ITEM 04502.803201 M - FULL DIAMOND GRINDING OF PCC PAVEMENT
ITEM 04502.803301 M - FULL DIAMOND GRINDING OF PCC PAVEMENT WITH SLURRY REMOVAL
ITEM 04502.803310 M - DIAMOND GRINDING SMOOTHNESS QUALITY ADJUSTMENT

DESCRIPTION. Diamond grind the portland cement concrete (PCC) pavement surface and adjust payment based on smoothness quality.

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 Target 3804, 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 zero blanking band. Provide the means to transport the profilograph.

CONSTRUCTION.

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.

If required in the contract documents, continuously remove the slurry from the pavement using the vacuum system on the grinding equipment. Transfer the slurry into equipment capable of transporting it from the job site without spills. 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 slurry in conformance with all Federal, State, and local regulations.

Profilograph. 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. Give the traces and PIs (determined by using both the 5 mm and zero 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. The Engineer will compute the following quantities for items incorporated into the finished pavement in accordance with the contract documents:

Diamond Grinding. Square meters of diamond ground surface per reporting segment. No deductions will be made for isolated low areas, provided 95% of the surface is diamond ground.

Smoothness Quality Adjustment. 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. The Engineer may include segments less than 160 m long with adjacent 160 m segments. 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. The Engineer may begin or end a segment al at an isolated low area to facilitate PI determination

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. In the unit bid price, include the cost of all labor, equipment, materials, water, and supplies necessary to grind the pavement, remove the slurry (if required), and profilograph the pavement. No payment is made for any reporting segment having a PI greater than 96 mm/km after diamond grinding.

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