
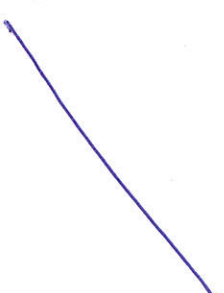


NCC SWSM PROJECTS – UP – GORAKHPUR

Project Name : Survey, Design, Preparation of DPR, Construction, Commissioning and O&M for 10 years of Various Rural Water Supply Project in the State of Uttar Pradesh– Gorakhpur District
Client : SWSM/DWSM-UP-GKP
Consultant : Medhaj Techno Concept Pvt. Ltd.
Contractor : NCC Limited

Request For Inspection

RFI No:	SWSM-UP-GKP/S/	Date And Time - 02/04/2022	
Description:	Rectification of compliance.		
Location:	Block- Gula, Cit- Darukhas		
Preceding RFI No.	SWSM-UP-GKP/S/ TW		
Commencement of work:	02/04/2022		
Submitted By:	Anat Salekhe.		
Signature:			
Designation:	JE (Civil)		
Concessionaire:	Proceed	Hold	
Name:			
Designation:			
Comments:	① Assembly chart is attached. 		


Signature
Contractor Representative


Signature
Consultant Representative

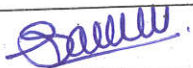
Signature
Client Representative

NCC

SWSM PROJECTS – UP – GORAKHPUR

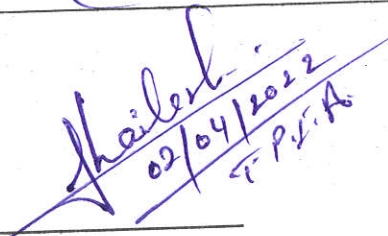
Project Name : Survey, Design, Preparation of DPR, Construction, Commissioning and O&M for 10 years of Various Rural Water Supply Project in the State of Uttar Pradesh– Gorakhpur District
Client : SWSM/DWSM-UP-GKP
Consultant : Medhaj Techno Concept Pvt. Ltd.
Contractor : NCC Limited

Request For Inspection

RFI No:	SWSM-UP-GKP/N/S/	Date And Time - 01/04/2022 11:30pm	
Description:	Lowering of pipe with Assembly and filling Gravel		
Location:	Block - Gola, GP - Dami khas.		
Preceding RFI No.	N.A.		
Commencement of work:	02/04/2022		
Submitted By:	Ankit Salunkhe		
Signature:			
Designation:	J.E civil.		
Concessionaire:	Proceed	Hold	
Name:	Shailish Singh		
Designation:	Senior Engineer		
Comments:	① Assembly chart not available @ the site.		



Signature
Contractor Representative


02/04/2022
S.P.A.

Signature
Consultant Representative

Signature
Client Representative

Signature
Contractor Representative



SPECIFIC GRAVITY OF PEA GRAVELS (SIZE- 1.6 mm to 4.8 mm)

As per IS : 2386 (Part-3)

Date of Testing-

31/03/2022

Test report no :

NCC/AMA-S/01096

SL NO.	DESCRIPTION	OBSERVATIONS
1	Source of material :	Lalkuan, Nainital, Uttarakhand.
2	Location :	NAME OF THE BLOCK - COLA
		NAME OF THE GRAM PANCHAYAT - DARI KHAS
3	Date of sampling :	30/03/2022
4	Lab. Test no :	96
5	Sample no :	96

SPECIFIC GRAVITY TEST AT ROOM TEMPERATURE

6	Weight of the Jar, W1 (gm)=	252 gm	
7	Weight of Jar + Gravel, W2 (gm)=	461 gm	
8	Weight of Jar + Gravel + Water, W3 (gm)=	758 gm	
9	Weight of the Jar + Water, W4 (gm)=	724 gm	
10	Specific Gravity	$\frac{W2 - W1}{(W2 - W1) - (W3 - W4)}$	= 2.78
	=		

Note : The Specific Gravity should not be less than 2.5

NCC
NCC Limited

NCC LTD.

STATE WATER AND SANITATION MISSION

CLIENT: JJM / SWSM / DWSM



GORAKHPUR-UP

SIEVE ANALYSIS OF PEA GRAVELS (SIZE-1.6 mm to 4.8 mm)

(As per IS : 460 and IS: 4097)

Date of Testing :

31/03/2022

Test report no :

NCC/GRK-SD/096

SL NO.	DESCRIPTION	OBSERVATIONS
1	Source of material :	Lalkuan, Nainital, Uttarakhand
2	Location :	Block Name- GOLA G.P Name- DARIKHIS
3	Date of sampling :	30/03/2022
4	Lab. Test no :	96
5	Sample no. :	96
6	Total wt. of sample (gm) :	1000gr

SIEVE ANALYSIS

IS Sieve Size	retained	Cumulative wt. Retained (gm)	Cumulative % wt. Retained	% passing	Acceptable / Not Acceptable
6.3 mm	04	04	0.4	99.6	OK
4.75 mm	289	293	29.3	70.7	OK
2.36 mm	579	872	87.2	12.8	OK
1.18 mm	127	999	99.9	0.1	OK
Pan	01				
Total(gm)=					

The Hardness of Material is=

Note:- The Hardness value should not be less than 5 in Moh's scale.

NCC LTD.

PMC/TPIA

CLIENT

NAME OF THE DISTRICT- GORAKHPUR	TYPE OF RIG M/C- RC
NAME OF THE BLOCK- COLA	SIZE OF BORE- 550/500 mm φ
NAME OF THE GRAM PANCHAYAT- DARIKHAS	STATIC WATER LEVEL- 13M
NAME OF THE VILLAGE-	J.E Incharge Nandu Prasad E Incharge

DISCHARGE - 500 LPM

DEPTH B.G.L. IN METER	BORING CHART	STRATA	EXECUTED ASSEMBLY	ASSEMBLY DETAILS
0M		GL		200 mm Dia Housing Pipe A.G.L. = 0.50 m
				200 mm Dia Housing Pipe m to 36.19 m
		SANDY CLAY		200/150 mm Dia Reducer 35.69 m to 35.89 m
				150 mm Dia BLIND pipe 35.89 m to 67.51 m
				150 mm Dia SLOTTED pipe 67.51 m to 70.51 m
20.0M		MEDIUM SAND		150 mm Dia BLIND pipe 70.51 m to 83.53 m
				150 mm Dia SLOTTED pipe 83.53 m to 86.54 m
				150 mm Dia BLIND pipe 86.54 m to 95.58 m
30.0M		SANDY CLAY		150 mm Dia SLOTTED pipe 95.58 m to 101.62 m
				150 mm Dia BLIND pipe 101.62 m to 106.52 m
				150 mm Dia SLOTTED pipe 106.52 m to 112.54 m
				150 mm Dia BLIND pipe 112.54 m to 118.57 m
40.0M		MEDIUM SAND		
63.0M		SANDY CLAY		
66.0M				
71.0M		FINE SAND WITH KANKAR		
		SANDY CLAY		
82.0M				
88.0M		FINE SAND WITH KANKAR		
		SANDY CLAY		
95.0M				
		MEDIUM SAND		
102.0M		CONCRETE CLAY		
106.0M				
		MEDIUM SAND		
120.0M				
		CLAY		
167.0M				

Total Assembly = 118.57 m + A.G.L. (m) = 119.07 m

ABSTRACT

1. Drilling Started-
2. Drilling Completed/Lowering- **02/04/2022**
3. Drilling Depth (m)- **167.0M**
4. Assembly Lowered (m)- **119.07**
5. Housing Pipe (m)- **36.19M**
6. Plain Pipe (m)- **84.61M**
7. Slotted Pipe (m)- **18.07M**
8. Reducer (m)- **0.20M**

LOGGING REPORT

- 1- 20 - 30 → 10.0
- 2- 50 - 63 → 13.0
- 3- 67 - 71 → 4.0
- 4- 83 - 87 → 4.0
- 5- 95 - 102 → 7.0
- 6- 106 - 113 → 7.0
- 7- 115 - 120 → 5.0
- 8-
- 9-
- 10-

SOUND TEST

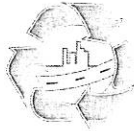
VERTICALITY TEST



Nandu Prasad (JE & A.E.)
Rabban Yadav (P.M./CT.P.I.A.)

Nandu Prasad (JE & A.E.)
Rabban Yadav (P.M./CT.P.I.A.)

Signature
E.E.



TECHPRO ENGINEERS PVT. LTD.

(Laboratory Division)

Lab Add. 131, Ram Ganga Housing Society, Naramau, Kanpur- 209217,

Tel.: 0512-2525759, 09793209918, Web site: www.techproindia.com

e-mail: tepllab@gmail.com, info@techproindia.com.

Doc No.: TEQR-36C, Issue No.: 02, Issue Date: 18/08/20, Rev. No. : 01, Rev. Date: 10/12/2020

TEPL/MT/2022/136/R1

Dated: 05-03-2022

TEST REPORT

Name of Customer	:	Jal Nigam, Gorakhpur
Project	:	SWSM-JJM Project (Har Ghar Jal Mission) at Gorakhpur U.P.
Reference No.	:	SWSM-UP/GKP/QC/77
Sample supplied to Lab by	:	Customer representative
Name of Contractor/ Agency	:	NCC Ltd.
Sample Particulars	:	Pea-Gravel

Sample Receipt Date	:	03/03/2022	Job No.	:	MT136
Condition of sample	:	Satisfactory	SRF No.	:	2022/29
Type of Sample	:	Pea-Gravel	ULR No.	:	NA
Source of sample	:	Lalkuan (Uttarakhand)	Period of Testing	:	03/03/2022 to 05/03/2022

Terms & Conditions:

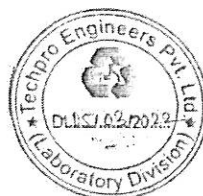
1	Results relate only to the test sample provided by customer.
2	This report is under copyright of Techpro Engineers Pvt. Ltd. (Laboratory Division) and is not to be reproduced, copied, handed over third party or used for any purpose other than for which it has been loaned.
3	The tested samples are retained for three months after issue of test report (if not collected by customer).
4	The unique identification of sample is as Job No. / Chainage No. /BH. No./SI. No. But only SI. No is mentioned in results.



Checked By:

Alok Chauhan

Alok Kumar Chauhan
(Technical Manager)



Approved By:

Arvind Kumar Garg

Arvind Kumar Garg
(Quality Manager)



TECHPRO ENGINEERS PVT. LTD.

(Laboratory Division)

Lab Add. 131, Ram Ganga Housing Society, Naramau, Kanpur- 209217,

Tel.: 0512-2525759, 09793209918, Web site: www.techproindia.com

e-mail: tepllab@gmail.com, info@techproindia.com,

Doc No.: TEQR-36C, Issue No.: 02, Issue Date: 18/08/20, Rev. No. : 01, Rev. Date: 10/12/2020

1. PHYSICAL TEST RESULT OF PEA GRAVEL

Sample Unique ID: MT136/TEPL/02

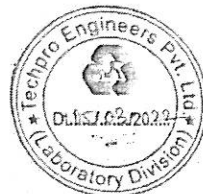
Sl. No.	Particular of Test	Test Passing %	Specification As Per IS (383 & 4097)	Test Method	Remarks
1.0	Sieve Analysis (% by weight)	12.5 mm	100	IS 2386 (Part-1) 1963, RA-2016	-
		8.0 mm	100		
		6.30mm	100		
		4.75 mm	80.90		
		3.35 mm	14.40		
		2.00 mm	8.60		
2.0	Combined Flakiness & Elongation Index (% by weight)	0.0	40 Max	IS 2386 (Part-1)-1963, RA-2016	Partical Size >6.3
3.0	Water Absorption (% by weight)	0.90	5 Max	IS 2386 (Part-3)-1963 RA-2016	-
4.0	Specific Gravity	2.66	2.1 - 3.2	IS 2386 (Part-3)-1963 RA-2016	-
5.0	Hardness Test (Number)	7.3	5 Min	IS 13630 (Part-13)-2006	-
6.0	Bulk Density , Kg/litre			IS 2386 (Part-3)-1963 RA-2016	-
	a) Compacted	1.59	NA		
	b) Loose	1.49	NA		



Checked By:

Alok Chauhan

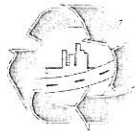
Alok Kumar Chauhan
(Technical Manager)



Approved By:

Arvind Kumar Garg

Arvind Kumar Garg
(Quality Manager)



TECHPRO ENGINEERS PVT. LTD.

(Laboratory Division)

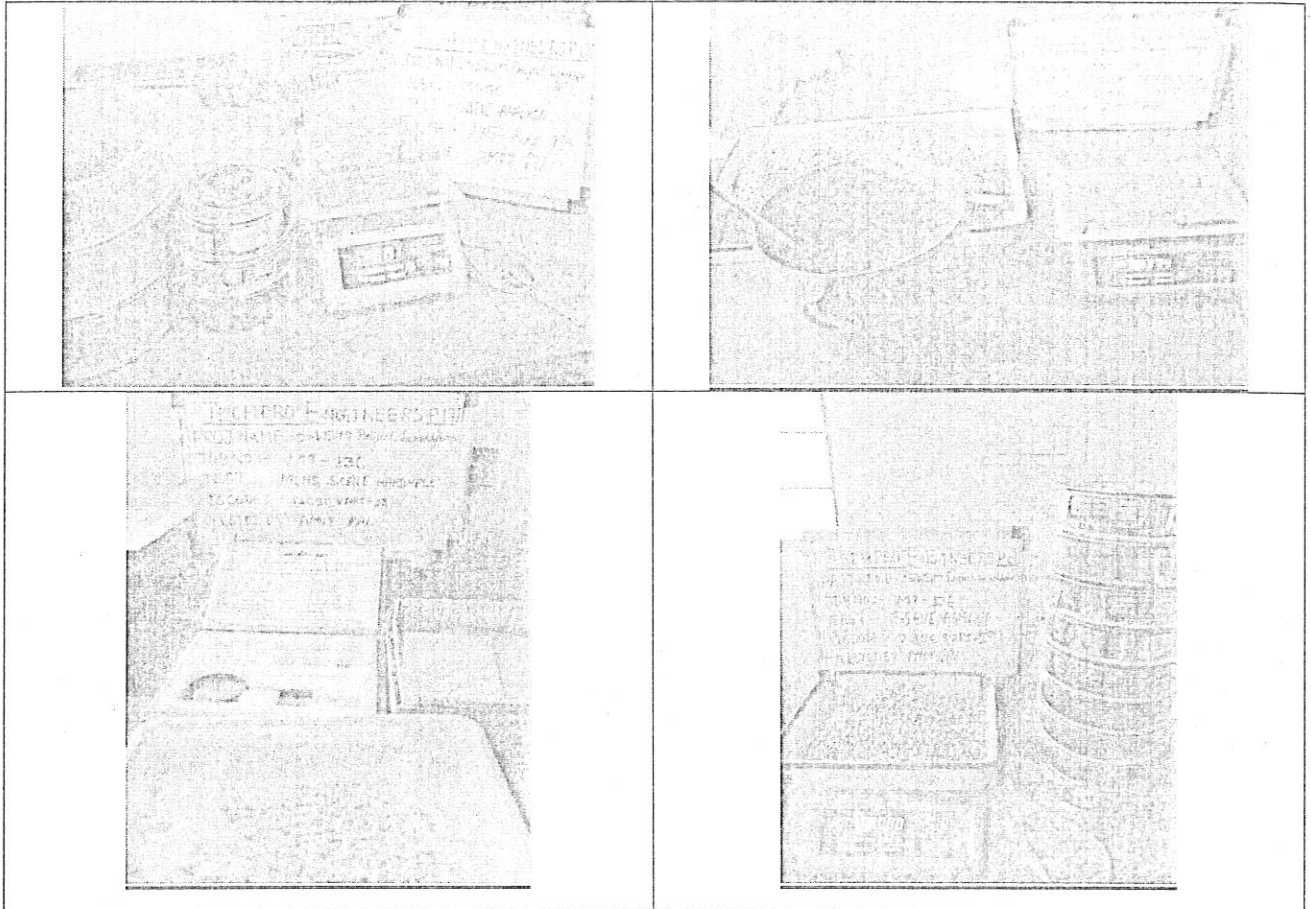
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e-mail: teplab@gmail.com, info@techproindia.com.

Doc No.: TEQR-36C, Issue No.: 02, Issue Date: 18/08/20, Rev. No. : 01, Rev. Date: 10/12/2020

PHOTOGRAPHS



END OF REPORT

TUV INDIA PRIVATE LIMITED

INSPECTION RELEASE NOTE / CERTIFICATE

IRN -8119494049-NCC/ROK/SWSMUP-G(S)/PO/47 - Sr. No 1.- Rev. 00



TUV India Control Or SAP Number:	8119494049	Date:	10-12-2021
Project Name & Location	Gorakhpur South Project State water and sanitation Mission	TUV India Branch Name:	Noida
TUV India Client Name:	M/S. DADU PIPES PVT LTD	End User Name:	Executive Director, State Water and Sanitation Mission, (U.P)
Contractor Name & Location	NCC LIMITED.	Sub Contractor Name & Location	Not Applicable
Vendor Name & Location:	M/s. Dadu Pipes (P) Ltd. A-72, Ind. Area, Sikandrabad Bulandshahr (U.P)	P.O. Number: <i>(Client PO on Vendor)</i>	NCC/ROK/SWSMUP-G(S)/PO/47 Dt. 03.12.2021
Sub Vendor Name & Location: <i>(if applicable)</i>	Not Applicable	P.O. Number: <i>(if applicable - Vendor PO on Sub Vendor)</i>	Not Applicable

Item Description:

PO Item No.	Item Code Item Description	UOM	P.O. Quantity	Offered Quantity	Accepted Quantity	Cumulative accepted Quantity
1	200 MM Dia MS ERW Plain End pipe 6 Mtr Length, WT:5.40 MM Thick as pr IS:4270, Varnished.	Mtrs	576	588	576	576
2	150 MM Dia MS ERW Plain End pipe 6 Mtr Length, WT:5.00 MM Thick as pr IS:4270, Varnished.	Mtrs	1758	1770	1758	1758
3	MS ERW Plain end Slotted Pipe 150 mm Dia, Wt:5.40 MM conforming to IS:4270. 6 Mtr length, Slotting as per IS:8110 & Zig-Zag Slots, Length 75mm x 1.20mm and slots per meter 780 Nos (+) 10%, Varnished.	Mtrs	438	438	438	438

Reference Documents:

Sr. No.	Document Name	Client Document Number	Vendor Document Number	Approval Status
1)	PR / MR / ARM	Not Applicable	Not Applicable	Not Applicable
2)	QAP / ITP / QCP	DPPL/31/QP/01 Rev 0	Not Applicable	Approved by client
3)	Drawing(s)	Not Applicable	Not Applicable	Not Applicable
4)	Datasheet(s)	Not Applicable	Not Applicable	Not Applicable
5)	Procedure(s)	Not Applicable	Not Applicable	Not Applicable
6)	Others <i>(Specify)</i>	IS 4270, IS 8110, IS 4711	Not Applicable	Approved

Stages Witnessed: (For PO Sr. No 3 - Scope as per QAP sr. no 3.1, 3.4, 3.5 only & All for rest)

- 1) Total offered quantity verified.
- 2) QAP Sr.No 3.5 Visual inspection done for surface defects, workmanship and protective coating for all items- found satisfactory.
- 3) QAP Sr.No 3.1 Final dimension inspection done Thickness, Outer Diameter, Length & weight for randomly selected items as per IS 4711 – found within limits – found satisfactory.
- 4) QAP Sr.No 3.2 Mechanical testing (Tensile, Flattening) checked on identified samples – found to meet the specification requirement (IS 4270) – found satisfactory.

Disclaimer: The inspection by TUV India Pvt. Ltd., review of Test Certificates / Reports and issue of Inspection Release Note / Certificate does not relieve Client / Supplier / Manufacturer / Stockiest from their responsibility towards the Client / End User to supply the genuine material / item(s) and document(s) in full compliance with applicable Order, Specification, Technical, Quality, Quantity, Warranty, Guarantee requirements, Supplier / Manufacturer / Stockiest is wholly legally responsible for genuineness of the material / item(s) supplied and document(s) submitted. TUV India's responsibility is only limited to correctness of inspection results including review of the documents, within its agreed scope against written requirements and neither TUV India nor any of its group companies, associates or employees are in any way legally responsible for genuineness of the material / item(s) and document(s). If the calibration certificate(s) for the measuring instrument(s) / equipment(s) used during inspection do not have traceability to NABL / Other certifying bodies, then the scope of review is limited only to technical control to the calibration certificate.

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Tel: + 91 22 66477000, Email: inspection@tuv-nord.com Website: www.tuv-nord.com/in

10/12/2021

TUV INDIA PRIVATE LIMITED

INSPECTION RELEASE NOTE / CERTIFICATE

IRN -8119494049-NCC/ROK/SWSMUP-G(S)/PO/47 - Sr. No 1.- Rev. 00




- 5) QAP Sr.No 3.3 Hydro test done randomly selected @5% items at 7Mpa test pressure and hold period 3 seconds minimum - observed no pressure drop - found satisfactory.
- 6) QAP Sr.No 3.4 - Identification marking checked randomly - found in order.
- 7) All measuring instruments/ equipment were verified for continued suitability for intended use, proper identification, calibration status, traceability to national standards & found satisfactory.

Documents Reviewed:

- 1) QAP Sr. No. 1.1 Raw material test certificates reviewed for its technical content only as declared by manufacturer and endorsed by vendor- Found to meet the applicable code and project specification requirement
- 2) QAP Sr. No. 1.2, 1.3 & 1.4 - Physical Properties, Dimension & Visual report of Raw material reviewed - found in order.
- 3) QAP Sr. No. 2.1-In-process Dimension inspection report reviewed and found in order.
- 4) QAP Sr. No. 2.2 - In-process Mechanical testing report reviewed and found in order.
- 5) QAP Sr. No. 2.3 - In-process Hydro testing report reviewed and found in order.
- 6) QAP Sr. No. 2.4 - In-process workmanship & protective coating report reviewed and found in order.
- 7) Material test certificates Number DPPL/QC/TC-01212 Date 10.12.2021 reviewed and found in order.

NCR / Waiver (if Any): None

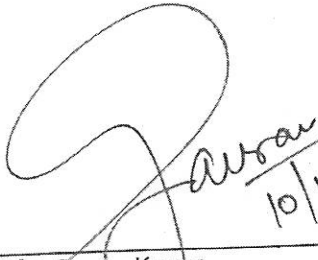

Identification: Inspected items identified with TUV Hard stamp "  " on OD near manufacturers marking. (Double on witnessed & rest single)

Order status: Complete Incomplete

Sub order status: (If applicable) Complete Incomplete

Date(s) of Inspection: 10.12.2021

Conclusion: All items were inspected within the scope defined in approved PO, QAP, specifications & Found to meet the requirements of purchase order & Specifications.


10/12/21

Gaurav Kumar

Inspector(s) to TUV India Private Limited

Distribution List: TUV India Client/End User TUV India Executing /Originating Branch Vendor/Sub Vendor

Revision Number (If Applicable): 00 - Type Reason for revision here.

This Document Supersedes IRN No.: Mention previous IRN Number.

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Tel. + 91 22 65477000, Email: inspection@tuv-nord.com Website: www.tuv-nord.com/in

EXECUTIVE SUMMARY

Salient Features

Name of the state	UTTAR PRADESH
Name of the District	GORAKHPUR
Name of the Tehsil	Gola
Name of the Block	Gola
Name of the Programme	Under Jal Jeevan Mission Programme
Name of the GP	Dari Khas
No. of Village/Habitations	1/3

Table 1: List of Village and Habitations

S. No	District Name	Sub District Name	Block Name	Gram Panchayat Name	2011 Census Code	Revenue Village Name	Habitations Name
1	GORAKHPUR	Gola	Gola	Dari Khas	0	Dari Khas	Dari Khas
a							Chauraha
2					0	Govindpur	Govindpur

Village Population Summary

Table 2: Population, SC/ST and House hold Data
GP/VILLAGE-POPULATION DETAILS

S. NO	DESCRIPTION	GROWTH FACTOR WRT Y-2011	POPULATION	SC/ST	HOUSE HOLDS
1.	As per Census 2011	1	2003	486	320
2.	Initial Stage 2022	1.19	2380	577	380
3.	Middle Stage 2037	1.48	2970	720	474
4.	Ultimate Stage 2052	1.83	3670	890	586

Rate of water supply	:	64.7 LPCD (added 15% losses over 55LPCD)
Nature of Sources	:	Ground water
Source of Development	:	Tube-Well
Daily Water Demand Summary	:	
a) Base year 2022	:	154 KLD
b) Intermediate year 2037	:	192 KLD
c) Design year 2052	:	237 KLD
Number of Tube wells	:	1 No.
Nature of Treatments	:	Chlorinator through HDPE Tank (100 L) and Dosing metering pump (0-6LPH)
Average Dosing Capacity	:	0.5 PPM
Pumping plant for Tube Well	:	
a) No. and Type of Plant	:	1 Number of Submersible Pump
b) Anticipated Discharge	:	500 LPM
c) Total working Head	:	42 M
d) Motor (HP)	:	10.0 HP
Service Storage	:	
a) Quantity	:	1 No.
b) Capacity	:	150 KL
c) Staging	:	13 M

Pipeline Summary

Table 3: Rising Main Summary

Pipeline Type	Details of tube well	Tube well Location	Material	Class	Diameter (mm)-OD	Length (m)
Rising Mains	New Tube Well	In Water Works	DI	K-9	100	35
Total Length (m)						35

Table 4: Distribution Summary

Pipeline Type	Material	Class	Diameter(mm)	Length (m)
Distribution Mains	HDPE	PN-6 PE100	63	5,845
Distribution Mains	HDPE	PN-6 PE100	75	792
Distribution Mains	HDPE	PN-6 PE100	90	541
Distribution Mains	HDPE	PN-6 PE100	110	384
Distribution Mains	HDPE	PN-6 PE100	125	0
Distribution Mains	HDPE	PN-6 PE100	140	29
Distribution Mains	HDPE	PN-6 PE100	160	36
Distribution Mains	HDPE	PN-6 PE100	180	0
Distribution Mains	HDPE	PN-6 PE100	200	0
Total Length (m)				7,627

Estimate for Dari Khas Gram Panchayat
Water Supply Scheme
Under - SWSM
Block- Gola District- Gorakhpur
Form "J" - Comprehensive Scheme

Sr. No.	Description of Work	Amount (Rs. in Lacs)	%	Amount (Rs. in Lacs)	Govt. of U.P. Share	Govt. of India Share
1	2	3	4	5	6	7
1	Cost of Work	189.83		189.83 167.68		
2	0.14% Discount as per Contract on Cost of work	189.83	-0.14%	0.27 0.23		
	Net Cost of Work			167.45		
3	Add Contingency 2%	189.57	2.00%	3.79 3.35		
	Sub Total (A)			170.79	96.68	96.68
4	Add GST 12 %-B	193.36	12.00%	23.20 20.50	11.60	11.60
5	Add 12.5% Centage-C	193.36	12.50%	24.17 21.35	24.17	
Grand Total (A+B+C)				212.64	132.45	108.28
6	550 MMØ	189.57		0.00	0.00	0.00

10 year AM - 42.96

TOTAL POPULATION A (ULTIMATE YEAR 2052)	3670
Per Capita Cost (NET COST+CONTIGENCY+GST)	5901

PREPARED BY

CHECKED BY



J.E(T)

Assistant Engineer

Member Secretary DWSM

Executive Engineer,

U.P Jal Nigam, 10th Div. Gorakhpur

Forwarded As Recommended
by DWSM For SLSSC

(इं० डी०के० सिंह)

अधीक्षक अभियंता
राज्य पेयजल एवं स्वच्छता मिशन

(तकनीकी प्रकोष्ठ)

राज्य पेयजल एवं स्वच्छता मिशन

(इं० जी०पी० शुक्ला)

युनिट कोऑर्डिनेटर
राज्य पेयजल एवं स्वच्छता मिशन

Break up of Cost

SL. No.	Sub Head	Total Cost of work	Building	R.C.C. Reservoir	Pipe Line	Machinery	Misc.
1	2	3.0	4.0	5.0	6.0	7.0	8.0
A. Civil works :							
1	Pump house & Chlorinating room	4,04,000	4,04,000				
2	Rising Main	71,161			71,161		
3	R.C.C. Over head tank (KL/ m staging)	37,23,394		37,23,394			
4	Distribution System	53,67,451		53,67,451			
5	Approach Road	16,81,966	16,81,966				
6	Boundary Wall and approach road	8,72,280	8,72,280				
7	Staff Quarter	9,70,600	9,70,600				
8	Surveying and designing	1,89,832					1,89,832
	(Total A)	1,32,80,683	39,28,846	90,90,845	71,161	-	1,89,832
B. E&M works:							
1	Cost of Tubewell construction	17,47,677				17,47,677	
2	550 MMØ	12,44,600				12,44,600	
3	Solar plant	16,49,200				16,49,200	
4	Electrification of pump house, SCADA	10,61,000				10,61,000	
	Total (B)	57,02,477	-	-	-	57,02,477	-
	G. Total (A+B)	1,89,83,160	39,28,846	90,90,845	71,161	57,02,477	1,89,832

Estimate for Dari Khas Gram Panchayat
Water Supply Scheme
Under - SWSM
Block- Gola District- Gorakhpur

BOQ Item No.	Description	Unit	Qty	Rate	Amount
	Survey, Design & Preparation of DPR				
1.01	All the works including Hydrological survey, topographical survey, Design charges including preparation and approval of DPR	LS	1.00	189832.00	189832
2.00	Drilling of Borehole for Tubewell construction by DC/RC/DTH Rig Machine including transportaion, erection, dismantling of Rig and associated T&P complete in all respect including required all material labour etc.				
	RIG Transportation for Tube Well Construction				
2.01	Transportation, Installation Dismantling of Rig machine and logging of bore hole	Job	1.00	159478.88	159479
	Tube Well Construction- Drilling of Borehole				
2.03	DC/RC Drilling up to 100Mtr.				
2.04	400 MMØ	Mtr.		1638.27	
2.05	450 MMØ	Mtr.		1834.20	
2.06	550 MMØ	Mtr.	100.00	2422.00	242200
2.07	600 MMØ	Mtr.		2422.00	
2.08	DC/RC Drilling from 101 Mtr. To 200 Mtr.Deep				
2.09	450 MMØ	Mtr.		1960.88	
2.10	500 MMØ	Mtr.	67.00	2144.00	143648
2.11	600 MMØ	Mtr.		2510.25	
2.12	DC/RC Drilling from 201 Mtr. To 300 Mtr.Deep				
2.13	450 MMØ	Mtr.		2831.63	
2.14	500 MMØ	Mtr.		3014.75	
2.15	600 MMØ	Mtr.		3381.00	
2.16	DC/RC Drilling from 301 Mtr. To 400 Mtr.Deep & above				
2.17	450 MMØ	Mtr.		3319.35	
2.18	500 MMØ	Mtr.		3502.48	
2.19	600 MMØ	Mtr.		3868.72	
2.20	DTH Drilling upto 200.0 Mtr.Deep				
2.21	200/165 MMØ (in over burden/Hard Rock)	Mtr.		1250.00	
2.22	Development / Flushing of tubewell	Hr.		2900.00	
	Tubwell Assembly (Supply + Fittings & Specials)				
3.01	MSERW plain pipe,As per IS 4270				
3.02	100 MMØ	Mtr.		927.50	
3.03	150 MMØ	Mtr.	96.00	1900.00	182400
3.04	200 MMØ	Mtr.	36.00	2550.00	91800
3.05	300 MMØ	Mtr.		3800.00	
3.06	MSERW Pipe slotted pipe as per IS 8110				
3.07	100 MMØ	Mtr.		1366.85	
3.08	150 MMØ	Mtr.	18.00	2800.00	50400
3.09	200 MMØ	Mtr.		3833.80	
3.10	300 MMØ	Mtr.		5188.59	
3.11	MS fittings such as clamp, bail plug, reducer, well cap, girder & support structure	LS	1.00	32295.00	32295
3.12	MS fittings such as ring & centre guide	RM	150.00	471.68	70752
	Tubwell Assembly Lowering Works				
	Lowering of above assembly with welding of parts complete in all respect with all required material, T&P, labour, etc.				
4.01	Lowering up to 100 Mtr. Deep				
4.02	100 MMØ MSERW Plane/Slotted Pipe	Mtr.		129.45	
4.03	150 MMØ MSERW Plane/Slotted Pipe	Mtr.	64.00	281.00	17984
4.04	200 MMØ MSERW Plane/Slotted Pipe	Mtr.	36.00	376.50	13554
4.05	300 MMØ MSERW Plane/Slotted Pipe	Mtr.		472.00	
4.06	Lowering from 101 Mtr. To 200 Mtr. Deep				
4.07	150 MMØ MSERW Plane/Slotted Pipe	Mtr.	50.00	376.00	18800

BOQ Item No.	Description	Unit	Qty	Rate	Amount
4.08	200 MMØ MSERW Plane/Slotted Pipe	Mtr.		499.19	
4.09	300 MMØ MSERW Plane/Slotted Pipe	Mtr.		745.58	
4.10	Lowering from 201 Mtr. To 300 Mtr. Deep				
4.11	150 MMØ MSERW Plane/Slotted Pipe	Mtr.		385.19	
4.12	200 MMØ MSERW Plane/Slotted Pipe	Mtr.		459.00	
4.13	300 MMØ MSERW Plane/Slotted Pipe	Mtr.		606.62	
4.14	Lowering from 301 Mtr. To 400 Mtr. Deep & above				
4.15	150 MMØ MSERW Plane/Slotted Pipe	Mtr.		426.53	
4.16	200 MMØ MSERW Plane/Slotted Pipe	Mtr.		499.00	
4.17	300 MMØ MSERW Plane/Slotted Pipe	Mtr.		643.94	
	Supply and Packing of Gravel Works				
5.00	Supply and unconsolidated packing of gravel with suitable size Development of Tube well	Cum	45.00	7500.00	337500
6.01	Tranportation, Installation Dismantling of 150 PSI Compressor	Job		42120.00	
6.02	Charges for Development by 150 PSI Compressor per hour	Hr.		2544.52	
6.03	Tranportation, Installation Dismantling of 250/400/600 PSI Compressor	Job	1.00	42120.00	42120
6.04	Charges for Development by 250 PSI Compressor per hour	Hr.	60.00	3027.00	181620
6.05	Charges for Development by 400 PSI Compressor per hour	Hr.		3154.10	
6.06	Charges for Development by 600 PSI Compressor per hour	Hr.		4062.20	
6.07	Tranportation, Installation Dismantling of 0.5 Cusec OP Unit and Yield test, water test	Job		22321.28	
6.08	Charges for Development of TW by 0.5 Cusec OP Unit	Hr.		785.42	
6.09	Tranportation, Installation Dismantling of 1 Cusec to 3 Cusec OP Unit and Yield test, water test	Job	1.00	67225.00	67225
6.10	Charges for Development of TW by 1 cusec OP Unit	Hr.	100.00	959.00	95900
6.11	Charges for Development of TW by 3 cusec OP Unit	Hr.		1196.00	
6.12	Tranportation, Installation Dismantling of 2 Cusec OP Unit and Yield test, water test	Job		89317.00	
6.13	Charges for Development of TW by 2 cusec OP Unit	Hr.		1119.00	
	Pumping Plant:-				
7.00	SITC of Pumping plant including pumps with motors starter, pannel, cable, complete in all respect with all required material T&P labour etc.				
7.01	1 HP	Nos		32518.98	
7.02	2 HP	Nos		35843.14	
7.03	3 HP	Nos		46249.21	
7.04	5 HP	Nos		65037.95	
7.05	7.5HP	Nos		228500	
7.06	10 HP	Nos	1.00	230200	230200
7.07	12.5 HP	Nos		238800	
7.08	15 HP	Nos		252100	
7.09	17.5 HP	Nos		276504.56	
7.10	20 HP	Nos		295500	
7.11	25 HP	Nos		334043.48	
7.12	30 HP	Nos		366163.04	
7.13	35 HP	Nos		393723.7	
7.14	40 HP	Nos		426547.83	
7.15	Variation in HP due to change of site locations increased/decreased in per HP of the proposed pumping plants.	Rate/HP		30467	
8.00	Pressure Transmitter	Nos	1.00	43120	43120
A.I - 13	Electrically operated Sluice Valve:-				
A.I - 13.01	Electrically operated Sluice Valve PN 1.0 dia 80 mm	Nos	2.00	125000	250000
A.I - 13.02	Electrically operated Sluice Valve PN 1.0 dia 125 mm	Nos		125000	
9.00	Electrically operated Sluice Valve PN 1.0 dia 100 mm	Nos	1.00	125000	125000
9.01	Electrically operated Sluice Valve PN 1.0 dia 150 mm	Nos		125000	
9.02	Electrically operated Sluice Valve PN 1.0 dia 200 mm	Nos		150000	
A.I - 14	Check Valve:-				
A.I - 14.01	Check Valve PN 1.0 DPCV dia 80 mm	Nos	1.00	27519.8	27520
9.03	Check Valve PN 1.0 DPCV dia 100 mm	Nos		27519.8	
9.04	Check Valve PN 1.0 DPCV dia 150 mm	Nos		51145.45	
9.05	Check Valve PN 1.0 DPCV dia 200 mm	Nos		73485.9	

BOQ Item No.	Description	Unit	Qty	Rate	Amount
A.I - 15	Dismantling Joint :-				
A.I - 15.02	Dismantling Joint PN 1.0 dia 80 mm	Nos		3923.92	
A.I - 15.01	Dismantling Joint PN 1.0 dia 125 mm	Nos	1.00	5605.6	5606
9.06	Dismantling Joint PN 1.0 dia 100 mm	Nos	4.00	3923.92	15696
9.07	Dismantling Joint PN 1.0 dia 150 mm	Nos		5605.6	
9.08	Dismantling Joint PN 1.0 dia 200 mm	Nos		7367.36	
9.09	SITC of Chain Pulley Blocks				
9.10	1 Tonne	Nos	1.00	46305	46305
9.11	2 Tonne	Nos		58432.5	
10.00	Turbidity & Chlorine analyzer	Nos	1.00	273000	273000
11.00	Hydrostatic Level Sensor:- Providing and installation hydrostatic level sensor at all tubewell pumping system including all accessories etc. complete in all respect as per instructions of Engineer -in -charge.	Nos	1.00	126000	126000
12.00	Stabalizer				
12.01	2 KVA	Nos		12777.78	
12.02	5 KVA	Nos		25555.56	
12.03	7.5 KVA	Nos		44722.22	
12.04	10 KVA	Nos		127777.78	
12.05	15 KVA	Nos		166111.11	
12.06	20 KVA	Nos		191666.67	
12.07	25 KVA	Nos		204444.44	
12.08	30 KVA	Nos		230000	
12.09	40 KVA	Nos		281111.11	
12.10	50 KVA	Nos		319444.44	
12.11	60 KVA	Nos		345000	
13.00	Column Pipe:- SITC of Column pipe of MS pipe for connecting submersible pumps				
13.01	32 mm Dia size - MS pipe	Mtr.		500	
13.02	40 mm dia size - MS pipe	Mtr.		666.67	
13.03	50 mm dia size - MS pipe	Mtr.		921	
13.04	65 mm Dia size - MS pipe	Mtr.		1066.67	
13.05	80 mm Dia size - MS pipe	Mtr.	30.00	1400	42000
13.06	100 mm Dia size - MS pipe	Mtr.		1567	
13.07	150 mm Dia size - MS pipe	Mtr.		2167	
14.00	Chlorinating System:- Supply , Installation of chlorinating system with dosing pump 0-6 LPH capacity with 100 Litres(1w+1s) tanks, valves ,pipes with required accessories (Automatic dosing system for chemical injection)	JOB	1.00	112000	112000
15.00	Fluoride Removal Plant:- Supplying, installation, testing, commissioning of Fluoride removal plant for required capacity including transportation and labour charges as complete. (vender have to select the technology based on capacity (Electrolytic-de fluoridation plant or media based system). Rates for400 KLD/ 500 LPM	LS		8062500	
16.00	Iron Removal Plant:- Supplying, installation, testing, commissioning of Iron removal plant which includes vessel, media, piping valves etc. for required capacity including transportation and labour charges as complete. Rates for400 KLD/ 500 LPM	LS		6062500	
17.00	Arsenic Removal Plant:- Supplying, installation, testing, commissioning of Arsenic removal plant which include vessel, media, piping valves etc. for required capacity including transportation and labour charges as complete. Rates for400 KLD/ 500 LPM	LS		9000000	