

LETTER OF INVITATION FOR EXPRESSION OF INTEREST

Water quality testing of Microbiological parameters (Total coliform & E.coli) through NABL Accredited water quality testing laboratories

RDW&SD wishes to engage NABL Accredited laboratories, meeting the requirement of ISO/IEC-17025:2017, to collect and conduct periodic tests of its water quality sources spread across the State of Karnataka for the Microbiological parameters (Total Coliforms and E. Coli) using MPN method only, to ascertain their adherence to Indian Standard drinking water specifications IS 10500:2012, Ra: 2018. The engagement of the 3rd party services would be for a period of one year only, extendable only based on requirements for few months or a 6 month period, wherever found necessary.

In every District, for each jurisdiction mentioned in **Annexure-I**, 800 sources/jurisdiction covering each village in the jurisdiction and one delivery source for each habitation in the jurisdiction will have to be sampled, transported and water quality analyzed. The analysis is to be carried out as per IS 1622 (MPN Method) for 2 parameters i.e. Total coliform & E.coli for both Pre-monsoon & Post- monsoon in a year. District wise target samples to be analyzed and the related details are given in **Annexure-I**

The scope of work in this assignment will include responsibility of sampling, transportation and analysis of the above said parameters and reporting of the results for the target samples in given specific time of 10 days, from the date of sampling. Terms and conditions to be followed are attached as **Annexure-II** and the format to be filled in by the labs interested in participating in EoI is attached as **Annexure-III**. List of Instruments and media required for MPN method of testing are listed in **Annexure-IV**.

Reputed NABL accredited laboratories are requested to submit their proposals along with their supporting documents: copy of certification, scope, and write up (not less than one page) each on modality of sampling and transportation under controlled conditions from the District jurisdictions (1 or more) they are interested in catering to so that the sample reaches preferably within 8-12 hrs or upto a maximum of 24 hrs for analysis.

The successful Service provider shall deliver to the Client a Security deposit in any of the forms given below for an amount equivalent to 5% (FIVE percent) of the Contract price within 20 days of receipt of the Letter of Acceptance,.

- i) Banker's Cheque/Demand draft/Pay Order in favour of Commissioner, Rural Drinking Water and Sanitation Department payable at Bangalore
- ii) An unconditional bank guarantee
- iii) Fixed deposit receipts (FDR) Pledged in the name of Commissioner, Rural Drinking Water and Sanitation Department

The proposals as mentioned above shall be submitted to Commissioner, 2nd Floor, KHB Complex, Cauvery Bhavan, K.G. Road, Bengaluru-560 009 on or before 13th of October along with filled in **Annexure-III** format and supporting Documents. For any clarifications, the queries can be sent to E-mail-id: rdwsd.wqmosp@gmail.com


Commissioner,
RDW&SD, Bengaluru.

District wise target samples to be analyzed

Sl. No.	Name of the Circle	Name of the District	Name of the Jurisdiction in the District	Panchayats	Villages	Total No. of Habitations	Target Delivery Sources / year (2*No. of Habitations) (1Pre Moonsoon & 1Post Moonsoon)	Target Sources / year 2*800 sources / Jurisdiction (1Pre Moonsoon & 1Post Moonsoon)	Total No. of Tests to be conducted under the Jurisdiction / year (Pre & Post Moonsoon)	Total No. of Samples to be analysed / Month/ Jurisdiction
1	2	3	4	5	6	7	8	9	10	11
1	Belagavi	Bagalakote	Bagalakote	54	193	211	422	1600	2022	169
2		Bagalakote	Jamakhandi	67	145	510	1020	1600	2620	218
3		Bagalakote	Hungund	77	323	339	678	1600	2278	190
4		Belagavi	Belagavi	110	349	492	984	1600	2584	215
5		Belagavi	Soundathi	132	365	426	852	1600	2452	204
6		Chikkodi	Chikkodi	101	149	415	830	1600	2430	203
7		Chikkodi	Athani	55	105	370	740	1600	2340	195
8		Chikkodi	Gokak	108	249	460	920	1600	2520	210
9		Dharwad	Dharwad	90	210	229	458	1600	2058	172
10		Dharwad	Kalaghatgi	54	143	159	318	1600	1918	160
11		Gadag	Gadag	122	318	343	686	1600	2286	191
12		Haveri	Haveri	96	308	329	658	1600	2258	188
13		Haveri	Ranibennur	79	234	243	486	1600	2086	174
14		Haveri	Shiggaon	49	157	158	316	1600	1916	160
15		Uttara Kannada	Uttara Kannada	39	140	839	1678	1600	3278	273
16		Uttara Kannada	Honnar	66	275	1966	3932	1600	5532	461
17		Uttara Kannada	Sirsi	86	633	3959	7918	1600	9518	793
18		Uttara Kannada	Dandeli	40	231	649	1298	1600	2898	241
19		Vijayapura	Vijayapura	119	368	622	1244	1600	2844	237
20		Vijayapura	Sindhagi	94	261	413	826	1600	2426	202
21	Bengaluru (U)	Bengaluru (U)	96	746	1003	2006	1600	3606	300	
22	Bengaluru (R)	Bengaluru (R)	103	923	1266	2532	1600	4132	344	
23	Chikkaballapura	Chikkaballapura	51	472	583	1166	1600	2766	230	
24	Chikkaballapura	Chintamani	60	622	853	1706	1600	3306	275	
25	Chikkaballapura	Gowribidanur	46	430	458	916	1600	2516	210	
26	Chitradurga	Chitradurga	71	504	548	1096	1600	2696	225	
27	Chitradurga	Hosadurga	62	495	569	1138	1600	2738	228	
28	Chitradurga	Challakere	56	367	479	958	1600	2558	213	
29	Davanagere	Davanagere	88	369	468	936	1600	2536	211	
30	Davanagere	Channagiri	108	345	434	868	1600	2468	206	
31	Kolar	Kolar	36	319	364	728	1600	2328	194	
32	Kolar	Srinivaspura	55	594	767	1534	1600	3134	261	
33	Kolar	Bangarpet	65	677	850	1700	1600	3300	275	
34	Ramanagara	Ramanagara	52	254	600	1200	1600	2800	233	
35	Ramanagara	Kanakapura	43	335	754	1508	1600	3108	259	
36	Ramanagara	Magadi	32	261	754	1508	1600	3108	259	
37	Shivamogga	Shivamogga	83	345	496	992	1600	2592	216	
38	Shivamogga	Sagar	120	751	1606	3212	1600	4812	401	
39	Shivamogga	Hosanaagara	68	447	2828	5656	1600	7256	605	
40	Tumakuru	Tumakuru	111	1014	2278	4556	1600	6156	513	
41	Tumakuru	Tiptur	80	679	1361	2722	1600	4322	360	
42	Tumakuru	Madhugiri	139	914	1700	3400	1600	5000	417	
43	Ballari	Ballari	66	175	311	622	1600	2222	185	
44	Ballari	Sandur	26	85	112	224	1600	1824	152	
45	Bidar	Bidar	35	122	141	282	1600	1882	157	
46	Bidar	Humnabad	71	222	293	586	1600	2186	182	
47	Bidar	Aurad	79	295	452	904	1600	2504	208	
48	Kalaburagi	Kalaburagi	116	358	544	1088	1600	2688	224	
49	Kalaburagi	Jewargi	42	144	164	328	1600	1928	161	
50	Kalaburagi	Sedam	106	368	579	1158	1600	2758	230	
51	Koppala	Koppala	80	281	400	800	1600	2400	200	
52	Koppala	Kustagi	73	297	326	652	1600	2252	188	
53	Raichur	Raichur	72	433	501	1002	1600	2602	217	
54	Raichur	Sindhaur	36	143	244	488	1600	2088	174	
55	Raichur	Lingasugur	71	442	661	1322	1600	2922	244	
56	Vijayanagara	Huvina Hadagali	63	132	342	684	1600	2284	190	
57	Vijayanagara	Kudligi	36	80	217	434	1600	2034	170	
58	Vijayanagara	Hospet	46	131	231	462	1600	2062	172	
59	Yadgir	Yadgir	83	317	476	952	1600	2552	213	
60	Yadgir	Shorapur	40	151	229	458	1600	2058	172	
61	Chamarajanagar	Chamarajanagar	77	342	451	902	1600	2502	209	
62	Chamarajanagar	Kollegal	53	366	444	888	1600	2488	207	
63	Chikkamagalur	Chikkamagalur	76	357	980	1960	1600	3560	297	
64	Chikkamagalur	Kadur	106	492	708	1416	1600	3016	251	
65	Chikkamagalur	Koppa	45	188	1842	3684	1600	5284	440	
66	Dakshinakannada	Dakshinakannada	113	176	1662	3324	1600	4924	410	
67	Dakshinakannada	Puttur	69	107	1022	2044	1600	3644	304	
68	Dakshinakannada	Belthangady	48	80	875	1750	1600	3350	279	
69	Hassan	Hassan	82	830	1480	2960	1600	4560	380	
70	Hassan	Arasikere	82	713	1051	2102	1600	3702	308	

Pavathi S

71	Hassan	Holenarasipura	103	865	1316	2632	1600	4232	353
72	Kodagu	Kodagu	66	201	418	836	1600	2436	203
73	Kodagu	Virajapet	38	98	179	358	1600	1958	163
74	Mandya	Mandya	127	511	836	1672	1600	3272	273
75	Mandya	Nagamangala	27	339	506	1012	1600	2612	218
76	Mandya	Pandavapura	79	562	656	1312	1600	2912	243
77	Mysuru	Mysuru	118	423	681	1362	1600	2962	247
78	Mysuru	HD Kote	80	432	720	1440	1600	3040	253
79	Mysuru	Krishnarajanagar	68	356	609	1218	1600	2818	234
80	Udupi	Udupi	158	250	3462	6924	1600	8524	710
Grand Total			6019	28883	60272	120544	128000	248544	20712

Pavathi S

TERMS AND CONDITIONS TO BE COMPLIED ONCE LABORATORY IS ONBOARDED

I. Required documents from the laboratory

1. Laboratory NABL accreditation details, their NABL certificate and scope to be furnished.
2. There should be no gap in NABL accreditation Certification for the labs once the lab is taken on board any changes in Certification should be brought to the notice of RDWS&D immediately.
3. Ensure regularity of the personnel managing the lab

II. Instruments, External calibration certificates, glasswares , media & cultures

1. Stock & Procurement of resources (Instruments repair & calibration both internal and external, availability of glasswares, media & cultures) should not affect RDW&SD samples.
2. Ensure safety equipments availability and usage.
3. There should be no gap in external calibration of instruments

III. Sampling and transportation

1. The lab shall have the responsibility of sampling, transportation, analysis and reporting of the samples for Total coliform & E.coli following IS 1622 and MPN method of testing.
2. In every District, for each jurisdiction mentioned 800 sources/jurisdiction covering each village in the jurisdiction and one delivery source for each habitation in the jurisdiction will have to be sampled, transported and water quality analysed for both pre-monsoon and post-monsoon.
3. In case, any of the source is non-functional, the nearby source should be sampled, and analysis should be carried out. The reason for the change of the source should be clearly mentioned in the remarks.
4. The sampling personnel require the tools and equipment for collecting the samples (sampling kit). In general, all tools and equipment used for collecting microbiological samples should be kept very clean before use, washed thoroughly with water or suitable solvents and then dried. Additionally, tools and containers used for sampling for microbiological analysis are sterilized before use. More than one set of sampling kits must be available during sampling.
5. Photograph needs to be captured for the sampling source along with the sample collector/PDO/Water man, while collecting the sample. Also, a short video needs to be captured at each location capturing the collection process with a brief about the location of the source. All these details along with sample particulars shall be uploaded for all the sources in the shared mobile application.

Parvathi. S

6. The minimum volume of water to be collected should be sufficient to complete all tests indicated; 250 ml is considered as a suitable minimum volume for microbiology. Sterile collection equipment should always be used.
7. The packaging and labels of samples may be contaminated and should be handled and stored with care to avoid any spread of contamination. Disinfection processes applied to the outer container should not affect the integrity of the sample.
8. It may be necessary to monitor environmental conditions for instance air contamination and temperature at the sampling site.
9. Water samples should be sent to the testing laboratory in icebox (i.e., at approximately [10°C] and testing should be done as soon as possible after collection (preferably within 24 hours).

IV. Analysis & Test procedures

1. Ensure standard test procedures are followed for the analysis of water samples as per the IS 1622: 2019 & MPN method)
2. The trained personnel only should carry out the analysis of water samples.
3. The details of participated PT reports must be submitted by the lab as & when PT gets conducted.

V. Reporting & Monitoring

1. The online reporting of analysis results should be done in the shared web application as soon as possible after the analysis of samples each day (not exceeding 10 days from the date of sampling). While the hard copy of results along with invoice should be submitted by 5th of every following month to the District/Division for payment.
2. There should not be any delay or lapse in the reporting of analysis results, once the mandate is given. If there is any delay a penalty of Rs.25 per day per sample would be levied. The delay should not be more than 7 days, beyond which performance security deposit will be forfeited.
3. The lab should be ready to give intermediate sample report at any time.
4. There should be a written procedure for the retention and disposal of samples. Laboratory sample portions that are known to be contaminated should be decontaminated prior to being discarded.
5. The samples should be retained for a minimum period of 15 days from the date of reporting. In case of doubtful results, the repetition of test in presence of RDW&SD officials may be directed by RDW&SD.
6. A random crosscheck of any of the samples tested could be assigned to another NABL accredited laboratory and in such case, there should not be much deviation observed for the same. If fault is noticed, the agency would be penalized 2 times the cost per sample.
7. Sudden audits will be conducted by RDW&SD as and when felt necessary and the lab functioning should be as per IS 17025: 2017.
8. Agreement/Work order given to the laboratory can be cancelled anytime if the reporting and analysis is not carried out in the stipulated period, if not carried out accurately, or not as per the requirement decided upon by RDW&SD or based on sudden audit report.

Pavathi.S

Annexure IV

INSTRUMENTS REQUIRED FOR MPN METHOD		SL.NO	LIST OF CONSUMABLES/ MEDIA REQUIRED FOR MPN METHOD
1	pH METER	1	SODIUM THIOSULPHATE L R
2	REFRIGERATOR	2	MACCONKEY BROTH SINGLE STRENGTH
3	AUTOClave (STERILIZATION)	3	MACCONKEY BROTH DOUBLE STRENGTH
4	AUTOClave (DECONTAMINATION)	4	EOSIN METHYLENE BLUE AGAR
5	COLONY COUNTER (DIGITAL COLONY COUNTER)	5	MACCONKEY AGAR
6	MICROSCOPE	6	BRILLANT GREEN BILE LACTOSE BROTH
7	ANALYTICAL BALANCE	7	LACTOSE BROTH
8	LAMINAR AIR FLOW	8	PEPTONE WATER
9	THERMOMETER	9	NUTRIENT AGAR
10	WEIGHT BOX (1mg-200gm)	10	SIMMONS CITRATE AGAR
11	HYGROMETER	11	KOVACS REAGENT
12	UPS/POWER BACK UP FOR ALL INSTRUMENTS	12	METHYL RED INDICATOR
13	ICE BOX	13	MRVP BOTTLE
14	PASS BOX WITH UV	14	BARRITTS REAGENT
15	BIO SAFETY CABINET	15	GRAM STAINING KIT
16	MICRO PIPETTE	16	ISOPROPYL ALCOHOL
17	SEROLOGICAL WATER BATH (E.coli)	17	MOTILITY AGAR
18	HEATING MANTLE	18	TRIPLE SUGAR IRON AGAR
19	BACTERIOLOGICAL INCUBATOR (37°C)	19	PHENOL RED BROTH BASE
20	BACTERIOLOGICAL INCUBATOR (55°C)	20	LACTOSE DISC
21	BACTERIOLOGICAL INCUBATOR (25°C)	21	SUCROSE DISC
22	HOT AIR OVEN	22	SALICIN DISC
		23	BACILLUS STEAROTHERMOPHILUS STRIPS Log. 106 (AUTO CLAVE VALIDATION)
		24	NUTRIENT BROTH
		25	GLYCEROL FOR PRESERVATION OF CULTURES
		26	BUFFER pH4
		27	BUFFER pH7
		28	BUFFER pH10
		29	CULTURE (E.coli)

Parvathi-S