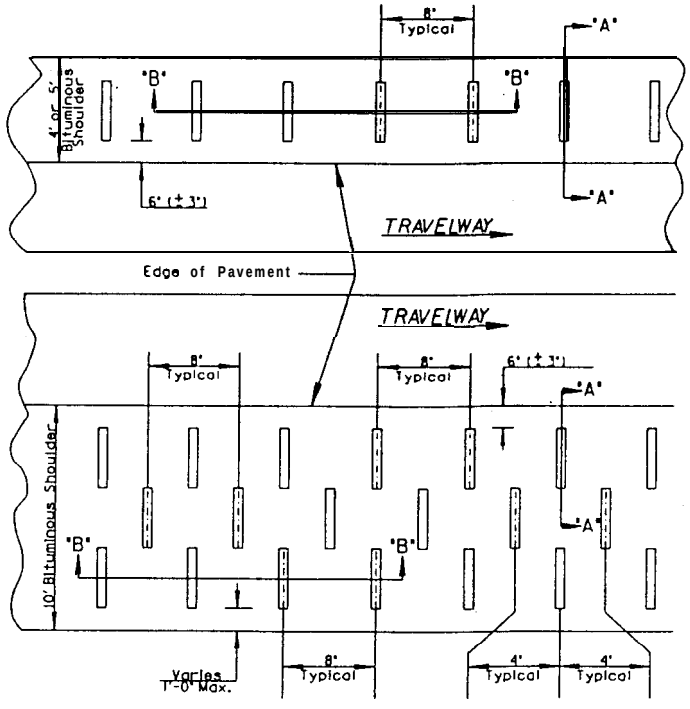
Upon completion of the spreading, the material shall be shaped to the cross section shown on the plans and rolled to a smooth riding surface, free from high spots or depressions and satisfactory to the Engineer. Specific density requirements are waived; however, it shall be compacted to the satisfaction of the Engineer.

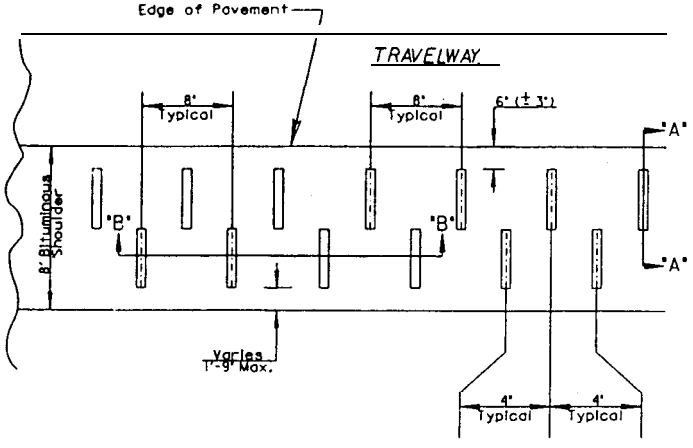
After being placed and shaped to proper crown and grade the surface shalt be shaped at frequent intervals as directed and shall be kept free of ruts and holes. New material shall be added and bladed as needed and as directed. The surface shall be maintained in satisfactory condition in the manner described above until the contract is accepted.

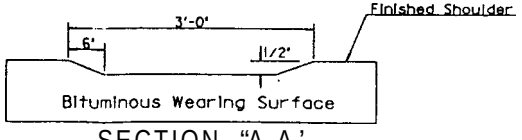
430.04 Method of Measurement.

The quantity of surfacing material placed on the roadbed will be measured in cubic yards in accordance with the provisions of Section 109.01(i), or per ton measured by weight in accordance with the provisions of subarticle 109.01(h).

FHWA REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	AL				







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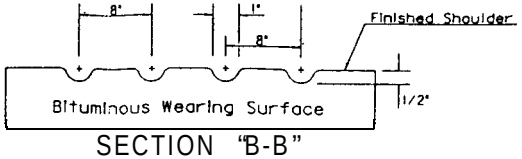

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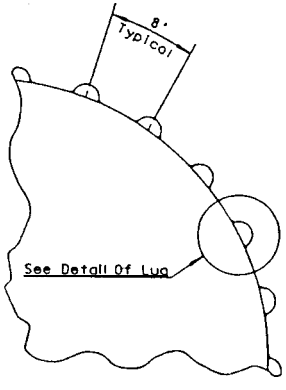

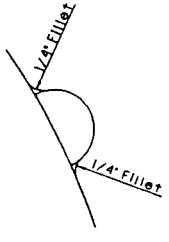

DETAIL OF LUG

NOTE

1. SCORING WILL BE REQUIRED FOR THE FULL WIDTH OF PAVED SHOULDER, AS SHOWN.

--SPECIFICATIONS--
CURRENT ALABAMA HIGHWAY DEPARTMENT

STATE OF ALABAMA HIGHWAY DEPARTMENT
DESIGN BUREAU

DETAILS OF SCORING BITUMINOUS SHOULDERS