

Amend **Section 302 - Recycled Plant Mix Asphalt Concrete Base Course** to read as follows:

**"SECTION 302 - RECYCLED PLANT MIX ASPHALT
CONCRETE BASE COURSE**

302.01 Description. This section is for furnishing and placing recycled plant mix asphalt concrete base (Recycled ACB) according to the contract.

302.02 Materials. The Recycled ACB includes a mixture of crushed reclaimed asphaltic concrete pavement (RAP), virgin aggregate, and asphalt cement. Select the exact proportion of crushed RAP to virgin aggregate in the mix. Do not exceed the proportion of crushed RAP to virgin aggregate:

Proportion	Type Of Mix Plant
30-70	Batch
40-60	Drier-Drum

The Contractor shall conform to the following requirements:

Asphalt Cement 702.01

Aggregate for Plant Mix Asphalt Concrete Base Course 703.03

Process the RAP to provide a uniform gradation from fine to coarse. 100% of the RAP shall pass the one and a half inch sieve. The extracted bitumen content for the crushed RAP shall be not less than 2% when tested according to AASHTO T 164 (ASTM D 2172). Handle and size the virgin aggregate material such that the blend of the crushed RAP material and the virgin aggregate material conforms to Subsection 703.03 - Aggregate for Plant Mix Asphalt Concrete Base Course.

Submit for acceptance a job-mix formula for the recycled mixture to be supplied. Confirm the job-mix formula, the source of aggregate, grade of bituminous material and the proportion of crushed RAP to be used in the mixture. Furnish only one grade of bituminous material and one recycle proportion for the product. Make grade or proportion changes only upon written permission by the Engineer.

The established recycled ACB mixture shall be of optimum cohesion at an air void content of 3% to 6% and have a minimum stability of 37 when tested according to AASHTO T 246 (ASTM D 1560). The Contractor shall submit for acceptance a job-mix formula based on tests according to AASHTO T 245 (ASTMD 1559) when requested by the Engineer. Subsection 301.02 - Materials specifies the job-mix formula. The total amount of bituminous binder in the recycled ACB mixture shall be between 4% and 6%. The amount added shall be as specified by the Engineer.

45 This work shall not start and the Engineer will not accept the mixtures
46 until:

47
48 (1) the samples of the materials intended for use are submitted
49 and

50
51 (2) the Engineer establishes an asphalt content.
52

53 Submit the samples no less than 15 working days before the work begins.
54

55 **302.03 Construction Requirements.** Construction methods shall conform
56 to Subsection 301.03 - Construction Requirements, except as specified herein.
57

58 (A) Compact the recycled ACB material thoroughly according to
59 Subsection 401.05(E) - Compaction immediately upon completion of
60 spreading operation.
61

62 (B) The equipment shall conform to Subsection 401.05 - Construction
63 Requirements except as specified herein.
64

65 (1) Requirements for Batching Plants.
66

67 (a) The Engineer reserves the right to waive the three-bin
68 operation.
69

70 (b) Heat the virgin aggregate material to an approximate
71 temperature of 450 °F. to result in a finished mix
72 temperature of approximately 280 °F. Control the mixing
73 and weighing operations to optimize heat transfer from virgin
74 aggregate material to the reclaimed aggregate material.
75

76 (c) Use an appropriate method to add the crushed RAP
77 material to the heated virgin aggregate material. This
78 method shall allow the crushed RAP material to be added
79 after the virgin aggregate material has left the drier. The
80 method shall provide a positive control on proportioning of
81 the crushed RAP material into the mixture. The crushed
82 RAP material shall:
83

- 84 1. feed directly into the weigh hopper or pugmill;
- 85 2. feed to an accuracy of 10% of the required
86 weight;
- 87 3. Have a maximum moisture content of 3%
88 when mixed with the heated virgin aggregate.
89
90
91

92 4. Retain the recycled ACB mixture in a single
93 silo.
94

95 (2) **Requirements for Drier-Drum Plants.** Design the cold-feed
96 system to prevent direct flame impingement on the recycled
97 crushed RAP material. Conform to Subsection 401.04(F)(4) -
98 Proportioning for Drier-Drum Mixing with Cold-Feed Control.
99

100 (3) Equip the paver with an accepted electronic screed control
101 device. The electronic device includes a grade controlling sensor
102 mounted on each side of the paver. Each sensor shall take its
103 grade reference from a 10-foot ski for the first pass. The
104 Contractor may substitute one adjacent pavement for subsequent
105 passes.
106

107 (C) The criteria on mat thickness shall be as follows:
108

109 (1) Spread and compact the mixture in one layer where the
110 required thickness of recycled ACB is 6 inches or less.
111

112 (2) Spread and compact the mixture in two or more layers of
113 approximately equal thickness where the required thickness of
114 recycled ACB is more than 6 inches. The maximum compacted
115 thickness of one layer shall not exceed 6 inches.
116

117 (D) When necessary, furnish regular ACB conforming to Section 301 -
118 Plant Mix Asphalt Concrete Base Course instead of recycled ACB.
119 Notify the Engineer and obtain permission before doing such work.
120

121 (E) Brooming off shall conform to Section 310 - Brooming Off.
122

123 (F) Cut samples from the compacted pavement for testing within 24
124 hours of lay down. The cut pavement samples shall be 12 inches by 12
125 inches or four inches diameter cores, minimum. Take samples of the
126 mixture for the full depth of the course at the location as specified by the
127 Engineer. Place and compact new material to conform with the
128 surrounding area after taking samples.
129

130 (G) Apply tack coat to layers of recycled ACB for multiple lift
131 construction. Tack coat shall conform to Section 407 - Bituminous Tack
132 Coat.
133

134 **302.04 Method of Measurement.** Recycled ACB will be paid on a lump sum
135 basis under Section 312 - Plant Mix Glassphalt Concrete Base Course.
136 Measurement for payment will not apply.
137

302.05 Basis of Payment. The Engineer will pay for the accepted recycled
ACB on a lump sum basis under Section 312 - Plant Mix Glassphalt Concrete
Base Course complete in place. Payment will be full compensation for the work
prescribed in this section and the contract documents.

The Engineer will not pay for the bituminous tack coat separately and will
consider the cost for the bituminous tack coat as included in the contract price of
the various contract items in Section 401 - Asphalt Concrete Pavement."

END OF SECTION 302