This specification covers the requirements for cold in-place recycling of existing hot mix asphalt (HMA) pavement, sizing, adding and mixing expanded asphalt, and spreading and compacting the cold in-place recycled expanded asphalt mix (CIREAM).

335.01.01 Specification Significance and Use

This specification has been developed for use in provincial- and municipal-oriented Contracts. The administration, testing, and payment policies, procedures, and practices reflected in this specification correspond to those used by many municipalities and the Ontario Ministry of Transportation.

Use of this specification or any other specification shall be according to the Contract Documents.
Appendices Significance and Use

Appendices are not for use in provincial contracts as they are developed for municipal use, and then, only when invoked by the Owner.

Appendices are developed for the Owner’s use only.

Inclusion of an appendix as part of the Contract Documents is solely at the discretion of the Owner. Appendices are not a mandatory part of this specification and only become part of the Contract Documents as the Owner invokes them.

Invoking a particular appendix does not obligate an Owner to use all available appendices. Only invoked appendices form part of the Contract Documents.

The decision to use any appendix is determined by an Owner after considering their contract requirements and their administrative, payment, and testing procedures, policies, and practices. Depending on these considerations, an Owner may not wish to invoke some or any of the available appendices.

REFERENCES

When the Contract Documents indicate that provincial-oriented specifications are to be used and there is a provincial-oriented specification of the same number as those listed below, references within this specification to an OPSS shall be deemed to mean OPSS.PROV, unless use of a municipal-oriented specification is specified in the Contract Documents. When there is not a corresponding provincial-oriented specification, the references below shall be considered to be to the OPSS listed, unless use of a municipal-oriented specification is specified in the Contract Documents.

When the Contract Documents indicate that municipal-oriented specifications are to be used and there is a municipal-oriented specification of the same number as those listed below, references within this specification to an OPSS shall be deemed to mean OPSS.MUNI, unless use of a provincial-oriented specification is specified in the Contract Documents. When there is not a corresponding municipal-oriented specification, the references below shall be considered to be the OPSS listed, unless use of a provincial-oriented specification is specified in the Contract Documents.

This specification refers to the following standards, specifications, or publications:

Ontario Provincial Standard Specifications, Construction

OPSS 310 Hot Mix Asphalt
OPSS 313 Hot Mix Asphalt - End Result

Ontario Provincial Standard Specifications, Material

OPSS 1101 Performance Graded Asphalt Cement

Ontario Ministry of Transportation Publications

MTO Laboratory Testing Manual:
LS-297 Determination of Indirect Tensile Strength of Expanded Asphalt Mixes
LS-306 Bulk Relative Density of Compacted Bituminous Mixtures Using Paraffin-Coated Specimens
LS-701 Determination of Moisture Content of Soils
335.03 DEFINITIONS

For the purpose of this specification, the following definitions apply:

CCIL means as defined in OPSS 310 or OPSS 313, as appropriate to the Contract.

Cold In-Place Recycled Expanded Asphalt Mix (CIREAM) means the in-place mixture of existing reclaimed asphalt pavement (RAP) and expanded asphalt.

Expanded Asphalt means heated asphalt cement expanded from its normal volume by the addition of water.

Hot Mix Asphalt (HMA) means as defined in OPSS 310 or OPSS 313, as appropriate to the Contract.

Performance Graded Asphalt Cement (PGAC) as defined in OPSS 310 or OPSS 313, as appropriate to the Contract.

Quality Assurance (QA) means as defined in OPSS 310 or OPSS 313, as appropriate to the Contract.

Quality Control (QC) means as defined in OPSS 310 or OPSS 313, as appropriate to the Contract.

Reclaimed Asphalt Pavement (RAP) means as defined in OPSS 310 or OPSS 313, as appropriate to the Contract.

Segregation means as defined in OPSS 310 or OPSS 313, as appropriate to the Contract, and includes the following severities:

a) Slight Segregation means the pavement matrix is in place between the coarse aggregate particles; however, there are slightly more coarse aggregate particles in comparison with the surrounding acceptable mix.

b) Medium Segregation means the pavement has significantly more coarse aggregate particles than the surrounding acceptable mat and usually exhibits some lack of surface matrix.

c) Severe Segregation means the pavement appears very coarse, with coarse aggregate particle against coarse aggregate particle and the pavement has little or no matrix.
335.04 DESIGN AND SUBMISSION REQUIREMENTS

335.04.01 Design Requirements

For mix design purposes, prior to commencing the work, the Contractor shall obtain samples that are representative of the material that is produced during the milling operation. These samples shall be used to establish the design rate of expanded asphalt as a per cent by mass of the RAP. The design rate of the expanded asphalt shall be a minimum of 1.0%.

The mix design shall be carried out according to the Wirtgen Cold Recycling Manual, Appendix A2.3, using briquettes produced according to LS-297. Mix design work shall be completed by a laboratory with CCIL Type A certification or equivalent equipped to carry out expanded asphalt mix designs. Where the existing pavement significantly changes composition, a separate mix design shall be completed.

Each mix design shall include the following:

a) Information on the grade, manufacturer, and supplier of the PGAC.

b) The design rate of expanded asphalt.

c) All calculations performed to determine the design rate of expanded asphalt.

d) The dry tensile strength, wet tensile strength, and tensile strength ratio.

e) The amount of water to be added to the mix.

f) Maximum field rate adjustment allowed to the design rate without adverse affects to mix properties.

335.04.02 Submission Requirements

The mix design shall be submitted to the Contract Administrator a minimum of 7 Days prior to the start of CIREAM operations.

The Contract Administrator shall be supplied with the test results for the PGAC at least 7 Days prior to commencement of the work. The submitted test results shall document conformance with AASHTO R29, Section 7.

A new mix design shall be submitted when the expanded asphalt design rate is adjusted by greater than 0.20%.

Within 7 Days of obtaining a sample to establish the target density, the target density of the CIREAM shall be provided by the Contractor to the Contract Administrator.

335.05 MATERIALS

335.05.01 Reclaimed Asphalt Pavement

RAP material shall be 100% passing the 37.5 mm sieve after processing.

335.05.02 Performance Graded Asphalt Cement

The Contractor shall select a PGAC with suitable expansion characteristics. PGAC shall be according to the requirements of OPSS 1101, excluding PGAC zone requirements.
335.05.03 Water

Water shall be clean and free from oil, acid, alkali, organic matter, or other deleterious substances.

335.05.04 Cold In-Place Recycled Expanded Asphalt Mix

The per cent by mass of new PGAC added to the reclaimed material shall be a minimum of 1.0%. The CIREAM shall meet the tensile strength requirements of Table 1, as determined by LS-297.

335.06 EQUIPMENT

335.06.01 Recycling Train

The recycling train shall include the following:

a) A self-propelled cold milling unit with a cutting drum capable of reclaiming a full lane width of asphalt pavement to the depth specified in the Contract Documents in one pass.

b) A screening and sizing unit capable of processing the RAP so that all reclaimed material passes the 37.5 mm sieve.

c) An aggregate feed system that measures and regulates the mass of RAP being added into the mixing unit prior to the addition of the expanded asphalt. The scale shall be calibrated to the manufacturer's tolerance at the start of the Contract and when requested by the Contract Administrator.

d) An asphalt cement expansion system capable of producing optimum expansion and an injection system capable of injecting and blending expanded asphalt uniformly throughout the reclaimed material.

e) A system to control and regulate the application of expanded asphalt in relation to the mass of RAP being processed within a tolerance of ± 3.0% by volume of asphalt cement.

f) A mixing unit equipped with a device capable of producing a uniform and thoroughly blended CIREAM.

335.06.02 Placing Equipment

Placing of the CIREAM shall be carried out by means of a self-propelled mechanical paver capable of spreading the mix evenly in front of the screed in one continuous pass to the specified crossfall and grade. The paver shall be equipped with distributing augers for the full width to be paved. The paver shall have a vibratory screed capable of vibrating the full width of mix placed.

335.06.03 Compaction Equipment

The Contractor shall select the appropriate compaction equipment to achieve the required compaction.

335.06.04 Straight Edge

The straight edge shall be 3 m in length, metal, and have a level recessed in its upper edge parallel to the lower edge.

335.06.05 Pilot Vehicle

The pilot vehicle shall be according to the requirements of the OTM, Book 7.
335.07 CONSTRUCTION

335.07.01 General

HMA pavement in areas inaccessible to the reclaiming equipment shall be removed and replaced with acceptable binder course HMA. The HMA shall be placed to the CIREAM depth specified in the Contract Documents in compacted lift thicknesses between 40 and 75 mm in depth.

The overlap between successive passes of the recycling train shall be a minimum 100 mm.

335.07.02 Cold In-Place Recycled Expanded Asphalt Trial Section

Prior to carrying out CIREAM on the Contract, the Contractor shall demonstrate to the Contract Administrator the ability to successfully carry out CIREAM according to this specification by placing a trial section within the Contract limits.

In lieu of a trial section, the Contract Administrator may accept evidence that the Contractor has demonstrated the ability to successfully mix, handle, place, and compact CIREAM with the same equipment, placing crew, and methodology to meet the Contract requirements for placing CIREAM on any Contract within the last 12 months.

The trial section shall be one lane width and 500 m in length. The Contractor shall propose the location of the trial section to the Contract Administrator for approval. The Contract Administrator shall be given a minimum of 48 hours notice prior to placing the trial section.

The Contract Administrator shall allow the Contractor to continue the CIREAM work based on an acceptable visual assessment of the trial. When the CIREAM is rejected by visual assessment, the Contractor shall repeat additional trial sections until the CIREAM meets the requirements of this specification.

The Contractor shall be responsible for the repair, removal, or replacement of an unacceptable trial section.

335.07.03 Operational Constraints

The work shall be carried out when the roadway is clean and free of standing water. CIREAM shall not proceed in the rain.

After October 1st, written approval shall be obtained from the Contract Administrator prior to CIREAM paving.

When specified in the Contract Documents, all existing crack sealant shall be removed prior to CIREAM reclaiming operations.

The wearing surface shall not be placed until the CIREAM has been allowed to cure for a minimum of 3 Days.

The tack coat and wearing surface shall be placed within 30 Days of placing the CIREAM mat, provided the CIREAM meets the requirements of this specification.

All traffic, including construction traffic, shall be kept off the freshly placed CIREAM mat until it is able to carry traffic without damage. The Contractor shall be responsible for repair of the damaged CIREAM mat.
335.07.04 Surface Preparation

When specified in the Contract Documents, milling prior to CIREAM work shall be carried out to achieve the specified crossfall and grade.

All deleterious and loose milled material shall be removed from the milled surfaces at longitudinal and transverse joints after reclaiming operations are completed and before placing CIREAM.

335.07.05 Mixing

The expanded asphalt shall be added at the design rate. The rate of addition of expanded asphalt shall be field adjusted as required to within 0.20% of the design rate to produce a uniformly coated CIREAM that can be compacted to the specified density according to the Compaction subsection.

335.07.06 Compaction

At the start of production and whenever the existing pavement material significantly changes composition, the target density of the CIREAM shall be established by the Contractor from material reclaimed from the roadway, in accordance with the Wirtgen Cold Recycling Manual, Appendix A2.3, using briquettes produced according to LS-297.

The CIREAM shall be compacted to a minimum of 96% of the target density.

335.07.07 Surface Appearance

The compacted CIREAM mat shall be smooth and conform to the crossfall and grade specified in the Contract Documents. The surface of the CIREAM mat shall be of uniform texture and shall be free of segregation, longitudinal streaks, fat spots, oil spills, roller marks, and other defects.

335.07.08 Sampling

335.07.08.01 General

Holes resulting from the removal of samples shall be repaired according to the sampling provisions of OPSS 310 or OPSS 313, as appropriate to the Contract, using surface course HMA or other material approved by the Contract Administrator.

335.07.08.02 Cold In-Place Recycled Expanded Asphalt Mix

Prior to compaction, the Contractor shall obtain one 15 kg sample of the CIREAM from each sublot, taken at random locations as directed by the Contract Administrator. The samples to be tested for acceptance of CIREAM mix shall be used to test for dry tensile strength, wet tensile strength, and tensile strength ratio according to LS-297. The field moisture content ($W_{field}$), which is required under LS-297, shall be determined by the Contractor according to LS-701 from samples collected in the field to represent the moisture content at the time of achieving compaction. The field moisture content shall be recorded on the sample container.

Prior to the planned overlay of the CIREAM mat, the Contractor shall obtain a slab sample of the CIREAM from each sublot, to be taken at random locations as directed by the Contract Administrator. The slab sample shall be used to test for compaction. The slab sample shall be dry cut 150 x 150 mm and removed intact from the CIREAM mat.

The samples shall be packaged in non-absorptive materials to protect sample integrity, sealed in waterproof containers, appropriately labelled, and delivered by the Contractor in good condition to the designated QA testing laboratory specified in the Contract Documents within 48 hours of sampling.
The Contractor shall be permitted to carry out QC sampling and testing of the CIREAM mat.

### 335.07.08.03 Performance Graded Asphalt Cement

Samples of PGAC to be used in the mix shall be taken in the presence of the Contract Administrator at the source prior to loading the tankers at a frequency of 3 sets of samples per Contract. Each set of samples shall be a minimum of 2 full one-litre portions.

Samples of the PGAC used in the mix shall be obtained, properly labelled and identified, and delivered within 48 hours of sampling to the designated QA testing laboratory as specified in the Contract Documents.

Samples of PGAC shall be taken according to AASHTO T40 and ASTM D 3665.

### 335.07.09 Traffic Convoy

When specified in the Contract Documents, the Contractor shall convoy traffic according to the OTM, Book 7.

The pilot vehicle shall guide one-way traffic through or around construction. The maximum speed of the convoy shall be 30 km/h. Convoying shall be maintained until such time as the CIREAM mat is able to carry traffic without damage.

### 335.07.10 Management of Excess Material

Management of excess material shall be according to the Contract Documents.

### 335.08 QUALITY ASSURANCE

### 335.08.01 General

The Contract Administrator shall reject all unacceptable material and all visually defective-material, mix, or work according to Table 2. Defective material, mixture, and work shall not be incorporated into the finished work.

Acceptance shall be based on QA testing. QA testing shall be carried out by a laboratory currently certified by CCIL with Type A or Type B certification or AMRL accredited or equivalent laboratory.

Acceptance criteria shall be based on the lot mean computed from QA test results for each subplot within the lot.

### 335.08.02 Lot Size

The Contract Administrator shall determine the size and location of the lots and sublots after discussion with the Contractor and before CIREAM production starts. The lot shall typically represent 50,000 m² with 10 equal sublots of 5,000 m² in size.

### 335.08.03 Surface Tolerance

After compaction, the surface of the CIREAM mat shall be free from deviations exceeding 6 mm, as measured in any direction with a 3 m straight edge.
335.08.04 Acceptance Criteria for Compaction

The Contract Administrator shall determine the acceptability of compaction according to LS-306. Each lot of CIREAM shall be compacted to a minimum mean of 96.0% of the target density established for the mix, with no sublot result falling below 95.0% of the target density. CIREAM that is not compacted to the required density shall be deemed unacceptable.

335.08.05 Acceptance Criteria for Cold In-Place Recycled Expanded Asphalt Mix

Acceptance of the CIREAM shall be based on dry tensile strength, wet tensile strength, and tensile strength ratio.

Samples of CIREAM shall be tested for acceptance purposes in accordance with LS-297.

Dry tensile strength requirements for the lot are met when:

a) The mean dry tensile strength of the lot is equal to or greater than 335 kPa; and
b) No individual dry tensile strength measurement for the lot is less than 300 kPa.

Wet tensile strength requirements for the lot are met when:

a) The mean wet tensile strength of the lot is equal to or greater than 170 kPa; and
b) No individual wet tensile strength measurement for the lot is less than 150 kPa.

The tensile strength ratio for the individual samples shall not be less than 50%.

CIREAM that does not meet the above dry tensile strength, wet tensile strength, and tensile strength ratio requirements shall be deemed unacceptable.

335.08.06 Acceptance of Performance Graded Asphalt Cement

The supplied PGAC samples shall be according to OPSS 1101.

Failure of the sample to conform to any of the material requirements shall be cause for rejection of the material.

The CIREAM that has incorporated expanded asphalt represented by the failed test result shall be deemed unacceptable.

335.08.07 Repair of Unacceptable CIREAM

CIREAM that is unacceptable shall be repaired as specified in Table 2.

Repairs shall be for the full width of recycling to the depth specified in Table 2.

The HMA required to repair unacceptable CIREAM shall be placed in compacted lift thickness between 40 to 75 mm.

Reprocessing may be considered as a repair method, upon submission of a proposal by the Contractor and approval by the Contract Administrator.
335.09 MEASUREMENT FOR PAYMENT

335.09.01 Actual Measurement

335.09.01.01 Cold In-Place Recycled Expanded Asphalt Mix

Measurement of CIREAM placed shall be by area in square metres.

335.09.02 Plan Quantity Measurement

When measurement is by Plan Quantity, such measurement shall be based on the units shown in the clauses under Actual Measurement.

335.10 BASIS OF PAYMENT

335.10.01 Cold In-Place Recycled Expanded Asphalt Mix - Item

Payment at the Contract price for the above tender item shall be full compensation for all labour, Equipment, and Material to do the work.

HMA required to replace unacceptable CIREAM material shall be at no extra cost to the Owner.

PGAC shall be included in the CIREAM item.

Repair of unacceptable CIREAM mat shall be carried at no extra cost to the Owner.

HMA placed in areas inaccessible to the reclaiming equipment shall be included in the CIREAM item.

Repair of areas of CIREAM damaged by traffic shall be completed at no extra cost to the Owner.

Repair, removal, or replacement of an unacceptable trial section shall be completed at no extra cost to the Owner.
<table>
<thead>
<tr>
<th>Property</th>
<th>Minimum Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry Tensile Strength</td>
<td>335 kPa</td>
</tr>
<tr>
<td>Wet Tensile Strength</td>
<td>170 kPa</td>
</tr>
<tr>
<td>Tensile Strength Ratio (TSR)</td>
<td>50%</td>
</tr>
</tbody>
</table>

**TABLE 2**

**Unacceptable CIREAM and Required Repairs**

<table>
<thead>
<tr>
<th>Defect Type</th>
<th>Severity</th>
<th>Required Repair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ravelling/Coarse Aggregate Loss (Note 1)</td>
<td>Very Slight to Slight</td>
<td>No action required.</td>
</tr>
<tr>
<td></td>
<td>Moderate to Severe</td>
<td>Mill 50 mm and replace with an acceptable binder course HMA.</td>
</tr>
<tr>
<td></td>
<td>Very Severe</td>
<td>Remove CIREAM to full depth and replace with an acceptable binder course HMA.</td>
</tr>
<tr>
<td>Segregation (Note 2)</td>
<td>Slight to Medium</td>
<td>No action required.</td>
</tr>
<tr>
<td></td>
<td>Severe</td>
<td>Mill 50 mm and replace with an acceptable binder course HMA.</td>
</tr>
<tr>
<td>Compaction is not achieved as per the Acceptance Criteria for Compaction subsection.</td>
<td>N/A</td>
<td>Remove CIREAM to full depth in the sublot represented by the test and replace with an acceptable binder course HMA.</td>
</tr>
<tr>
<td>Dry Tensile Strength, Wet Tensile Strength or Tensile Strength ratio is not achieved as per the Acceptance Criteria for Cold In-Place Recycled Expanded Asphalt Mix subsection.</td>
<td>N/A</td>
<td>Remove CIREAM to full depth in the sublot represented by the test and replace with an acceptable binder course HMA.</td>
</tr>
<tr>
<td>Performance Graded Asphalt Cement does not meet the requirements of OPSS 1101 for the grade supplied.</td>
<td>N/A</td>
<td>Remove to full depth CIREAM represented by the test and replace with an acceptable binder course HMA.</td>
</tr>
</tbody>
</table>

**Notes:**

1. Defect and severity definitions according to SP-024.
2. Defect and severity definitions according to Definitions section of this specification.
Appendix 335-A, November 2009
FOR USE WHILE DESIGNING MUNICIPAL CONTRACTS

Note: This is a non-mandatory Commentary Appendix intended to provide information to a designer, during the design stage of a contract, on the use of the OPS specification in a municipal contract.  This appendix does not form part of the standard specification.  Actions and considerations discussed in this appendix are for information purposes only and do not supersede an Owner's design decisions and methodology.

Designer Action/Considerations

Cold in-place recycling with expanded asphalt (CIREAM) is suitable for treating a wide range of pavement distresses.  CIREAM can repair pavements exhibiting age; thermal, fatigue, or reflective cracking and previously recycled pavements and is beneficial in mitigating reflective cracking.  CIREAM is not suitable for pavements with extensive base or subbase problems, pavements containing steel slag, or pavements of insufficient strength.

The designer should specify the following in the Contract Documents:

- Depth, grade, and crossfall.  (335.07.07)
- Designated testing laboratory.  (333.07.08.02, 335.07.08.03)

The designer should determine if the following is required and, if so, specify it in the Contract Documents:

- Removal of crack sealant prior to CIREAM operations for extensively sealed pavements.  (335.07.03)
- Additional items for milling or padding or both if significant crossfall deficiencies exist.  (335.07.04)
- Traffic convoy requirements.  (335.07.09)

It is recommended that adequate pre-engineering be carried out on the project and that existing pavement thicknesses and composition be established.  Additional investigation should be carried out where pavement composition changes, such as patched areas.

The designer should be aware that the length of CIREAM paving operation may affect traffic management.

In urban areas, the designer should be aware of appurtenance adjustment requirements, curb heights, and accessibility concerns to accommodate the CIREAM equipment train and the requirement for traffic detours.

It is recommended to have at least 25 mm of remaining HMA pavement below the CIREAM.

Corrective aggregates may be considered for existing pavements experiencing rutting, shoving, or flushing, when the existing bituminous material is suspected to be the cause of these distresses.  Corrective aggregate may also be required to achieve mix design properties.  The designer should invoke Appendix 335-B by reference in the Contract Documents, if it has been determined that the Contractor may use corrective aggregate.

When sealed transverse cracks are spaced at a frequency of less than 10 m or extensively sealed longitudinal cracks exist, the designer should consider removing the crack sealant prior to the CIREAM operation.
Appendix 335-A

CIREAM is typically overlaid with a HMA wearing course. Surface treatment or slurry surfacing may be considered.

A tack coat is recommended prior to paving HMA wearing course.

The designer should ensure that the General Conditions of Contract and the 100 Series General Specifications are included in the Contract Documents.

Related Ontario Provincial Standard Drawings

No information provided here.
Requirements for the Addition of Corrective Aggregate

OPSS 335, Cold In-Place Recycling with Expanded Asphalt, is amended as follows:

335.01 SCOPE

The first paragraph is deleted and replaced by the following:

This specification covers the requirements for cold in-place recycling of existing asphalt pavement, sizing, addition of corrective aggregate, adding and mixing expanded asphalt and spreading and compacting the cold in-place recycled expanded asphalt mix (CIREAM).

335.02 REFERENCES

Section 335.02 is amended by the addition of the following to the Ontario Provincial Standard Specifications, Material, list:

OPSS 1003 Aggregates - Hot Mix Asphalt

335.03 DEFINITIONS

Section 335.03 is amended by the addition of the following:

Corrective Aggregate means new aggregate added to the CIREAM, if required to meet the mix design requirements.

335.04.01 Design Requirements

Subsection 335.04.01 is amended by the addition of the following:

When the use of corrective aggregate is proposed by the Contractor, the mix design shall list the type, source, and quantity of any corrective aggregate and shall include the gradation and physical property test data.

Testing for physical properties of the corrective aggregate shall be performed by a laboratory with CCIL Type D certification or equivalent. Testing for gradation shall be performed by a laboratory with CCIL Type C certification or equivalent. All individual test results shall demonstrate conformance of the aggregates with the requirements of this specification.
Appendix 335-B

335.04.02 Submission Requirements

Section 335.04.02 is amended by the addition of the following:

When the use of corrective aggregate is proposed by the Contractor, a proposal is required detailing the equipment to be used and the process by which the corrective aggregate will be incorporated into the mix. The proposal shall accompany the mix design submission.

335.05 MATERIAL

Section 335.05 is amended by the addition of the following:

335.05.05 Corrective Aggregate

Corrective aggregate shall meet the physical property requirements of OPSS 1003 for Superpave 12.5 binder coarse aggregate and fine aggregate. Corrective aggregate shall be 100% passing the 26.5 mm sieve.

335.09.01 Actual Measurement

Subsection 335.09.01 is amended by the addition of the following:

335.09.01.02 Corrective Aggregate

Measurement of corrective aggregate used in the CIREAM shall be by mass in tonnes.

335.10 BASIS OF PAYMENT

Section 335.10 is amended by the addition of the following:

335.10.02 Corrective Aggregate - Item

Payment at the Contract price for the above tender item shall be full compensation for all labour, Equipment, and Material to do the work.