

Format for information to SQM for Inspection of PMGSY Work
PART I- Work Information (To be filled-up by PIU)

Work is ☐ Ongoing ☒ Completed

GENERAL:

- 1.1. Date of Inspection.
- 1.2. Name of State Quality Monitor:
- 1.3. District: Block:
- 1.4. Name of Road: From to to
- 1.5. Package No.:
- 1.6. Length: Km Flexible Pavement Km. CC/other Pavement Km. =
Total Km
- 1.7. Estimated Cost (As cleared by GOI): Lakh
- 1.8. Technical Sanction Cost: Lakh
- 1.9. The Work is a Case of: ☒ New connectivity ☐ Up gradation
- 1.10. Terrain ☒ Plain ☐ Rolling ☐ Hilly
- 1.11. Date of Start of the Work:
- 1.12. Stipulated Date of Completion:
- 1.13. Actual Date of Completion (if work completed):
2. PHYSICAL PROGRESS: (In case of On going works only) Construction Programme and Physical Progress:

Item	Completed percentage of Item	Dates for completion	Start Date	Completion Date	Delay in Months
Earth Work	100 %	Due			
		Actual			
CD Works	100 %	Due			
		Actual			
Sub base i/c Shoulders	100 %	Due			
		Actual			
Base Course (Non Bitu.)	100 %	Due			
		Actual			
Base /Wearing Course(Bitu.)	100 %	Due			
		Actual			
CC Pavement	100 %	Due			
		Actual			
Signage etc	100 %	Due			
		Actual			

3 QUALITY CONTROL:

3.1. Location of Field Laboratory:

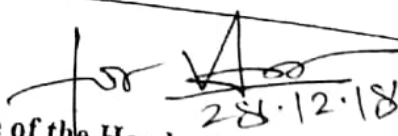
3.2. Quality Control Register Part-I is maintained by:

3.3. Quality Control Register Part-II is maintained by:

4 INSPECTIONS BY NQM, SQM or SENIOR OFFICERS AND ACTION TAKEN:

Inspection by NQMs, SQMs and senior (i.e. SE or CE) departmental officers and action taken statement:

Date of Visit	Inspected By	Observations	Action Taken by PIU with Date
27/3/18	S. Q. M S. N. P STYARTHI	SIR	ATR Removed by S. Q. M. BN Thakur vide letter no 598 on dt. 25/4/18
21/12/18	S. Q. M Sushil Kr	-S	-

for 
Name and Signature of the Head of PIU, Date: 28.12.18

Report of State Quality Monitor (SQM)
PART II- Observations of SQM for Ongoing/Completed Work

(To be filled-up by SQM, use additional sheets, if required.)

Stage of Work:

I	II	III
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1. SETTING OUT AND WORKING DRAWING: For all stages of work

#	Whether Bench marks @ 4 per km established (Y/N)	Exact Locations of the Bench Marks	Whether Center Line of Carriage Way accurately established and referenced with Marker Pegs and Chainage Boards (Y/N)	Whether properly prepared Working Drawing for the work under progress is available (Y/N)
	✓	✓	✓	✓

Grading: Grade:

S	SRI	U
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If this item is graded SRI/U, write clear reasons and Suggestions for improvement:

S

2. SITE CLEARANCE AND GRUBBING: For Stage I of Work

#	Whether Clearing and Grubbing being done as per DPR and Material obtained is being disposed off properly (Y/N)	Whether the material available from scarifying existing work or clearing operations can be salvaged and reused (Y/N)	Name the reusable material obtainable from clearance or scarification and indicate approximate quantity and its re-use by the RIU.
	✓	✓	

Grading: Grade:

S	SRI	U
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If this item is graded SRI/U, write clear reasons and suggestions for improvement:

S

4. length
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Q.1 Register Program

checked by S. S. M.

4. **GEOMETRICS:** The SQM should take at-least two measurements in 1 Km length and if it is found that the roadway and carriageway is inadequate SQM may take more observations:

Observations –Road way width, Carriage way and Camber.

Ref. RD	Roadway Width (m)	Carriage way Width (m)	Camber in %	Ref. RD	Roadway Width (m)	Carriage way Width (m)	Camber in %
185	6.10	3.75	3.0				

Observations – Super-elevation and Extra Widening at curves.

Ref. RD	Super Elevation	Extra Widening provided (Y/N)	Ref. RD	Super Elevation	Extra Widening provided (Y/N)
290	5.12	✓			

Grade: ☐ S ☐ U

If this item is graded U, write clear reasons and suggestions for improvement:

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OBSERVATIONS REGARDING THE QUALITY OF ITEMS OF WORK:

5. Earthwork:

Observations –Quality of Material for Embankment / Compaction

Location (RD)	On Visual Classification identify the Group Symbol and write	Quality of material is acceptable. (Y/N)

Grade: ☐ S ☐ U If this item is graded U, write clear reasons and suggestions for improvement:

Observation – Workmanship for Embankment and Sub-grade Construction:

#	Location (RD)	MDD kN/m^3 (As per record)	Field Moisture Content	Degree of Compaction		
				Field Density kN/m^3	Dry Density kN/m^3	Compaction adequate. (Y/N)

Grade: ☐ S ☐ U If this item is graded U, write clear reasons and suggestions for improvement:

Observation – Side slopes and profile:

#	Location (RD)	Whether Side Slopes Satisfactory (Y/N)	Whether profile Satisfactory (Y/N)

4. **GEOMETRICS:** The SQM should take at-least two measurements in 1 Km length and if it is found that the roadway and carriageway is inadequate SQM may take more observations:

Observations –Road way width, Carriage way and Camber.

Ref. RD	Roadway Width (m)	Carriage way Width (m)	Camber in %	Ref. RD	Roadway Width (m)	Carriage way Width (m)	Camber in %

Observations – Super-elevation and Extra Widening at curves.

Ref. RD	Super Elevation	Extra Widening provided (Y/N)	Ref. RD	Super Elevation	Extra Widening provided (Y/N)

Grade: ☐ S ☐ U

If this item is graded U, write clear reasons and suggestions for improvement:

OBSERVATIONS REGARDING THE QUALITY OF ITEMS OF WORK:

5. Earthwork:

Observations –Quality of Material in Embankment and Subgrade

#	Location (J.D.)	On Visual Classification identify the Group Symbol and write	Quality of material is acceptable. (Y/N)

Grade: ☐ S ☐ U If this item is graded U, write clear reasons and suggestions for improvement:

Bituminous
Seal Coat:
case of or
Obs
bi

Observation – Workmanship for Embankment and Sub-grade Construction:

#	Location (RD)	MDD kN/m^3 (As per record)	Field Moisture Content	Degree of Compaction		
				Field Density kN/m^3	Dry Density kN/m^3	Compaction adequate. (Y/N)

B.C. Register maintained

Grade: ☐ S ☐ U If this item is graded U, write clear reasons and suggestions for improvement:

Observation – Side slopes and profile:

#	Location (RD)	Whether Side Slopes Satisfactory (Y/N)	Whether profile Satisfactory (Y/N)

Bituminous Course: Premix Carpet/Surface Dressing/ BM/ MPM etc including Seal Coat: Observations - Quality of Material and Workmanship of BT Layer (in case of ongoing works):

Observations about level of cleanliness of WBM surface prior to application of bituminous layer. (if work is ongoing observe the surface. If BT layer laid, assess by carefully removing the BT layer.):

Observations about Quality of Prime Coat and Tack Coat with respect to quality of material and workmanship - Visual Observation - if work is ongoing:

In case of PMC/BM/MPM/ Seal Coat

#	Location (RD)	Whether Course Aggregate confirms to grading. (Y/N)	Whether the binder is of approved grade. (Y/N)	Write Mixing Temperature and whether it is in permissible limits. (Y/N)	Write Laying Temperature and whether it is in permissible limits. (Y/N)
		Complete			

Grade: ☐ S ☐ U If this item is graded U, write clear reasons and suggestions for improvement:

Observations - Workmanship of BT layer PMG/BM/MPM (in case of completed works):

#	Location (RD)	Thickness		Whether surface evenness is within acceptable limits. (Y/N)
		Thickness in mm	Whether thickness is adequate. (Y/N)	
	185	20	✓	

Grade: ☐ S ☐ U If this item is graded U, write clear reasons and suggestions for improvement:

S

9. Observations - Quality of Shoulders:

#	RD observation of	Thickness of layer in mm	Whether quality of the material is acceptable. (Y/N)	Whether quality of compaction workmanship is acceptable. (Y/N)	Whether Shoulders being constructed simultaneously with sub-base and base course (Y/N)

Cross Drainage Works Observations - Quality of CDs:

#	RD at which CD is located	Type of CD	Whether quality of the material is acceptable (Y/N)	Whether quality of workmanship is acceptable (Y/N)

checked by S & M

Grade: ☐ S ☐ SRI ☐ U If this item is graded SRI/U, write clear reasons and suggestions for improvement:

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11. Side Drains and Catch water Drains: Observations:

#	Reference of RDs where side drain constructed.	RD at which observation made.	Whether general quality of the side drains/ catch-water drains is acceptable (Y/N)	Whether side drains are integrated to cross drains. (Y/N)

Grade: ☐ S ☐ SRI ☐ U If this item is graded SRI/U, write clear reasons and suggestions for improvement:

12. CC/ Semi-Rigid (SR) Pavements and Associated Pucca Side Drains:

#	Reference of RDs. CC/SR Pavements provided.	RD at which observation made.	Thickness		General quality material acceptable. (Y/N)	General quality of workmanship acceptable (Y/N)
			Thickness in mm	Acceptable (Y/N)		
	950	950	100	✓		

Comments about adequacy of face/main walls, wings and retaining walls:

Grade: ☐ S ☐ U

improvement:

If this item is graded U, write clear reasons and suggestions for

ad Furniture and Markings

Observations - Item No. 14 a: Quality Road Furniture and Markings:

Main Informatory Board Fixed:

☒ Yes	☐ No
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Citizen Information Board Fixed:

☒ Yes	☐ No
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Grade: ☐ S ☐ U

improvement:

If this item is graded U, write clear reasons and suggestions for

Observations - Quality Road Furniture and Markings:

13.1.1. Logo Boards Fixed:

☒ Yes	☐ No
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13.1.2. 200m. Stones fixed:

☒ Yes	☐ No
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13.1.3. 1 Km. Stone fixed:

☐ Yes	☐ No
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13.1.4. Guard Stones fixed on Curves:

☐ Yes	☐ No
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13.1.5. Mandatory and Cautionary Signage

☐ Yes	☐ No
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Grade: ☐ S ☐ U

improvement:

If this item is graded U, write clear reasons and suggestions for

14. General Observations of SQM, (including the observations made during the interaction with PIU staff and Contractor's/ Consultant's Engineers):

14.1. Observations about deficiency in project preparation (Give detailed observations about deficiencies in general and items which have been left but are required as per site conditions):

14.2. Whether the work has been completed/is in progress as per programme or the delay has occurred. If delay has occurred, whether liquidated damages have been withheld or recovered

14.3. Whether the work has been completed within the sanctioned cost, if not, what is the action taken by the PIU (*in case of complete works*):

14.4. Observations about the action taken by the PIU on the observations of inspecting officers including SQMs and NQMs. (Clearly offer comments about the action taken on the observations of Departmental Officers, State Quality Monitors and National Quality Monitors).

14.5. Comments about difference in observations made by NQMs/SQMs in earlier inspections (the NQM shall study the earlier inspection reports of NQMs / SQMs, if any and offer his clear comments about the differences in observations, if any).

Other observations, if any:

10. **Quality Grading of items and sub-items of work:** The grading of every item and sub-item of work is given below.

#	Sub Item for Observation	Stage of Work	Awardable Grades	Awarded Grades
1	2	3	4	5
Item 1 – Setting Out and Working Drawing				
a	Bench Mark and Centre Line	All Stages	S/SRI/U	9
b	Availability of Working Drawing	All Stages	S/SRI/U	9
Item Grade			S/SRI/U	9
Item 2 – Site Clearance and Grubbing				
a	Site Clearance and Grubbing	Stage-I	S/SRI/U	9
b	Re-use of Salvageable Material	Stage-I	S/SRI/U	9
Item Grade			S/SRI/U	9
Item 3 - Quality Arrangements				
a	Quality Arrangements	All Stages	S/SRI/U	9
b	Number of Mandatory Tests as per prescribed frequency	All Stages	S/SRI/U	—
c	Maintenance of QC Registers	All Stages	S/SRI/U	9
Item Grade			S/SRI/U	—
Item 4 – Geometrics				
a	Road way width	2 per Km in every inspection	S/U	9
b	Carriageway width	2 per Km in every inspection	S/U	9
c	Camber	2 per km	S/U	9
d	Super-elevation & Extra Widening at Curves	1 curve in each km	S/U	9
Item Grade			S/U	9
Item 5A - Earth Work and Sub-grade in Embankment/ Cutting				
a	Quality of Material for Embankment/ Sub-grade	In Stage-I, 1 per km/ In Stage- II or III, 1 per km	S/U	9
b	Compaction	In Stage-I, 2 per km/ In Stage- II or III, 2 per km	S/U	—
c	Side Slopes and Profile	2 per km in Stage III	S/U	—

Item 5B - Earth Work in Cutting in Hilly/ Rolling Terrain				
a	Stability and Workmanliap of Cut Slopes	Stage I and II, at 2 critical locations with maximum height of cutting in each Km	S/U	
b	Adequacy of Slope Protection	All Stages - In general	S/U	
c	Upon completion of formation cutting, dressing, traffic worthiness	At Stage III, at 2 critical locations with maximum height of cutting in each km	S/U	
d	Longitudinal Gradient	Stage II III - 1 critical and fairly representative stretch of 200m in each Km	S/U	
Item Grade			S/U	
Item 6 - Sub-Base				
	Quality of Material			
a	Grain Size	In Stage- II or III, 1 per km	S/U	S
b	Plasticity		S/U	—
c	Compaction	In Stage- II or III, 1 per km	S/U	—
d	Total Thickness of Layer	2 per Km	S/U	S
Item Grade			S/U	S
Item 7 - Base Course – Water Bound Macadam				
a	Grain Size of Course Aggregate	In Stage- II or III, 1 per km	S/U	S
b	Test for Liquid Limit and Plasticity Index in case fine aggregate is non crushable		S/U	—
c	Volumetric analysis for assessment of compaction of WBM	In Stage- II or III, 1 per km	S/U	—
d	Surface Evenness using straight edge	In completed WBM 2 tests per km	S/U	—
e	Thickness of every layer of WBM.	2 per Km	S/U	S
Item Grade			S/U	S

Item 8 - Prime Coat (PMC) / Surface Dressing				
a	Level of clearness of WBM surface prior to application of bituminous layer	1 per Km	S/U	S
b	Quality of Prime Coat/Tack Coat with respect to quality of material and workmanship	1 observation on the day of inspection	S/U	S
c	Gradation Test for Course Aggregate (if the work in the item is ongoing)/visual observation in case of completed item of work	1 test on the day of inspection	S/U	—
d	Grade of bitumen and temperature at the time of mixing and laying (if the work in the item is ongoing)	1 test on the day of inspection	S/U	—
e	Bitumen Extraction Test if PMC is complete	1 test per Km	S/U	—
f	Thickness of layer	2 per Km	S/U	S
g	Surface Evenness in case of completed BT work	2 per Km	S/U	—
Item Grade			S/U	
Item 9 - Shoulders				
a	Quality of material for shoulders	In Stage- II or III, 1 test per Km	S/SRI/U	—
b	Degree of compaction	In Stage- II or III, 1 test per Km	S/SRI/U	—
c	Thickness of layer	In Stage- II or III, 2 tests per km	S/SRI/U	—
Item Grade			S/SRI/U	
Item 10 - Cross Drainage Works - Causeways of all spans and Culverts upto 6 m. span.				
a	Quality of Material - Concrete Stone, brick masonry etc. (as per specification)			S
b	Quality of Workmanship such as positioning of pipes, wing walls, cushion over H Pipes etc.	All Stages	S/SRI/U	S
Item Grade			S/SRI/U	

Item 11 - Side Drain and Catch Water Drain				
a	General quality of Side Drains/ Catch Water Drains and their integration with CD's	All Stages	S/SRI/U	/
Item Grade			S/SRI/U	
Item 12 - CC/ Semi Rigid Pavements and Associated Pukka Drains				
a	Quality of Material – Concrete, Stone/ Concrete Block- Pavement etc.	In Stage- II or III, 1 per 100 m. Length of Pavement	S/U	/
b	Strength of CC in Concrete Pavement/ Concrete Block Pavement	In Stage- II or III, 1 per 100 m. Length of Pavement	S/U	S
c	Quality of Workmanship – Wearing surface texture, Adequacy of setting of concrete, Joints, Edges etc.	In Stage- II or III	S/U	S
d	Thickness of Layer	In Stage- II or III, 1 per 100 m. Length of Pavement	S/U	S
Item Grade			S/U	S
Item 13 - Road Furniture and Markings				
a	Citizen Information Board, Main Informatory Board, Quality and whether fixed during construction.	Stage-I	S/U	S
b	Logo boards, 200 m stones and Km stones, quality and whether fixed after completion.	Stage-III	S/U	S
c	Whether the information in boards is given in local language.	Stage-I and III	S/U	S

17. Overall Grading of Work: The overall grading calculated on the basis of item and sub-item wise grading is given below:

Item No.	Sub Item for Observation	Awarded Grade
Item No 1	Setting Out and Working Drawing	S
Item No 2	Site Clearance and Grubbing	S
Item No 3	Quality Arrangements	S
Item No 4	Geometrics	S
Item No 5A	Earth Work and Sub-grade in Embankment/ Cutting	—
Item No 5B	Earth Work in Cutting in Hilly/ Rolling Terrain	—
Item No 6	Sub-Base	S
Item No 7	Base Course – Water Bound Macadam	S
Item No 8	Bituminous Layer – Premix Carpet (PMC)/ Surface Dressing (SD)	S
Item No 9	Shoulders	—
Item No 10	Cross Drainage Works – Causeways of all spans and Culverts upto 6 m. span.	S
Item No 11	Side Drain and Catch Water Drain	—
Item No 12	CC/ Semi Rigid Pavements and Associated Pukka Drains	S
Item No 13	Road Furniture and Markings	S
Overall Grading		S

Signature:

Name:

Date:

[Signature]
28/12/18

Name of Road :- L 022 A 702 A patri
 Package No :-

Date of Testing :- 28/12/2018

Location ch.

Sieve Analysis for WBM Grade-III Materials

Weight of Sample taken: 34,300 (gm)

I.S Sieve designative	Weight of sample retained (g.)	Percent of Wt. retained (%)	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing (%)	Permissible Value
63 mm	0	0	0	100	100%
53mm	1098	3.20	3.20	96.80	95-100
45mm	5626	16.40	19.60	80.40	65-90
22.4mm	26823	78.20	77.80	2.20	0-10
11.2mm	377	1.10	98.90	1.10	0-5

% age of filler materials =

-1. of filler material. 22.01

Location ch.

Sieve Analysis for WBM Grade-II Materials

Weight of Sample taken: (gm)

I.S Sieve designative	Weight of sample retained (g.)	Percent of Wt. retained (%)	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing (%)	Permissible Value
90mm					100%
63mm					95-100
53mm					25-75
45mm					0-15
22.4mm					0-5
Pan					

% age of filler materials =

Sieve Analysis for G.S.B Materials (Grading I)

Thickness of G.S.B - 200mm

Location CH- 400M

Weight of Sample taken: 87672 (gm)

I.S Sieve designative	Weight of sample retained (g.)	Percent of Wt. retained (%)	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing (%)	Permissible Value
75mm					100%
26.5mm					55-75
4.75mm					10-30
75Micron					<10

Sieve Analysis for G.S.B Materials (Grading II)

Location Ch:-

Weight of Sample taken: (gm)

I.S Sieve designative	Weight of sample retained (g.)	Percent of Wt. retained (%)	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing (%)	Permissible Value
53mm					100%
26.5mm					50-80
4.75mm					15-35
75Micron					<10

SQM/NQM/PQM

28.12.18
 AR

28/12
 PQM