# KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED

**(FORMERLY KARNATAKA LAND ARMY CORPORATION LIMITED)**
**"GRAMEENABHIVRUDDHI BHAVAN", 4TH & 5TH FLOOR, ANANDA RAO CIRCLE, BANGALORE – 560 009**

**Annexure-III**
**Format 1 - Part 1**

## FOR WATER SUPPLY WORKS

## PART-I WORK INFORMATION - (TO BE FILLED-UP BY PIU)

Work is | **Ongoing** | **Completed**

**1) GENERAL:**

1. Date of Inspection:
2. Name of District Quality Monitor :
3. District: Taluk:
4. Name of work:
5. Estimate cost:
6. Agency:
7. Technically Sanctioned Date & Amount: Rs. Lakhs
8. Adm. Approval Date & Amount: Rs. Lakhs
9. Date of Commencement:
10. Stipulated Date of Completion:
11. Actual Date of Completion (if work is completed):

**2) PHYSICAL PROGRESS: (In case of ongoing works only) Construction Programme and physical Progress:**

| Item | Completed reaches | % age of completion of Item | Date of start | | Date of Completion | | Delay in Months |
|---|---|---|---|---|---|---|---|
| | | | Due | Actual | Due | Actual | |
| 1. Head works | | | | | | | |
| 2. Jackwell/pump house | | | | | | | |
| 3. Raw water raising main | | | | | | | |
| 4. IR | | | | | | | |
| 5. Aerator settling tank slow sand filter Or | | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Clarifloculater Rapid sand filter wash water tank | | | | | | |
| 6. Pure water sump | | | | | | |
| 7. Master balancing tank | | | | | | |
| 8. OHT | | | | | | |

**3) QUALITY CONTROL:**

1) Location of Field Laboratory :

2) Quality Control Register Part-I is maintained by : _____JE/AE

3) Quality Control Register Part-II is maintained by : _____ AEE

4) Location of MIB/CIB: Ch..... KM. Village ..... is

I. Whether information is in Kannada

II. Whether MIB is fixed at both ends of the road

| | |
|---|---|
| **Yes** | **No** |
| **Yes** | **No** |

**4) INSPECTIONS BY DQM or SENIOR OFFICERS AND ACTION TAKEN:**

a) Inspection by DD/JD/GM /DQM and action taken statement:

| Sl. No | Date of Inspection | Inspected by | Stage of work at the time of Inspection | Item wise Observations | Whether observations have been attended to Y/N | Date of submission of compliance | Reasons for delay in submission of compliance |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

b) Inspection by DQM and action taken statement:

| Sl. No | Date of Inspection | Inspected by | Structures inspected by DQM & Location where detailed tests have been conducted | Item wise Observations | Action taken by PIU & Date of submission of ATR | Date of submission of re-gradation proposal | Reasons for delay in submission of ATR/Re-gradation proposal |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

**5) SUITABILITY TESTS CONDUCTED ON MATERIAL PRIOR TO CONSTRUCTION:**

| Sl. No. | Item of work | Material tested | Type of test | Date of Suitability tests conducted | Whether the material satisfies the limits prescribed **Y/N** |
|---|---|---|---|---|---|
| 1 | **Impounding Reservoir:** | | | | |
| | Casing | a) Available Soil<br>b) Barrowed soil | 1. WSA & Atterberg's limits<br>2. SPC Test<br>3. FSI Test<br>4. Permissibility | | |
| | Embankment | a) Available Soil<br>b) Barrowed soil | | | |
| 2 | Raising Main (Raw water) | Pipe | 1. Gauge<br>2. Pressure | | |
| 3 | Raising Main (Pure water) | Pipe | 1. Gauge<br>2. Pressure | | |
| 4 | Pumping Machinery | | | | |

**AE/JE**

**Date :**

**ASSISTANT DIRECTOR**

**Annexure-III**
**Format 1 - Part 2**

**FORMAT FOR INFORMATION TO DISTRICT QUALITY MONITOR (DQM) INSPECTION OF ONGOING / COMPLETED WORK**

**FOR WATER SUPPLY WORKS**

Work is | **Ongoing** | **Completed**

1. Date of Inspection:
2. Name of District Quali ty Monitor :
3. District: Block:
4. Name of work:
5. Stage of work:

**I Source: Ground water / surface water**
**a. Ground water source**

| Sl. No | Details | As per Estimate | As per site |
|---|---|---|---|
| 1 | Location - Latitude | | |
| | Location - Longitude | | |
| 2 | Condition of the surroundings | | |
| 3 | RL of the bore well | | |
| 4 | Geologist Recommendation | | |
| 5 | Depth of bore well | | |
| 6 | Classification of soil met with | | |
| 7 | Depth / type of casing pipes adopted | | |
| 8 | Static water level of bore well | | |
| 9 | Pump setting level | | |
| 10 | Yield of bore well | | |
| 11 | Quality of water | | |

**b. Surface source**

| Sl. No | Details | As per Estimate | As Accessed during Inspection of Work/Site |
|---|---|---|---|
| 1 | Location - Latitude | | |
| | Location - Longitude | | |
| 2 | Condition of the surroundings | | |
| 3 | RL of Source point | | |
| 4 | Source type (To be mentioned regarding River, Lake, Canal, Dam or Nala | | |
| 5 | Sustainability of source | | |
| 6 | Intake arrangement (Intake well / Jock well / sluice) | | |
| 7 | Source by gravity / pumping from source to impounding / treatment plant whether by gravity or by pumping to be mentioned. | | |

**c. Arrangement for drawals by gravity**

| | | | |
|---|---|---|---|
| 1 | RL | | |
| 2 | Dia meter of Pipe / Size of the channal | | |
| 3 | Delivery paint details to be mentioned with ..... RL | | |
| 4 | Discharge available at delivery point LPS | | |

**d. Arrangement for drawal by Pumping**

| Sl. No | Details | As per Estimate | As Accessed during Inspection of Work/Site |
|---|---|---|---|
| 1 | RL of floor of pump house | | |
| 2 | Suction RL | | |
| 3 | Head | | |
| 4 | Delivery point RL | | |
| 5 | Head | | |
| 6 | Discharge to toe head (2+4) | | |

| Grade : | S | RI | U | If this item is graded RI/U, write clear reasons and suggestions for improvement: |
|---|---|---|---|---|

**II Pumping Machinery**

| Sl. No | Details | As per Estimate | As Accessed during Inspection of Work/Site |
|---|---|---|---|
| i. | Type of pumps | | |
| ii. | Capacity of Pump | | |
| iii. | Stand by arrangements | | |
| iv. | Power supply arrangements | | |
| v. | R.L. of pumps installed | | |

| Grade : | S | RI | U | If this item is graded RI/U, write clear reasons and suggestions for improvement: |
|---|---|---|---|---|

**III Raising Main (Raw Water)**

| Sl. No | Details | As per Estimate | As Accessed during Inspection of Work/Site |
|---|---|---|---|
| 1 | **Raising Main** | | |
| a. | Length of Raising Main | | |
| b. | Type of Pipes for Raising Main | | |
| c. | Dia of the Pipes | | |
| d. | Gauge of the Pipes | | |
| e. | R.L. of the Starting Point | | |
| f. | R.L. of the Delivery Point | | |
| g. | Total Head | | |
| 2. | **Alignment** | | |

| | Chainage : | Latitude | Longitude | Depth of pipe laid below G.L | Latitude | Longitude | Depth of pipe laid below G.L |
|---|---|---|---|---|---|---|---|
| | 0.00 | | | | | | |
| | 0.250 | | | | | | |
| | 0.500 | | | | | | |
| | 0.750 | | | | | | |
| | 1.000 | | | | | | |
| | 1.250 | | | | | | |
| | 1.500 | | | | | | |
| | 1.750 | | | | | | |
| | | | | | | | |
| | Chainage : | Latitude | Longitude | Depth of pipe laid below G.L | Latitude | Longitude | Depth of pipe laid below G.L |
| | 2.000 | | | | | | |
| | 2.250 | | | | | | |
| | 2.500 | | | | | | |

* The above details to be verified and mentioned for every 250mts intervals and whenever necessary beyond 2.50km upto ending of the Rasining Main.

| Sl. No | Details | As per Estimate | As Accessed during Inspection of Work/Site |
|---|---|---|---|
| **3** | **Details of Valves & Chambers Provided** | | |
| I | Pressure Valve & R.L | | |
| | a. Starting Chainage | | |
| | Chambers Details:<br>1. Size<br>2. Bottom thickness of C.C. Bed<br>3. Side thickness of C.C Wall | | |
| | b. Delivary ending Chainage | | |
| | Chambers Details:<br>1. Size<br>2. Bottom thickness of C.C. Bed<br>3. Side thickness of C.C Wall | | |
| ii | Difference in pressure & Elevation between Staring & End Chainage | | |

| **Grade :** | **S** | **RI** | **U** | If this item is graded RI/U, write clear reasons and suggestions for improvement: |
|---|---|---|---|---|

**ii Density to be verified form the bottom of the Bund (sides) Both Casing & Hearting Casing:**

| # | Location Ch: | R.L | MDD KN/$m^3$ & OMC in % age (as per record) | Thickness of loose layer (when the item is in progress) | Thickness of compacted layer | Field Moisture Content in % age | Degree of Compaction | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Field Density KN/$m^3$ | Dry Density KN/$m^3$ | Compaction adequate (Y/N) |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |

**Hearting:**

| # | Location Ch: | R.L | MDD KN/m³ & OMC in % age (as per record) | Thickness of loose layer (when the item is in progress) | Thickness of compacted layer | Field Moisture Content in % age | Degree of Compaction | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Field Density KN/m³ | Dry Density KN/m³ | Compaction adequate (Y/N) |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |

**iii Slope protection works:**

| Details | As per Estimate | As Accessed during Inspection of Work/Site |
|---|---|---|
| Toe drains : | | |
| Drainage arrangements at bund : | | |

**IV Impounding Reservoir:**

| Details | As per Estimate | As Accessed during Inspection of Work/Site |
|---|---|---|
| Location : | | |
| Capacity : | | |
| Geological feature : | | |
| Tank bed : RL: | | |
| F.S.L: | | |
| M.W.L: | | |
| Top of Bund (R.L): | | |
| Bund width: | | |
| Homogeneous / Heterogeneous: | | |
| Side Slope Provided : Front & Rear | | |
| Height of bund: | | |
| Soil stability for casing and hearting Zones: | | |

**i Details of Bed Blanket provided**

| # | Location Ch: | MDD KN/m³ & OMC in % age (as per record) | Thickness of loose layer (when the item is in progress) | Thickness of compacted layer | Field Moisture Content in % age | Degree of Compaction | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Field Density KN/m³ | Dry Density KN/m³ | Compaction adequate (Y/N) |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |

**iv Water inlet arrangements :**

| Details | As per Estimate | As Accessed during Inspection of Work/Site |
|---|---|---|
| RL _____ Type | | |
| Outlet arrangements : | | |
| RL _____ Type | | |

| Grade : | S | RI | U | If this item (Slope Protection Work) is graded RI/U, write clear reasons and suggestions for improvement: |
|---|---|---|---|---|

**V. Treatment plant**

| Sl. No | Details | As per Estimate | As Accessed during Inspection of Work/Site |
|---|---|---|---|
| i | Aerator arrangements : | | |
| ii | Settling tank : Bed level : | | |
| | Settling tank : Top level : | | |
| | Inlet & outlet arrangements : | | |
| iii | Type of filter : | | |
| iv | Filter media depth details : | | |
| v | Discharge | | |
| | At Inlet : | | |
| | At Outlet : | | |
| Vi | Clarifloculating arrangements: | | |
| | Back Wash Arrangements : | | |

| Grade : | S | RI | U | If this item (Treatment Plant) is graded RI/U, write clear reasons and suggestions for improvement: |
|---|---|---|---|---|

**VI. Pure Water sump:**

| Details | As per Estimate | As Accessed during Inspection of Work/Site |
|---|---|---|
| Location RL : | | |
| Capacity : | | |
| Size of the Sump: | | |
| Inlet and outlet arrangements : | | |

| Grade : | S | RI | U | If this item (Pure Water Sump) is graded RI/U, write clear reasons and suggestions for improvement: |
|---|---|---|---|---|

**Pure Water pumping Arrangements:**

| Details | As per Estimate | As Accessed during Inspection of Work/Site |
|---|---|---|
| Location RL : | | |
| Type of Pump: | | |
| Capacity : | | |
| Standby arrangement: | | |
| Power supply : | | |

| Grade : | S | RI | U | If this item (Pure Water Pumping arrangements) is graded RI/U, write clear reasons and suggestions for improvement: |
|---|---|---|---|---|

**VIII. Raising Main (Pure Water)**

| Sl. No. | Details | As per Estimate | | | As Accessed during Inspection of Work/Site | | |
|---|---|---|---|---|---|---|---|
| 1 | **Raising Main** | | | | | | |
| a. | Length of Raising Main | | | | | | |
| b. | Type of pipes | | | | | | |
| c. | Dia of the Pipes | | | | | | |
| d. | Gauge of the Pipes | | | | | | |
| e. | R.L. of the Starting Point | | | | | | |
| f. | R.L. of the Delivery Point | | | | | | |
| 2 | **Alignment** | | | | | | |
| | Chainage : | Latitude | Longitude | Depth of pipe laid below G.L | Latitude | Longitude | Depth of pipe laid below G.L |
| | 0.00 | | | | | | |
| | 0.250 | | | | | | |
| | 0.500 | | | | | | |
| | 0.750 | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1.000 | | | | | | |
| | 1.250 | | | | | | |
| | 1.500 | | | | | | |
| | 1.750 | | | | | | |
| | 2.000 | | | | | | |
| | 2.250 | | | | | | |
| | 2.500 | | | | | | |

* The above details to be verified and mentioned for every 250mts intervals and whenever necessary beyond 2.50km upto ending of the Rasining Main.

**3. Details of Valves & chambers provided**

| Sl. No. | Details | As per Estimate | As Accessed during Inspection of Work/Site |
|---|---|---|---|
| I | Pressure & R.L | | |
| a. | Starting Chainage | | |
| b. | Delivary ending chainage | | |
| II | Difference in pressure & Elevation between staring & end chainage | | |
| | | | |

| **Grade :** | **S** | **RI** | **U** | If this item (Raising Main - pure water) is graded RI/U, write clear reasons and suggestions for improvement: |
|---|---|---|---|---|

**IX General observations of DQM, (including the observations made during the interaction with PIU staff and Contractor/Consultant Engineers):**

a. 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):

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

c. 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) :

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

e. Comments about difference in observations made by DQMs in earlier inspections (the DQM shall study the earlier inspection reports of DQMs if any and offer his clear comments about the differences in observations, if any).

**X Other observations, if any:**

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

| # | Sub item for observation | In case of work | Awardable grades | Awarded grade |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| | **Item 1 - Quality Arrangements** | | | |
| | Quality Arrangements | On-going | S/RI/U | |
| | Item Grading | | S/RI/U | |
| | **Item 2 - Attention to Quality** | | | |
| a. | Maintenance of QC Registers | On-going | S/RI/U | |
| b. | Verification of test results | On-going/Complete | S/RI/U | |
| | Item Grading | | S/RI/U | |
| | **Item 3 - Source** | | | |
| a. | Yield | On-going/Complete | S/RI/U | |
| b. | Quality | On-going/Complete | S/RI/U | |
| c. | Suction / Jackwell | On-going/Complete | S/RI/U | |
| d. | Pump House | On-going/Complete | S/RI/U | |
| | Item Grading | | S/RI/U | |
| | **Item 4 - Pumping Machinery** | | | |
| a. | Power supply arrangements | On-going/Complete | S/RI/U | |
| b. | Pumping arrangements | On-going/Complete | S/RI/U | |
| | Item Grading | | S/RI/U | |
| | **Item 5 - Raising Main (Raw Water)** | | | |
| a. | Quality of Pipe | On-going/Complete | S/RI/U | |
| b. | Alignment | On-going/Complete | S/RI/U | |
| c. | Pressure at Starting & Ending Point | On-going/Complete | S/RI/U | |
| d. | Quality of Valves & Chambers | On-going/Complete | S/RI/U | |
| | Item Grading | | S/RI/U | |
| | **Item 6 - Impounding Reservoir** | | | |
| a. | Size & Dimension of Reservoir / Bund | On-going/Complete | S/RI/U | |
| b. | Bed Blanket Quality & Density | On-going/Complete | S/RI/U | |
| c. | Side Bund Quality & Density | On-going/Complete | S/RI/U | |
| d. | Slope both Front & Rear | On-going/Complete | S/RI/U | |
| e. | Protection Work | On-going/Complete | S/RI/U | |
| | Item Grading | | S/RI/U | |
| | **Item 7 - Treatment Plant** | | | |
| a. | Aerator arrangements | On-going/Complete | S/RI/U | |
| b. | Function of Settling Tank | On-going/Complete | S/RI/U | |
| c. | Filter arrangements | On-going/Complete | S/RI/U | |

| | | | | |
|---|---|---|---|---|
| d. | Discharge | On-going/Complete | S/RI/U | |
| e. | Back Wash Arrangements | On-going/Complete | S/RI/U | |
| | Item Grading | | S/RI/U | |
| | **Item 8 - Pure Water Sump** | | | |
| a. | Capacity | On-going/Complete | S/RI/U | |
| b. | Stand by arrangements | On-going/Complete | S/RI/U | |
| c. | Power supply | On-going/Complete | S/RI/U | |
| | Item Grading | | S/RI/U | |
| | **Item 9 - Pure Water Sump** | | | |
| a. | Quality of Pipe | On-going/Complete | S/RI/U | |
| b. | Alignment | On-going/Complete | S/RI/U | |
| c. | Pressure at Starting & Ending Point | On-going/Complete | S/RI/U | |
| d. | Quality of Valves & Chambers | On-going/Complete | S/RI/U | |
| | Item Grading | | S/RI/U | |
| | **Item 10 - Over Head Tank** | | | |
| a. | | On-going/Complete | S/RI/U | |
| b. | | On-going/Complete | S/RI/U | |
| c. | | On-going/Complete | S/RI/U | |

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

| # | Item | Awarded Grade |
|---|---|---|
| 1 | Quality Arrangements | |
| 2 | Attention to Quality | |
| 3 | Source | |
| 4 | Pumping Machinery | |
| 5 | Raising Main (Raw Water) | |
| 6 | Impounding Reservoir | |
| 7 | Treatment Plant | |
| 8 | Pure Water Sump | |
| 9 | Raising Main (Pure Water) | |
| 10 | Over Head Tank | |
| | **Overall Grading** | |

* S - Satisfactory
* RI-Required improvement
* U-Un-satisfactory

**Signature :**
**Name :**
**Date :**