ITEM 18502.8101 M - FULL DIAMOND GRINDING OF PCC PAVEMENT
ITEM 18502.8201 M - FULL DIAMOND GRINDING OF PCC PAVEMENT WITH SLURRY REMOVAL
ITEM 18502.8301 M - DIAMOND GRINDING SMOOTHNESS QUALITY ADJUSTMENT

DESCRIPTION. Diamond grind the portland cement concrete (PCC) pavement surface. Adjust payment if Diamond Grinding Smoothness Quality Adjustment is included in the contract documents.

MATERIALS AND EQUIPMENT. No materials specified.

Diamond Grinding. Use equipment having gang-mounted diamond saw blades on a multiblade arbor specifically designed for PCC pavement production grinding. Use equipment capable of producing a 900 mm (minimum) grinding pass width that is equipped with a vacuum system capable of removing slurry from the pavement surface, such as the Target 3800 or 3804, Boart-Longyear (Kushion Kut) PC5000 or PC600, or equal, as approved by the Director, Materials Bureau. Submit requests to use other equipment at least 7 days before grinding.

Profilograph. Use an automated California-type profilograph capable of producing and analyzing a profile trace in accordance with Materials Method 24, Portland Cement Concrete Pavements Profilograph Operations. Use automation capable of reporting profile indices in mm/km using a 5 mm blanking band and in mm/km using a 0 blanking band. Provide the means to transport the profilograph. The profilograph must be approved by the Director, Materials Bureau, prior to use. Approval includes verifying true vertical scale on the trace, 25:1 horizontal scale on the trace, and automation filter accuracy when compared to manual trace analysis conducted in accordance with Materials Method 24. Provide the Engineer 14 days advance notification of profilograph use to obtain approval. Submit requests to use other equipment at least 14 day before grinding.

CONSTRUCTION DETAILS.

Diamond Grinding. Begin and end diamond grinding at lines normal to the pavement centerline. Grind the pavement longitudinally such that at least 95% of the pavement surface is diamond ground and the pavement is in the same plane across a joint or crack when measured with a 1.0 m (minimum) straightedge. Provide surface drainage by maintaining the proper cross slope on the finished surface and by blending adjacent passes. Regrind the pavement if an acceptable surface is not being obtained.

Continuously remove the slurry from the pavement using the vacuum system on the grinding equipment. If required by the contract documents, transfer the slurry into equipment capable of transporting it from the job site without spills.

In any case, do not allow slurry discharge into:

- Occupied travel lanes.
- Drainage structures.
- Wetlands, streams, estuaries, or sensitive environmental resources identified in the contract documents.
- Areas where it will become a public nuisance.

Dispose of slurry in conformance with all Federal, State, and local regulations.

Profilograph. Apply this section if Diamond Grinding Smoothness Quality Adjustment is included in the contract documents. Provide traffic control and survey stationing for referencing measurements. The Engineer will divide the pavement into 160 m long reporting segments, but may group segments shorter than 160 m with previous or subsequent segments. The reporting segment width is the lane width or the distance between adjacent longitudinal joints as chosen by the Engineer. Develop a profile trace and determine the profile index (PI) for each reporting segment. Obtain the trace along the longitudinal center of the reporting segment in accordance with Materials Method 24. Develop a referencing system that allows the Engineer

to readily associate a trace and PI to the actual corresponding reporting segment. Provide the traces and PIs (determined by using both the 5 mm and 0 blanking bands) to the Engineer. The Engineer will determine and report the payable Quality Units of Smoothness Quality Adjustment per reporting segment, as discussed in Method of Measurement.

METHOD OF MEASUREMENT.

Diamond Grinding. The work will be measured for payment as the number of square meters of pavement satisfactorily diamond ground, measured to the nearest 1.0 m^2. No deductions will be made for isolated low areas, provided 95% of the surface is diamond ground.

Smoothness Quality Adjustment. The work will be measured for payment as the number of Quality Units of Smoothness Quality Adjustment, if any, payable for each reporting segment determined by the following:

Quality Units (Per Segment) = (SAF - 1.00) x Reporting Segment Area

The Smoothness Adjustment Factor (SAF) from Table 1, Smoothness Adjustment Factors, is based on the PI obtained for each reporting segment using a 5 mm blanking band. If an isolated dip is too low to grind, the Engineer may remove it from PI determination, provided 95% of the pavement surface has been ground and the low area was identified by the Contractor prior to grinding.

TABLE 1 - SMOOTHNESS ADJUSTMENT FACTOR

Profile Index (mm/km)	SAF
0.0 - 15.9	1.10
16.0 - 31.9	1.07
32.0 - 47.9	1.04
48.0 - 63.9	1.02
64.0 - 79.9	1.01
80.0 - 95.9	1.00
96.0 +	No Payment

BASIS OF PAYMENT.

Diamond Grinding. Include the cost of all labor and equipment necessary to satisfactorily perform the work in the unit price bid for Full Diamond Grinding of PCC Pavement. No payment is made for any reporting segment having a PI greater than 96 mm/km after diamond grinding if Diamond Grinding Smoothness Quality Adjustment is included in the contract documents.

Smoothness Quality Adjustment. Quality Units of Smoothness Quality Adjustment are a fixed price in the bid documents and cannot be changed by the Contractor.