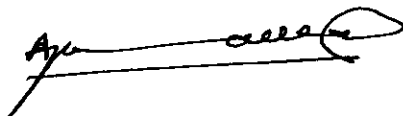


**OFFICE OF THE ENGINEER-IN-CHIEF,
M.P., P.W.D. SATPURA BHAWAN, BHOPAL**

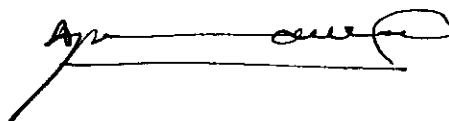
**SCHEDULE OF RATES FOR ROAD & BRIDGE WORKS APPLICABLE FOR NATIONAL HIGHWAY, CRF, E&I
AND ALL OTHER CENTRALLY FUNDED WORKS (w.e.f. 22/06/2009)
(ERRATA/AMMENDMENT/ADDENDUM NO.12)**

The rates of following items in Chapter 5, Bases and Surface Courses (Bituminous) and Chapter-16, Repair and Rehabilitation (Only bituminous Items) are modified and now the rates shall be as follows :-

| CH-5 | BASES AND SURFACE COURSES (BITUMINOUS) | | |
|-------------|--|-----|---------|
| 5.1 | <i>Prime coat (Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.60 kg/sqm using mechanical means.)</i> | sqm | 24.00 |
| 5.2 | <i>Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor on the prepared bituminous/granular surface cleaned with mechanical broom and as per relevant clauses of section-503.</i> | | |
| (i) | <i>@ 0.25 kg per sqm (normal bituminous surfaces)</i> | sqm | 10.00 |
| (ii) | <i>@ 0.30 kg per sqm (dry & hungry bituminous surfaces/granular surfaces treated with primer)</i> | sqm | 13.00 |
| (iii) | <i>@ 3.35 kg per sqm (Non-bituminous surfaces) cement concrete pavement.</i> | sqm | 14.00 |
| (iv) | <i>@ 0.40 kg per sqm (Non-bituminous surfaces) granular base not primed.</i> | sqm | 16.00 |
| 5.3 | <i>Bituminous Macadam (Providing and laying bituminous macadam using crushed aggregates of specified grading premixed with bituminous binder, transported to site, laid over a previously prepared surface with paver finisher to the required grade, level and alignment and rolled as per clauses 501.6 and 501.7 to achieve the desired compaction)</i> | | |
| a) | <i>Using 100-120 TPH Batch mix Plant and Paver Finisher Hydraustatic with Sensor control.</i> | | |
| (i) | <i>for Grading I (40 mm nominal size)</i> | cum | 5113.00 |
| (ii) | <i>for GradingII(19 mm nominal size)</i> | cum | 5108.00 |
| b) | <i>Using 40-60 TPH Batch mix Plant and Paver Finisher Hydraustatic with Sensor control.</i> | | |
| (i) | <i>for Grading I (40 mm nominal size)</i> | cum | 4684.00 |
| (ii) | <i>for GradingII(19 mm nominal size)</i> | cum | 4679.00 |



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| 5.4 | Bituminous Penetration Macadam (Construction of penetration macadam over prepared Base by providing a layer of compacted crushed coarse aggregate using chips spreader with alternate applications of bituminous binder and key aggregates and rolling with a smooth wheeled steel roller 8-10 tonne capacity to achieve the desired degree of compaction) | | |
| A | 50 mm thick | sqm | 268.00 |
| B | 75 mm thick | sqm | 356.00 |
| 5.5 | Built-Up-Spray Grout (Providing, laying and rolling of built-up-spray grout layer over prepared base consisting of a two layer composite construction of compacted crushed coarse aggregates using motor grader for aggregates. key stone chips spreader may be used with application of bituminous binder after each layer, and with key aggregates placed on top of the second layer to serve as a Base conforming to the line, grades and cross-section specified, the compacted layer thickness being 75 mm) | sqm | 203.00 |
| 5.6 | Dense Graded Bituminous Macadam (Providing and laying dense bituminous macadam using crushed aggregates of specified grading, premixed with bituminous binder @ 4.0 to 4.5% by weight of total mix of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 507 complete in all respects.) | | |
| a) | Using 100-120 TPH Batch mix Plant and Paver Finisher Hydrostatic with Sensor control. | | |
| (i) | for Grading I (40 mm nominal size) | cum | 6236.00 |
| (ii) | for Grading II (19 mm nominal size) | cum | 6264.00 |
| a) | Using 40-60 TPH Batch mix Plant and Paver Finisher Hydrostatic with Sensor control. | | |
| (i) | for Grading I (40 mm nominal size) | cum | 6011.00 |
| (ii) | for Grading II (19 mm nominal size) | cum | 6038.00 |
| 5.7 | Semi - Dense Bituminous Concrete (Providing and laying semi dense bituminous concrete using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 to 5 % of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 508 complete in all respects) | | |
| a) | Using 100-120 TPH Batch mix Plant and Paver Finisher Hydrostatic with Sensor control. | | |



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|-------|--|-----|---------|
| (i) | for Grading I (35-40 mm thickness)with 60/70 bitumen (VG-30) | cum | 6501.00 |
| (ii) | for Grading I (35-40 mm thickness) with CRBM-60 | cum | 6881.00 |
| (iii) | for Grading I (35-40 mm thickness) with PMB-40/NRMB | cum | 7039.00 |
| (iv) | for GradingII (25-30 mm thickness) with 60/70 bitumen (VG-30) | cum | 6958.00 |
| (v) | for Grading II (25-30 mm thickness) with CRBM-60 | cum | 7380.00 |
| (vi) | for Grading II (25-30 mm thickness) with PMB-40/NRMB | cum | 7555.00 |
| b) | Using 40-60 TPH Batch mix Plant and Paver Finisher Hydraustatic with Sensor control. | | |
| (i) | for Grading I (35-40 mm thickness)with 60/70 bitumen (VG-30) | cum | 6276.00 |
| (ii) | for Grading I (35-40 mm thickness) with CRBM-60 | cum | 6655.00 |
| (iii) | for Grading I (35-40 mm thickness) with PMB-40/NRMB | cum | 6814.00 |
| (iv) | for GradingII (25-30 mm thickness) with 60/70 bitumen (VG-30) | cum | 6733.00 |
| (v) | for Grading II (25-30 mm thickness) with CRBM-60 | cum | 7155.00 |
| (vi) | for Grading II (25-30 mm thickness) with PMB-40/NRMB | cum | 7330.00 |
| 5.8 | Bituminous Concrete (Providing and laying bituminous concrete using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 to 5.6 % of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 509 complete in all respects) | | |
| a) | Using 100-120 TPH Batch mix Plant and Paver Finisher Hydraustatic with Sensor control. | | |
| (i) | for Grading-I (50-65 mm thickness) with 60/70 bitumen (VG-30) | cum | 7129.00 |
| (ii) | for Grading I (50-65 mm thickness) with CRBM-60 | cum | 7560.00 |
| (iii) | for Grading I (50-65 mm thickness) with PMB-40/NRMB | cum | 7739.00 |
| (iv) | for Grading-II (30-45 mm thickness) with 60/70 bitumen(VG-30) | cum | 7128.00 |
| (v) | for Grading II (30-45 mm thickness) with CRBM-60 | cum | 7558.00 |
| (vi) | for Grading II (30-45 mm thickness) with PMB-40/NRMB | cum | 7736.00 |
| a) | Using 40-60 TPH Batch mix Plant and Paver Finisher Hydraustatic with Sensor control. | | |
| (i) | for Grading-I (50-65 mm thickness) with 60/70 bitumen (VG-30) | cum | 6899.00 |
| (ii) | for Grading I (50-65 mm thickness) with CRBM-60 | cum | 7330.00 |
| (iii) | for Grading I (50-65 mm thickness) with PMB-40/NRMB | cum | 7509.00 |
| (iv) | for Grading-II (30-45 mm thickness) with 60/70 bitumen(VG-30) | cum | 6898.00 |
| (v) | for Grading II (30-45 mm thickness) with CRBM-60 | cum | 7328.00 |
| (vi) | for Grading II (30-45 mm thickness) with PMB-40/NRMB | cum | 7506.00 |

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| 5.9 | Surface Dressing (Providing and laying surface dressing as wearing course in single coat using crushed stone aggregates of specified size on a layer of bituminous binder laid on prepared surface and rolling with 8-10 tonne smooth wheeled steel roller) | | |
| Case - I | 19 mm nominal chipping size | sqm | 65.00 |
| Case - II | 13 mm nominal size chipping | sqm | 55.00 |
| 5.10 | Open - Graded Premix Surfacing (Providing, laying and rolling of open - graded premix surfacing of 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates either using penetration grade bitumen or cut-back or emulsion to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a smooth wheeled roller 8-10 tonne capacity, finished to required level and grades.) | | |
| (i) | Case - I: Mechanical method using Penetration grade Bitumen and HMP of appropriate capacity not less than 75 tonnes/hour . | sqm | 103.00 |
| (ii) | Case - II: Open-Graded Premix Surfacing using cationic Bitumen Emulsion | sqm | 130.00 |
| 5.11 | Close Graded Premix Surfacing/Mixed Seal Surfacing (Mechanical means using HMP of appropriate capacity not less than 75 tonnes/hour. Providing, laying and rolling of close-graded premix surfacing material of 20 mm thickness composed of 11.2 mm to 0.09 mm (Type-a) or 13.2 mm to 0.09 mm (Type-b) aggregates using penetration grade bitumen to the required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a Smooth wheeled roller 8-10 tonne capacity, and finishing to required level and grade.) | | |
| a) | with 60/70 butumen (VG-30) | sqm | 133.00 |
| b) | with CRMB-60 | sqm | 140.00 |
| c) | with PMB-50/NRMB | sqm | 144.00 |
| 5.12 | Seal Coat (Providing and laying seal coat sealing the voids in a bituminous surface laid to the specified levels, grade and cross fall using Type A and B seal coats) | | |
| (i) | Case - I : Type A | sqm | 49.00 |
| (ii) | Case - II : Type B (Providing and laying of premix sand seal coat with HMP of appropriate capacity not less than 75 tonnes/ hours using crushed stone chipping 6.7 mm size and penetration bitumen of suitable grade.) | sqm | 39.00 |

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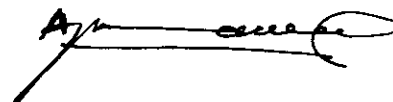
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| 5.13 | Mastic Asphalt (Providing and laying 25 mm thick mastic asphalt wearing course with paving grade bitumen meeting the requirements given in table 500-29, prepared by using mastic cooker and laid to required level and slope after cleaning the surface, including providing antiskid surface with bitumen pre-coated fine-grained hard stone chipping of 13.2 mm nominal size at the rate of 0.005cum per 10 sqm and at an approximate spacing of 10 cm center to center in both directions, pressed into surface when the temperature of surfaces not less than 100°C, protruding 1 mm to 4 mm over mastic surface, all complete as per clause 515.) | sqm | 473.00 |
| 5.14 | Slurry Seal Providing and laying slurry seal consisting of a mixture of fine aggregates, portland cement filler, bituminous emulsion and water on a road surface including cleaning of surface, mixing of slurry seal in a suitable mobile plant, laying and compacting to provide even riding surface) | | |
| (i) | 5 mm thickness | sqm | 50.00 |
| (ii) | 3 mm thickness | sqm | 34.00 |
| (iii) | 1.5 mm thickness | sqm | 21.00 |
| 5.15 | Recycling of Bituminous Pavement with Central Recycling Plant (Recycling pavement by cold milling of existing bituminous layers, planning the surface after cold milling, reclaiming excavated material to the extent of 30 % of the required quantity, hauling and stock piling the reclaimed material near the central recycling plant after carrying out necessary checks and evaluation, adding fresh material including rejuvenators as required, mixing in a hot mix plant, transporting and laying at site and compacting to the required grade, level and thickness, all as specified in clause 517.) | cum | 5439.00 |
| 5.16 | Sand Asphalt Base Course (Providing, laying and rolling sand-asphalt base course composed of sand, mineral filler and bituminous binder on a prepared sub-grade or sub-base to the lines, levels, grades and cross sections as per the drawings including mixing in a plant of suitable type and capacity, transporting, laying, compacting and finishing.) | cum | 6429.00 |
| 5.17 | Crack Prevention Courses | | |
| (i) | Stress Absorbing Membrane (SAM) crack width less than 6 mm (Providing and laying of a stress absorbing membrane over a cracked road surface, with crack width below 6 mm after cleaning with a mechanical broom, using modified binder complying with clause 521, sprayed at the rate of 9 kg per 10 sqm and spreading 5.6 mm crushed stone aggregates @ 0.11 cum per 10 sqm with hydraulic chip spreader, sweeping the surface for uniform spread of aggregates and surface finished to conform to clause 902.) | sqm | 49.00 |

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| (ii) | Stress Absorbing Membrane (SAM) with crack width 6 mm to 9 mm (Providing and laying of a stress absorbing membrane over a cracked road surface, with crack width 6 to 9 mm after cleaning with a mechanical broom, using modified binder complying with clause 521, sprayed at the rate of 11 kg per 10 sqm and spreading 11.2 mm crushed stone aggregates @ 0.12 cum per 10 sqm, sweeping the surface for uniform spread of aggregates and surface finished to conform to clause 902.) | sqm | 60.00 |
| (iii) | Stress Absorbing Membrane (SAM) crack width above 9 mm and cracked area above 50 % (Providing and laying a single coat of a stress absorbing membrane over a cracked road surface, with crack width above 9 mm and cracked area above 50 % after cleaning with a mechanical broom, using modified binder complying with clause 521, sprayed at the rate of 15 kg per 10 sqm and spreading 11.2 mm crushed stone aggregates @ 0.12 cum per 10 sqm, sweeping the surface for uniform spread of aggregates and surface finished to conform to clause 902.) | sqm | 80.00 |
| (iv) | Case - IV : Bitumen Impregnated Geotextile (Providing and laying a bitumen impregnated geotextile layer after cleaning the road surface, geotextile conforming to requirements of clause 704.3, laid over a tack coat with 1.05 kg per sqm of paving grade bitumen 80 - 100 penetration and constructed to the requirement of clause 704.4.5) | sqm | 295.00 |
| 5.19 | Providing, laying and rolling of open - graded premix surfacing of 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates using 60/70 grade bitumen, including PCC as a integral part of it, to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in hot mix plant, laying with paver finisher and rolling with a smooth wheeled roller 8-10 tonne capacity, finished to required level and grades excluding primer and tack coat and as per relevant clauses of section-500. | Cum. | 5125.00 |
| NOTE | This item shall be executed only after prior approval of the C.E. | | |
| 5.20 | Providing, laying and rolling of close-graded premix surfacing / mixed seal surfacing material of 20 mm thickness composed of 13.2 mm to 0.09 mm (Type-b) aggregates using penetration grade bitumen, including PCC as a integral part of it, to the required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a Smooth wheeled roller 8-10 tonne capacity, and finishing to required level and grade and as per relevant clauses of section-500. | | |
| | Type-B aggregate | | |
| | with 60/70 butumen | Cum. | 6625.00 |
| NOTE | This item shall be executed only after prior approval of the C.E. | | |

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| 5.21 | Bituminous Macadam (Providing and laying bituminous macadam using crushed aggregates of specified grading premixed with bituminous binder, transported to site, laid over a previously prepared surface with paver finisher to the required grade, level and alignment and rolled as per clauses 501.6 and 501.7 to achieve the desired compaction) | | |
| a) | Using 100-120 TPH Hot mix Plant . | | |
| (i) | for Grading I (40 mm nominal size) | cum | 4979.00 |
| (ii) | for GradingII(19 mm nominal size) | cum | 4974.00 |
| b) | Using 40-60 TPH Hot mix Plant | | |
| (i) | for Grading I (40 mm nominal size) | cum | 4550.00 |
| (ii) | for GradingII(19 mm nominal size) | cum | 4546.00 |
| 5.22 | Dense Graded Bituminous Macadam (Providing and laying dense bituminous macadam using crushed aggregates of specified grading, premixed with bituminous binder @ 4.0 to 4.5% by weight of total mix of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 507 complete in all respects.) | | |
| a) | Using 100-120 TPH Hot mix Plant | | |
| (i) | for Grading I (40 mm nominal size) | cum | 6098.00 |
| (ii) | for GradingII(19 mm nominal size) | cum | 6124.00 |
| b) | Using 40-60 TPH Hot mix Plant | | |
| (i) | for Grading I (40 mm nominal size) | cum | 5873.00 |
| (ii) | for GradingII(19 mm nominal size) | cum | 5899.00 |
| 5.23 | Semi - Dense Bituminous Concrete (Providing and laying semi dense bituminous concrete using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 to 5 % of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 508 complete in all respects) | | |
| a) | Using 100-120 TPH Hot mix Plant | | |
| (i) | for Grading I (35-40 mm thickness)with 60/70 bitumen (VG-30) | cum | 6361.00 |
| (ii) | for Grading I (35-40 mm thickness) with CRBM-60 | cum | 6741.00 |
| (iii) | for Grading I (35-40 mm thickness) with PMB-40/NRMB | cum | 6899.00 |
| (iv) | for GradingII (25-30 mm thickness) with 60/70 bitumen (VG-30) | cum | 6819.00 |
| (v) | for Grading II (25-30 mm thickness) with CRBM-60 | cum | 7240.00 |
| (vi) | for Grading II (25-30 mm thickness) with PMB-40/NRMB | cum | 7415.00 |




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| b) | Using 40-60 TPH Hot mix Plant | | |
| (i) | for Grading I (35-40 mm thickness) with 60/70 bitumen (VG-30) | cum | 6136.00 |
| (ii) | for Grading I (35-40 mm thickness) with CRBM-60 | cum | 6516.00 |
| (iii) | for Grading I (35-40 mm thickness) with PMB-40/NRMB | cum | 6674.00 |
| (iv) | for Grading I (25-30 mm thickness) with 60/70 bitumen (VG-30) | cum | 6594.00 |
| (v) | for Grading II (25-30 mm thickness) with CRBM-60 | cum | 7015.00 |
| (vi) | for Grading II (25-30 mm thickness) with PMB-40/NRMB | cum | 7190.00 |
| 5.24 | Bituminous Concrete (Providing and laying bituminous concrete using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 to 5.6 % of mix and filler, transporting the hot mix to work site, laying with a hyarostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 509 complete in all respects) | | |
| a) | Using 100-120 TPH Hot mix Plant | | |
| (i) | for Grading-I (50-65 mm thickness) with 60/70 bitumen (VG-30) | cum | 6986.00 |
| (ii) | for Grading I (50-65 mm thickness) with CRBM-60 | cum | 7418.00 |
| (iii) | for Grading I (50-65 mm thickness) with PMB-40/NRMB | cum | 7596.00 |
| (iv) | for Grading-II (30-45 mm thickness) with 60/70 bitumen(VG-30) | cum | 6965.00 |
| (v) | for Grading II (30-45 mm thickness) with CRBM-60 | cum | 7415.00 |
| (vi) | for Grading II (30-45 mm thickness) with PMB-40/NRMB | cum | 7594.00 |
| b) | Using 40-60 TPH Hot mix Plant | | |
| (i) | for Grading-I (50-65 mm thickness) with 60/70 bitumen (VG-30) | cum | 6756.00 |
| (ii) | for Grading I (50-65 mm thickness) with CRBM-60 | cum | 7188.00 |
| (iii) | for Grading I (50-65 mm thickness) with PMB-40/NRMB | cum | 7366.00 |
| (iv) | for Grading-II (30-45 mm thickness) with 60/70 bitumen(VG-30) | cum | 6755.00 |
| (v) | for Grading II (30-45 mm thickness) with CRBM-60 | cum | 7185.00 |
| (vi) | for Grading II (30-45 mm thickness) with PMB-40/NRMB | cum | 7364.00 |
| CH-10 | MAINTENANCE OF ROADS | | |
| 10.1 | Filling Pot- holes and Patch Repairs with open - graded Premix surfacing, 20mm. (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2) | sqm | 109.00 |

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| CH-16 | REPAIR AND REHABILITATION | | |
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| 16.20 | Built-Up-Spray Grout (Providing, laying and rolling of built-up-spray grout layer over prepared base consisting of a two layer composite construction of compacted crushed coarse aggregates using motor grader for aggregates. key stone chips spreader may be used with application of bituminous binder after each layer, and with key aggregates placed on top of the second layer to serve as a Base conforming to the line, grades and cross-section specified, the compacted layer thickness being 75 mm) | Cum. | 2707.00 |

The above ammendments shall be applicable with effect from 17.11.2011


ENGINEER-IN-CHIEF
M.P. P.W.D. BHOPAL

Endt. No. 3019 /SCR/Road/Comm./2009 /3137

Bhopal, Dated 17 /11/2011

- Copy is
1. P.A. to Hon'ble Minister, M.P. P.W.D. Bhopal
 2. The Principal Secretary to Govt. of M.P. P.W.D. Bhopal.
 3. The Principal Secretary to Govt. of M.P. Housing & Environment, Bhopal.
 4. The Director General, (Road Development), Ministry of Road Transport & Highway, (Roads Wing), Transport Bhawan No.1, Parliament Street, New Delhi 110001.
 5. The Secretary to Govt. of M.P. P.W.D. Bhopal.
 6. The Chief Technical Examiner, M.P. Bhopal.
 7. The Accountant General, M.P. Gwalior/Bhopal.
 8. The Secretary, O/o Lokayukta, M.P. Bhopal
 9. The Chief Engineer, M.P. P.W.D.
 10. The Chief Engineer, M.P.R.D.C., M.P. Bhopal
 11. The Chief Engineer, Rural Engineer Services, M.P. Bhopal
 12. The Commissioner, Bhopal
 13. The Collector, Bhopal
 14. The Superintending Engineer, M.P. P.W.D. Capital Project Circle, CPA Bhopal.
 15. The Superintending Engineer, M.P. P.W.D. NH & Bridge Circle
 16. The Executive Engineer, M.P. P.W.D. Division


ENGINEER-IN-CHIEF
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