



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE SECRETARY
Manila

097.13 DPWH
04.11.2014

APR 15 2014

DEPARTMENT ORDER)
No. 40)
Series of 2014)

SUBJECT: **PRESCRIBING MINIMUM DESIGN
STANDARD FOR PORTLAND CEMENT
CONCRETE PAVEMENT (PCCP) IN
ARTERIAL AND SECONDARY NATIONAL
ROADS AND ACCESS ROADS LEADING TO
PORTS**

In line with the mandate of the Department to ensure the quality and safety of road infrastructure and in response to the increasing transportation requirements, the following design standards are prescribed for Portland Cement Concrete Pavement (PCCP) in all Arterial and Secondary National Roads and Access Roads Leading to Ports:

1. Minimum thickness of 280mm.
2. All weakened plane joints (contraction joints at every 4.5m and expansion joints at every 90m) shall be provided with dowels on chairs (see attached drawings, Annex 1).
3. For pavement re-blocking, dowels and tie bars shall be provided at transverse construction joint and longitudinal joint, respectively. Holes of at least 10mm diameter greater than the design dowel bar diameter shall be drilled on existing concrete pavement (see attached drawings, Annex 2). The minimum thickness of the new pavement shall be 280mm.
4. For pavement re-blocking of more than one adjacent blocks (along longitudinal direction), dowels on chairs as required in item 2 shall be provided at transverse joint between two adjacent new pavement slabs.
5. Pavement design analysis using the AASHTO method as contained in the DPWH Design Guidelines, Criteria and Standards considering the latest Annual Average Daily Traffic (AADT) and axle loading shall be undertaken to determine if there is need for thicker pavement.

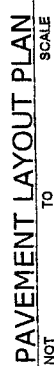
This Order shall be applied for CY 2015 road projects and proposed foreign-assisted road projects that are not yet bid out.


ROGELIO L. SINGSON
Secretary

Department of Public Works and Highways
Office of the Secretary



WIN4R00934



Technical drawing of a dowel bar assembly. The top part is a cross-section showing a concrete slab with a dowel bar. The dowel bar has a diameter of 36mm and is coated with red lead and greased or bitumen. The assembly includes a metal dowel cap gauge No. 18 placed on each dowel bar on alternate ends. The dowel bar is supported by a 12mm diameter chair (basket). The bottom part is a side view showing the dowel bar with a length of 600mm. The dowel bar is divided into sections: 300mm, 300mm, and 50mm. The dowel bar is labeled 'DIA. 36mm DOWEL BARS (PLAIN BAR) RED LEAD AND GREASED OR BITUMEN COATED'. The side view also shows the 'METAL DOWEL CAP GAUGE No. 18 TYPE PLACED ON EACH DOWEL BAR ON ALTERNATE END' and the '12mm Ø CHAIR (BASKET)'. The side view is labeled 'T=SLAB DEPTH' and 'T/2'.

CONTRACTION JOINT SECTION

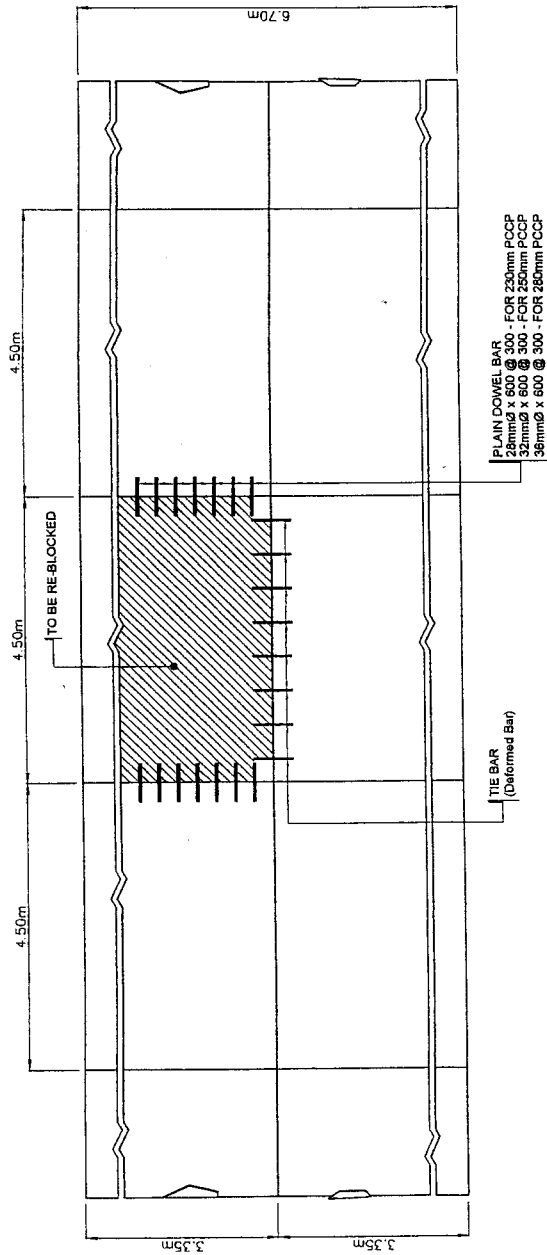
SCALE

to

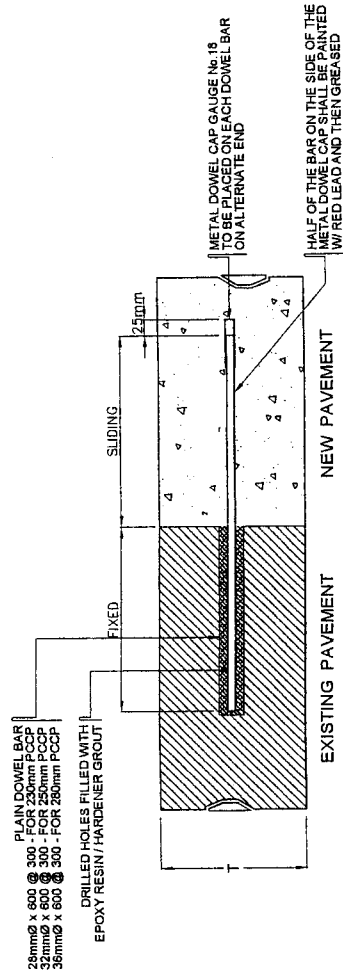
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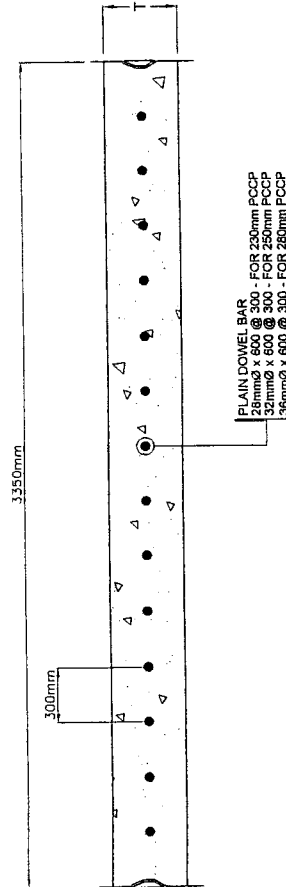
Annex "2"



P L A N



SECTION
DETAIL OF EXPANSION JOINT(DOWELED) AT
CERTAIN INTERSECTION AND STRUCTURES
NOT TO SCALE



ELEVATION
NOT TO SCALE

RE - BLOCKING WORKS
NOT TO SCALE