

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/ TW/56
 Date And Time - 15/01/2022 / 02:50 PM

Description: Lowering of pipe with Assembly & Filling of Pipe - In-situ.
 Location: Block - KOLA - G.P. - AHIROLI-02
 Preceding RFI No. NA
 Commencement of work: 16/01/2022
 Submitted By: Ravi Kumar
 Signature: *[Signature]*

Concessionaire:	
Name:	
Designation:	

Comments: ① Paint to be needed on tubewell assembly fittings.
 ② H - frame coos not available at site.
 ③ For ground coos not stacking properly.

Signature _____ Contractor Representative
 Signature _____ Consultant Representative
 Signature _____ Client Representative

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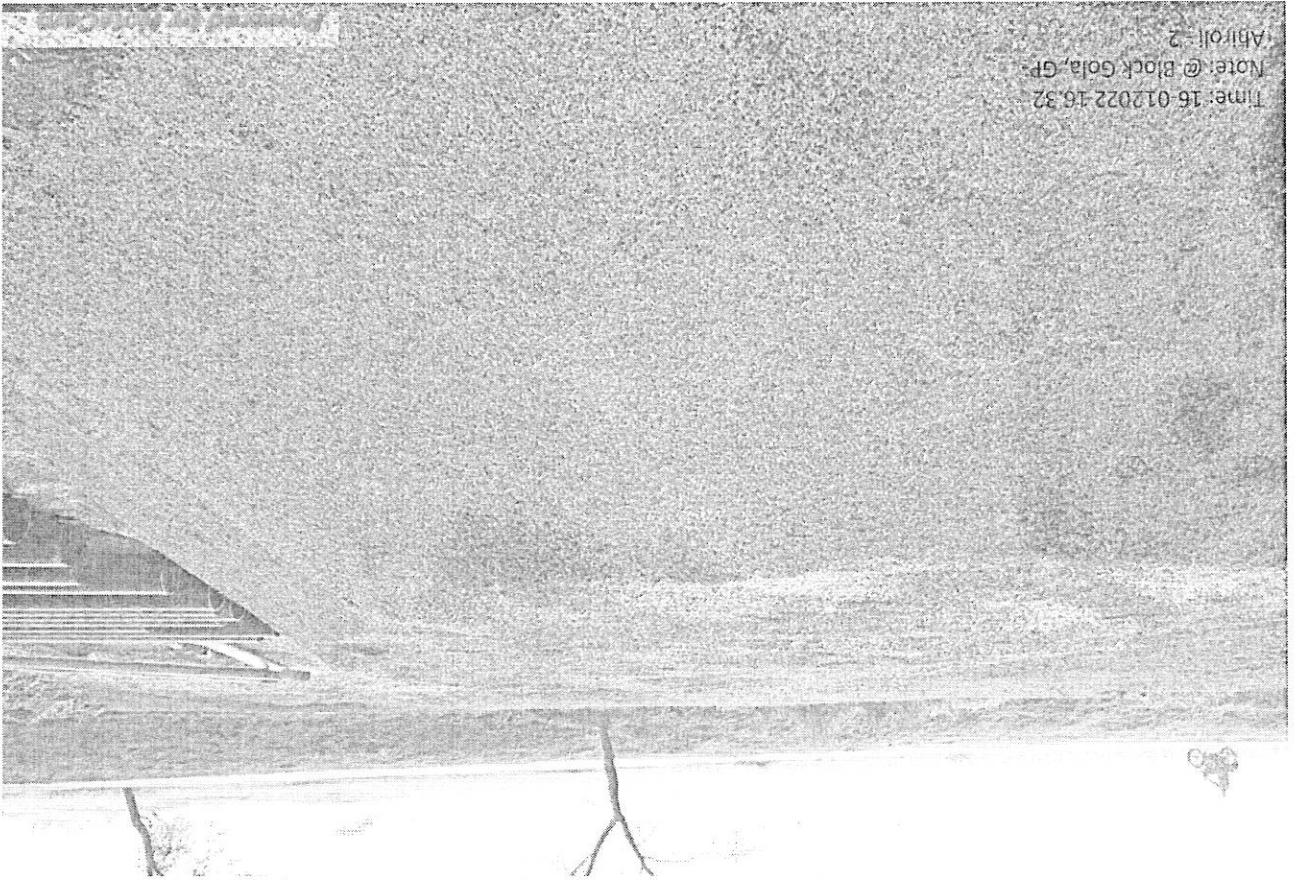
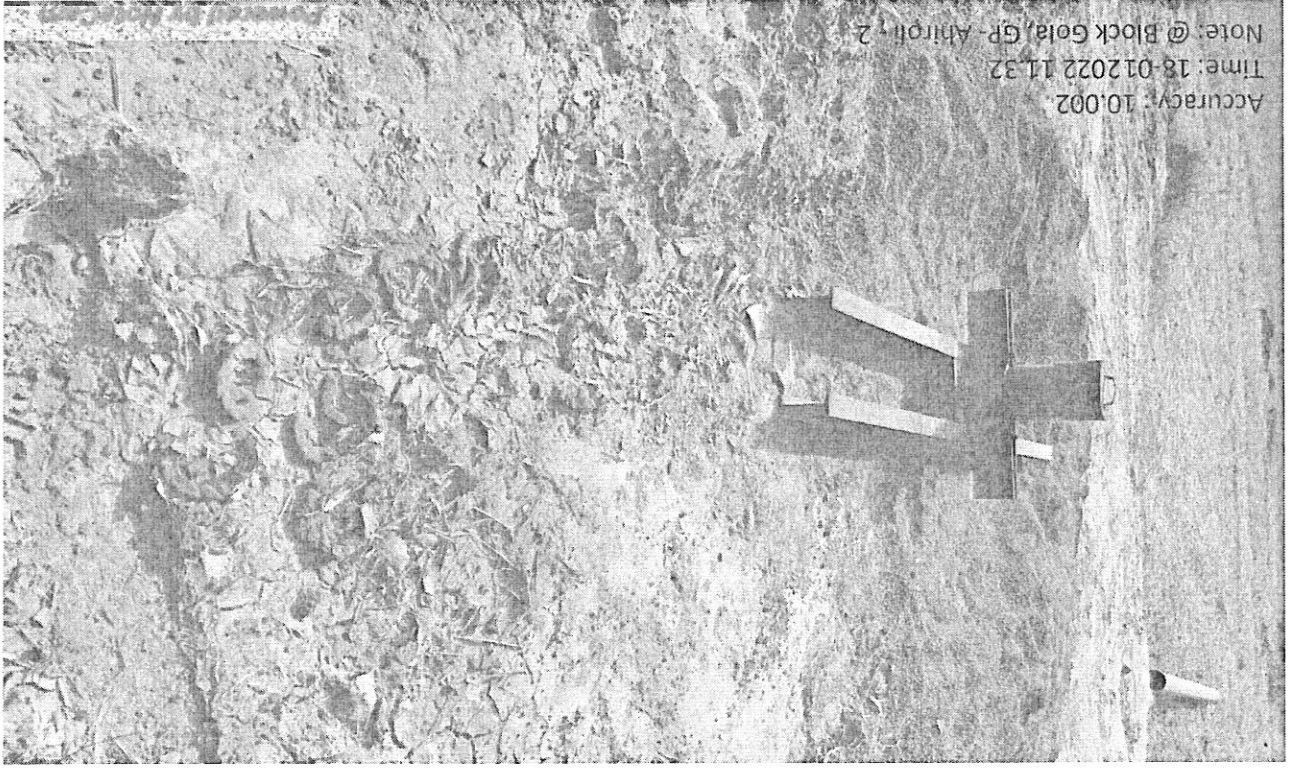
Request For Inspection

RFI No:	SWSM-UP-GKP/N/2158/81	Date And Time	18/01/2022
Description:	Redhydrumy (Pantlance)		
Location:	Blue - Gola, E.P. - Akhali - 2		
Preceding RFI No.	SWSM-UP-GKP/81 21/58		
Commencement of work:	18/01/2022		
Submitted By:	Rajiv Kumar		
Signature:			
Designation:	JE		
Concessionaire:	Proceed	Hold	
Name:			
Designation:			
Comments:	<p>① Part is done on fibre well accessories. ② Home was fixed with fibre well. ③ Part - Ground started in proper manner - Not started - per general drilling done by the contractor through measurement</p>		

Signature
 Contractor Representative

Signature
 Consultant Representative

Signature
 Client Representative



Ahiroli - 2

NCC LTD. <i>(Signature)</i>	PMC/TPIA <i>(Signature)</i>	CLIENT <i>(Signature)</i>
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Note : The Specific Gravity should not be less than 2.5


10	Specific Gravity =	$(W2 - W1) - (W3 - W4)$	=	$\frac{224 - 142}{224}$	=	2.73
9	Weight of the Jar + Water, W4 (gm) =	219 gm				
8	Weight of Jar + Gravel + Water, W3 (gm) =	861 gm				
7	Weight of Jar + Gravel, W2 (gm) =	470 gm				
6	Weight of the Jar, W1 (gm) =	246 gm				

SPECIFIC GRAVITY TEST AT ROOM TEMPERATURE

5	Sample no :	58
4	Lab. Test no :	58
3	Date of sampling :	13/01/2022
2	Location :	NAME OF THE BLOCK - KOLA NAME OF THE GRAM PANCHAYAT - BHIRPURI-02
1	Source of material :	Ladkum, Nainital, Uttarakhand
SL NO.	DESCRIPTION	OBSERVATIONS
Date of Testing-	14/01/2022	
Test report no :	NCC/CE/FS/8/058	

As per IS : 2386 (Part-3)

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

	NCC LTD.
STATE WATER AND SANITATION MISSION	NCC Limited
CLIENT: JIM / SWSM / DWSM	NCC
GORAKHPUR-UP	

NCC LTD. 	PMC/TP/A 	CLIENT 
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Note:- The Hardness value should not be less than 5 in Moh's scale.

The Hardness of Material is =

IS Sieve Size	retained	Cumulative wt. Retained (gm)	Cumulative % wt. Retained	% passing	Acceptable / Not Acceptable
6.3 mm	18	18	1.0	98.2	OK
4.75 mm	206	224	22.4	77.6	OK
2.36 mm	219	243	24.3	75.7	OK
1.18 mm	54	297	29.7	70.3	OK
Pan	03				
Total(gm)=					

SIEVE ANALYSIS

6	Total wt. of sample (gm) :	1000 gm
5	Sample no. :	58
4	Lab. Test no. :	58
3	Date of sampling :	13/01/22
2	Location :	G.P Name- <i>RHIPOUR-02</i> Block Name- <i>GOLA</i>
1	Source of material :	<i>Lalpur, Mirind, Uttaranchal.</i>
SL NO.	DESCRIPTION	OBSERVATIONS


Test report no : *Me/lev-5/Bcl/058*

Date of Testing : *14/01/22*

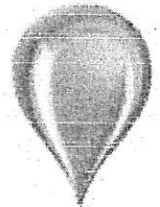
(As per IS : 460 and IS: 4097)

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

GORAKHPUR-UP

 NCC Limited	CLIENT: JIM / SWSM / DWSM	
	STATE WATER AND SANITATION MISSION	
	NCC LTD.	





Aqua Xplore

(Groundwater Assessment & Allied Services)

243/5, New Colony Jiyamau, Hazratganj, Lucknow - 226001
Mob. 9918202546 / 9889323322, Email-aquaxploreko@gmail.com

Advisor- Dr. R. A. Yadav, ex-Manager(Groundwater), U. P. Jal Nigam

Ref. 114 -- A / AX - 2022 Date 14.01.2022

Geophysical Borehole Logging Report

Name of the site : Ahirauli-2, Block-Gola

District : Gorakhpur

Date : 14.01.2022

Depth logged : 138.0 mbgl

Depth drilled : 150.0 mbgl- as reported

Logged by : Aqua Xplore

Presence : Representative of M/S NCC Limited, Gorakhpur - South

Based on the interpretation of geophysical logs, following information may be

deciphered, particularly with respect to salinity of the formation water;

SI.No.	Depth range(mbgl)	Thickness(m)	Remarks
1	16.0---30.0	14.0	Good all
2	32.0---36.0	4.0	
3	42.0---46.0	4.0	
4	52.0---56.0	4.0	
5	58.0---64.0	6.0	
6	78.0---85.0	7.0	
7	90.0---100.0	10.0	
8	114.0---121.0	7.0	
8	126.0---130.0	4.0	

Note. All zones are intermixed with kankar. SI. Nos. 3,4 & 5 are very fine sand.

for Aqua Xplore

Verified as per logs provided.

5.82
ASSISTANT HYDROGEOLOGIST
MANTRIK MANDAL
U.P. JAL NIGAM (RURAL)
PRAAYAGRAJ

1. Executive Engineer, C.D. (Rural), U.P. Jal Nigam, Gorakhpur.
2. M/S NCC Limited, Gorakhpur-South, SWSM.

CC:

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: techlab@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 Char 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*

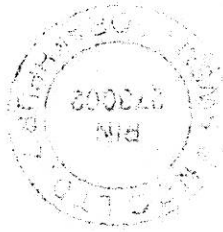
Arvind Kumar Garg
 (Quality Manager)



1. PHYSICAL TEST RESULT OF PEA GRAVEL

Sample Unique ID: MT138/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
		0.90	5 Max	IS 2386 (Part-3)-1963 RA-2016	-
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	



Arvind Kumar Garg
 (Quality Manager)

Approved By:

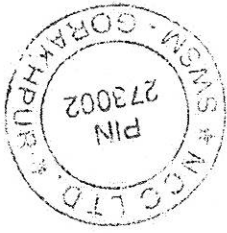
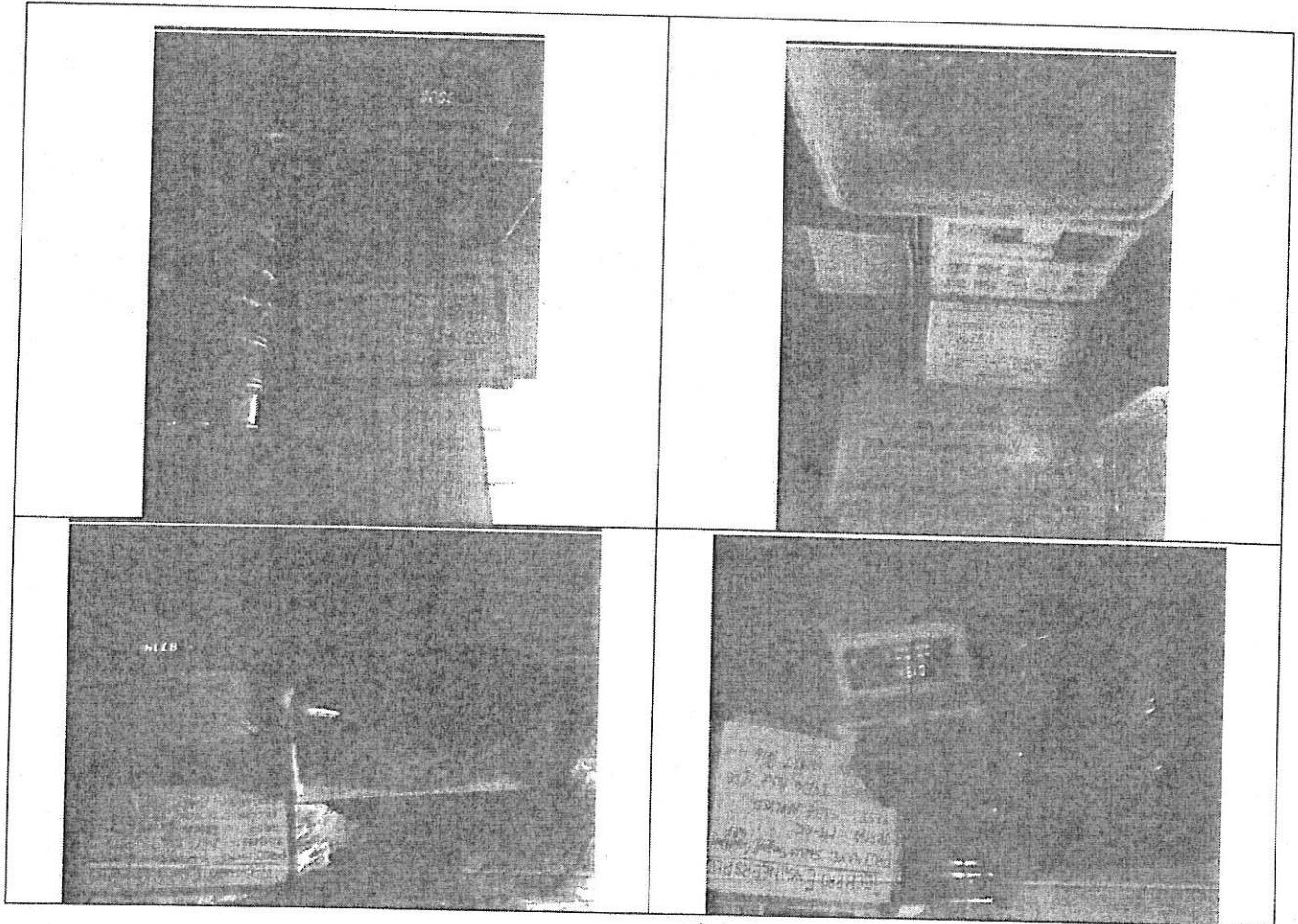


Alok Kumar Chauhan
 (Technical Manager)

Checked By:

Checked By:

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



- 5) GAP 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) GAP 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) GAP 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) GAP Sr. No. 1.2, 1.3 & 1.4 - Physical Properties, Dimension & Visual report of Raw material reviewed - found in order.
- 3) GAP Sr. No. 2.1-In-process Dimension inspection report reviewed and found in order.
- 4) GAP Sr. No. 2.2 - In-process Mechanical testing report reviewed and found in order.
- 5) GAP Sr. No. 2.3 - In-process Hydro testing report reviewed and found in order.
- 6) GAP Sr. No. 2.4 - In-process workmanship & protective coating report reviewed and found in order.
- 7) Material test certificates Number DPP/LQC/TC-01212 Date 10.12.2021 reviewed and found in order.

NCR / Waiver (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.

Inspector(s) to TUV India Private Limited

Gaurav Kumar



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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 Email: inspection@tuv-india.com Website: www.tuv-india.com
 Tel: + 91 22 66477000

EXECUTIVE SUMMARY

Salient Features

- Name of the state
- Name of the District
- Name of the Tehsil
- Name of the Block
- Name of the Programme
- Name of the GP
- No. of Village/Habitations

UTTAR PRADESH
 GORAKHPUR
 GOLA
 GOLA
 Under Jai Jeevan Mission Programme
 AHIRAUULI-2
 3/3

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	AHIRAUULI	187855	AHIRAUULI-2	AHIRAUULI-2
2					187856	BAGHUAIVA	BAGHUAIVA
3					187854	RATLA	RATLA

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	1606	991	251
2.	Initial Stage 2022	1.28	2060	1271	322
3.	Middle Stage 2037	1.78	2870	1771	449
4.	Ultimate Stage 2052	2.5	4010	2474	627

Rate of water supply
 Nature of Sources
 Source of Development
 Daily Water Demand Summary
 e) Base year 2022
 b) Intermediate year 2037
 c) Design year 2052

Number of Tube wells
 Nature of Treatments
 Average Dosing Capacity
 Pumping plant for Tube Well
 a) No. and Type of Plant
 b) Anticipated Discharge
 c) Selected discharge
 d) Total working Head
 e) Motor (HP)
 Service Storage
 a) Quantity
 b) Capacity
 c) Staging

1 Number of Submersible Pump
 476 LPM
 500 LPM
 41 M
 10.0 HP

1 No.
 150 KL
 12 M

64.7 LPCD (added 15% losses over 55 LPCD)
 Ground water
 Tube-Well

133 KLD
 186 KLD
 259 KLD

1 No.
 Chlorinator through HDPE Tank (100 L) and Dosing metering pump (0.6LPH)
 0.5 PPM

Pipeline 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 3: Rising Main Summary

Pipeline Type	Material	Class	Diameter(mm)	Length (m)
Distribution Mains	HDPE	PN-6 PE100	63	6,206
Distribution Mains	HDPE	PN-6 PE100	75	40
Distribution Mains	HDPE	PN-6 PE100	90	839
Distribution Mains	HDPE	PN-6 PE100	110	189
Distribution Mains	HDPE	PN-6 PE100	125	0
Distribution Mains	HDPE	PN-6 PE100	140	247
Distribution Mains	HDPE	PN-6 PE100	160	26
Distribution Mains	HDPE	PN-6 PE100	180	0
Distribution Mains	HDPE	PN-6 PE100	200	0
Total Length (m)				7,546

Table 4: Distribution Summary

PROJECT REPORT

1. Introduction

This Detailed Project Report for AHIRALLI-2, Gram Panchayat, Block - GOLA, Tehsil - GOLA, GORAKHPUR, has been prepared under Jal Jeevan Mission Program (JJM) for providing piped water supply to gram panchayat consisting of 3 habitations under the district of GORAKHPUR.

2. Existing Water Supply Arrangement of the Scheme

Piped water supply does not exist in this Gram Panchayat. Habitants of villages take their water requirement from installed India Mark-II Hand-pumps / Shallow hand-pumps and open wells in the village. Installed India Mark-II hand pumps, although extract water from safe water supply source, are inadequate to meet the water demand of all villages shallow hand-pumps. Moreover, open wells are exposed to contamination, it is therefore necessary that piped water supply system is provided in the village at the earliest. If any existing pipeline is available, same shall be discarded.

3. Design Criteria

The Design Criteria adopted for the works proposed under this detailed project Report accordance with the directives / guidelines issued by Ministry of Jal Shakti Department of Drinking Water and Sanitation National Jal Jeevan Mission.

4. Population

Population of AHIRALLI-2 village based on Year 2011 Census is 1606. Initial Stage, Middle stage and Ultimate Stage has been adopted as 2022, 2037 and 2052 respectively. Population for the stages of the scheme has been calculated by the standard prescribed methods. Population adopted for the Initial stage year 2022, Middle stage year 2037 and Ultimate Stage Year 2052 are as under:

Table 5: Population Adopted

Gram Panchayat	Year/Stage	Population
AHIRALLI-2	Initial Stage Year 2022	2060
	Intermediate Stage Year 2037	2670
	Ultimate Stage Year 2052	4010

5. Water Demand

The water demand has been calculated on the basis of 55 Liters per head per day and 15% water losses has been considered. Water requirement for different stages of the scheme is detailed below:

Table 6: Demand Adopted

Gram Panchayat	Year/Stage	Demand (KLD)
AHIRALLI-2	Initial Stage Year 2022	133
	Intermediate Stage Year 2037	186
	Ultimate Stage Year 2052	258

6. Water Supply Source

Tube-wells are successful in this area. Water discharge of 500 LPM is required as per intermediate year demand, considering 6.5 hrs. of pumping. As pumping rate shall be lesser than 60% of yield of tube-well. So, minimum tube-well yield required is 800 LPM. We assume that required yield is available in this proposed area. So 1 number of tube-well has been adopted with discharge rate of 500 LPM.

Estimate for Ahirauli 2 Gram Panchayat
Water Supply Scheme
Under - SWSM
Block - Gola, District - Gorakhpur

BQ Item No.	Description	Unit	Qty	Rate	Amount
1.01	All the works including Hydrological survey, topographical survey, Design charges including preparation and approval of DPR	LS	1.00	242040.00	242040
2.00	Drilling of Borehole for Tubewell construction by DC/RC/DTH Rig Machine including transportation, erection, dismantling of Rig and associated T&P complete in all respect including required all material labour etc.				
2.01	RIG Transportation for Tube Well Construction Transportation, Installation Dismantling of Rig machine and logging of bore hole	Job	1.00	159478.88	159479
2.03	Tube Well Construction - Drilling of Borehole DC/RC Drilling up to 100Mtr.				
2.04	400 MMØ	Mtr.		1638.27	
2.05	450 MMØ	Mtr.		1834.20	
2.06	500 MMØ	Mtr.	100.00	2013.00	201300
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.	80.00	2144.00	171520
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 Tubewell Assembly (Supply + Fittings & Specials)	Hr.		2900.00	
3.01	MSEWR plain pipe, As per IS 4270				
3.02	100 MMØ	Mtr.		927.50	
3.03	150 MMØ	Mtr.	109.00	1900.00	207100
3.04	200 MMØ	Mtr.	36.00	2550.00	91800
3.05	300 MMØ	Mtr.		3800.00	
3.06	MSEWR 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 Tubewell Assembly Lowering Works	RM	163.00	471.68	76884
4.01	Lowering of above assembly with welding of parts complete in all respect with all required material, T&P, labour, etc.				
4.02	Lowering up to 100 Mtr. Deep				
4.03	100 MMØ MSERW Plane/Slotted Pipe	Mtr.		129.45	
4.04	150 MMØ MSERW Plane/Slotted Pipe	Mtr.	64.00	281.00	17984
4.05	200 MMØ MSERW Plane/Slotted Pipe	Mtr.	36.00	376.50	13554
4.06	300 MMØ MSERW Plane/Slotted Pipe	Mtr.		472.00	
4.07	Lowering from 101 Mtr. To 200 Mtr. Deep				
	150 MMØ MSERW Plane/Slotted Pipe	Mtr.	63.00	376.00	23688

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	
5.00	Supply and unconsolidated packing of gravel with suitable size	Cum	47.00	7500.00	352500
5.00	Development of Tube well				
6.01	Transportation, 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	Transportation, 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.		3027.00	
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.	60.00	4062.20	189246
6.07	Transportation, 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	Transportation, 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.		959.00	
6.11	Charges for Development of TW by 3 cusec OP Unit	Hr.	100.00	1196.00	95900
6.12	Transportation, 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	
7.00	Pumping Plant:- 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
9.00	Electrically operated Sluice Valve:- Electrically operated Sluice Valve PN 1.0 dia 100 mm	Nos	2.00	125000	250000
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	1.00	150000	150000
9.03	Check Valve:- Check Valve PN 1.0 DPCV dia 100 mm	Nos	1.00	27519.8	27520
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	
9.06	Dismantling Joint PN 1.0 dia 100 mm	Nos	2.00	3923.92	7848
9.07	Dismantling Joint PN 1.0 dia 150 mm	Nos	2.00	5605.6	11211

BQ Item No.	Description	Unit	Qty.	Rate	Amount
9.08	Dismantling joint PN 1.0 dia 200 mm	Nos	1.00	7367.36	7367
9.09	SITC of Chain Pulley Blocks	Nos	1.00	46305	46305
9.10	1 Tonne	Nos	1.00	58432.5	58432.5
9.11	2 Tonne	Nos	1.00	273000	273000
10.00	Turbidity & Chlorine analyzer	Nos	1.00	126000	126000
11.00	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		
12.00	Stabilizer				
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	12777.78		
12.05	15 KVA	Nos	16611.11		
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.	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 (1wt+s) 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. (Vendor have to select the technology based on capacity (Electrolytic-fluoridation plant or media based system). Rates for 400 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 for 400 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 for 400 KLD/ 500 LPM	LS		9000000	
18.00	TDS and Hardness Removal Plant:- Supplying, installation, testing, commissioning of reverse osmosis plant which includes pump, micron cartridge filter, high pressure pump, reverse osmosis membrane, cleaning system and required piping and valves etc. complete for required capacity including transportation and labour charges as complete. Rates for 400 KLD/ 500 LPM	LS		13125000	
19.00	Tube Well Electrification:- Internal electrification of tube well	LS	1.00	20000	20000

BOQ Item No.	Description	Unit	Qty	Rate	Amount
20.00	Solar Power Plant:- SITC of Solar power plant (for complete plant) including solar panel, Structure, inverter etc. complete in all respect with required material, T&P labour	KW	19.00	86800	1649200
21.00	Boundary Wall:- Construction of 1.3 m high and 115mm thick boundary wall with 230mmx230 mm thick pillar made in Brick masonry in 1 cement and 4 sand mortar, the spacing between two pillar should not be more than 3.0 m etc and the depth of foundation should not be less than 0.60m, at the site of water works as per departmental type design and drawing, and, as per specifications given in the bid document including supply of all materials, labour T&P etc. for proper completion of work as per instructions of Engineer -in - charge. (Drawing No.D-1)	Rmt	145.20	6400	929280
22.00	MS Gate:- Supply and fixing of 3.6 m x 1.20 m MS gate including fabrication and supply of steel and construction of boundary wall pillars of size 1.35mx0.23mx0.23m with ornamental brick work 15mm th. around RCC, as per departmental type design and drawing (Drawing No. D-1) and as per specifications laid down in the bid document, including supply of all material, labour, T&P etc. required for proper completion of work as per instructions of Engineer-in-charge.	No.	1.00	52000	52000
23.00	MS Wicket Gate :- Supply and fixing of 1.2m wide MS wicket gate including fabrication and supply of steel and construction of boundary wall pillars etc. as per specifications laid down in the bid document, including supply of all material, labour, T&P etc. required for proper completion of work as per instructions of Engineer-in- charge.	No.	1.00	19000	19000
24.00	Interlocking Pavement:- Construction of Interlocking pavement for approach to water works, as per departmental type design and drawing and as per specifications laid down in the bid document, including supply of all materials , labour, T&P etc. required for proper completion of work as per instructions of Engineer -in -charge.	Sqm.	262.20	1070.5	280685
25.00	Granular Sub Base:- Construction of granular sub base by providing coarse grade materials, spreading in uniform layers including watering and compaction, complete.	Cum	52.44	2800	146832
26.00	Construction of WBM:- Construction of WBM by providing grade materials, spreading in uniform layers including watering and compaction complete.	Cum	65.55	3029	198551
27.00	Earth Filling:- Earth filling work for proper leveling of water work site, in accordance with the contour map and Grid map of existing site enclosed (Drawing no.D-1), including leveling, dressing, excavation and filling of earth where necessary and also including all labour, materials, T&P etc. required for proper completion of works and also including cartage of earth from within a distance of about 8 km. from the site of works as per instructions of Engineer -in - charge.	Cum	890		
28.00	Semicircular Drain:- Supply of all materials, labour and T & P etc. complete. Provision for inside semicircular drain 200mm dia including	Rmt	156.50	1607.14	251517

BOQ Item No.	Description	Unit	Qty	Rate	Amount
29.00	Pump House (3.6x3.0x3.0):- Provide all materials, labour, T&P etc. complete and construct Pump house size (3.6x3.0x3.0)m Chlorinating room size (2.5x1.8x3.0)m as per departmental type design (drawing no-D-2) and as per the specifications for civil work given in the bid document, including supply of all material, labour and T&P etc complete as per instructions of Engineer -in - charge.	Job	1.00	597000	597000
30.00	Pump House (2.5x3.0x3.0):- Provide all materials, labour, T&P etc. complete and construct Pump house size (2.5x3.0x3.0)m Chlorinating room size (1.5x1.3x3.0)m as per departmental type design and drawing (drawing no-D-2) and as per the specifications for civil work given in the bid document, including supply of all material, labour and T&P etc complete as per instructions of Engineer -in - charge.	Job	404000	404000	404000
31.00	Bye-pass Chamber:- Provide all materials, labour, T&P etc. complete and constructed Bye-pass chamber for pump house (1000 (L) x 1000 (W) x 1150 (H) mm) drawing (drawing no.D-3) and as per the specifications for civil work given in the bid document, including supply of all material, labour and T&P etc complete as per instructions of Engineer -in - charge.	No.	1.00	14600	14600
32.00	Supply of all materials labour T&P etc. for complete construction of R.C.C. Over Head Tank of following capacity and staging above ground level with main components, including cost of soil testing and assuming bearing capacity of soil as 8 MT, with supply of design and drawings. All the water retaining components of OHT shall be casted in M-30 concrete and minimum grade of concrete of foundation and staging should be M-25 with approved cement, coarse sand and stone grit as per I.S. 11682 and I.S.456 Seismic effects and wind load should be taken into consideration as per I.S. 1893 for earthquake resistance and I.S. 875 part-III for wind load on structure and including 1M wide RCC staircase, 1 m wide R.C.C. M30 balcony, M.S. ladder made of 50x50x6 mm angle section and 20mm plain M.S. bars with hand rails of 20mm medium class G.I. pipes, One aluminium ladder inside the tank from top dome to bottom dome, R.C.C. railing with 20mm dia medium class G.I. pipe (in 3 rows) on both sides of stair case, supported on 50x50x6mm M.S. angle section, spaced at intervals not more than 1.5m, Proper ventilator at top dome in circular shape of 1.2 m dia, Water level indicator fabricated with sensor connecting to automation, Lighting conductor as per I.S.S.2309 or its latest amendments of latest electricity rules, consisting of proper elevation rod with 5 or more fork points as prescribed in ISS 2309-1969 and ISS 3013-1966, C.I. manhole of min 60x60cm size with locking arrangement, Supply, fixing, joining of D.I.D/F Pipes of appropriate size with D.I.D/F specials conforming to IS 8329/2000 as vertical pipes for inlet, outlet, overflow and washout as per latest / relevant I.S. specifications with all joining materials for proper completion of work, Construction of bed blocks in 1:2:4 PCC with cement, coarse sand and approved stone grit , Construction of washout / overflow chamber and chambers for sluice / butter fly valves as per departmental type design and drawing. Supply of 200 mm dia PVC pipe as per I.S. - 4985/2000 for disposal of water from overflow and washout chamber to suitable point outside the water works compound, Painting of all concrete surface and steel pipe works with three coats of	Job		1712500.00	1712500.00
32.01		Job		1788750.00	1788750.00
32.02		Job		2150000.00	2150000.00
32.03		Job			

BoQ Item No.	Description	Unit	Qty	Rate	Amount
32.04	75 KL 12 M Staging	Job		2242500.00	
32.05	100 KL 12 M Staging	Job		2886250.00	
32.06	100 KL 16 M Staging	Job		3073750.00	
32.07	150 KL 12 M Staging	Job	1.00	3241250.00	3241250
32.08	150 KL 16 M Staging	Job		3457500.00	
32.09	175 KL 12 M Staging	Job		3441250.00	
32.10	175 KL 16 M Staging	Job		3732500.00	
32.11	200 KL 12 M Staging	Job		3843750.00	
32.12	200 KL 16 M Staging	Job		4040000.00	
32.13	200 KL 18 M Staging	Job		4105000.00	
32.14	225 KL 12 M Staging	Job		4170000.00	
32.15	250 KL 12 M Staging	Job		4537500.00	
32.16	300 KL 12 M Staging	Job		4877500.00	
32.17	300 KL 16 M Staging	Job		5508750.00	
32.18	350 KL 14 M Staging	Job		6093750.00	
32.19	400 KL 14 M Staging	Job		6830000.00	
32.20	400 KL 16 M Staging	Job		7021250.00	
32.21	500 KL 14 M Staging	Job		7457500.00	
32.22	25 KI 10 M Staging	Job		1296250.00	
32.23	25 KI 12 M Staging	Job		1363750.00	
32.24	For 2 m Staging (5% additional per Meter)	Rm		162062.50	
33.00	Excavation:- and rising main trenches including lift upto 1.50 m and lead upto 50 m and refilling watering, ramming of the excavated earth into the trench and also disposal of surplus earth upto 50m from the center of the trenches including supply of all material labour, T&P etc complete as per instructions of Engineer -in-charge.				
34.00	Ordinary Soil	Cum	2746.82	214.61	589495
35.00	Mixed Soil with Kanakar	Cum	2746.82	249.27	684700
36.00	Soft Rock	Cum		943.82	
37.00	Hard Rock	Cum		1319.18	
Additional	Disposal of Surplus Earth top 300 mm ht.	Cum			
38.00	Sand Bedding:- Sand Bedding in trenches in layers not exceeding 10 cm. in depth, consolidating each deposited layer by ramming and watering complete as per instructions of Engineer.	Cum	10.49	1656.00	17368
39.00	Retaining Wall:- Construction of Retaining Wall for Protection Survey, Investigation, Soil Testing, Planning, construction, commissioning etc. as per design and drawing provided by the contractor all in accordance with the relevant latest I.S. Codes and approved by the Engineer as per conditions of the bid documents. The design and drawings provided by the contractor should be vetted by any IIT Institute or Government Engineering College approved by the Engineer, on contractor's cost. For construction of R.C.C. retaining wall including excavation of earth in hard rock/soft rock/ Kanakar/morum/bajri etc. for foundation, Plain Cement Concrete 1:4:8 (one cement four fine aggregates and eight coarse aggregates) and supply of steel as per drawing including bonding, binding with all type of binding materials including wastage of steel Reinforced Cement Concrete (M20) 1:1½:3(one cement one and half fine aggregates and three coarse aggregates) including cost of all arrangement of shuttering, scaffolding and water with supply of all materials, labors T&P etc. required for proper completion of works as per the directions of the Engineer (Provisional)	Cum		16400.00	

BoQ Item No.	Description	Unit	Qty	Rate	Amount
40.01	Ductile Iron Pipes:- Supply of following sizes (D.I.) pipes for rising main/distribution system conforming to latest/relevant I.S. 8329/2000 Specifications with all joining materials such as specials conforming to latest/relevant I.S. specifications, suitable for D.I pipes, as per IS-1239/2000 and IS 8329/2000 or their latest amendment including F.O.R. destination and all taxes and insurance etc. with loading and unloading and carting up to site of work, also including specials for these pipes and lowering them into the trenches and laying true to alignment and gradient and jointing etc. complete (including testing of pipe lines and cutting of pipes for making up the length but excluding the cost of trenches), all complete as per instructions of Engineer - in-charge.				
40.02	300 mm dia Ductile Iron K-9	m		3877.6	
40.03	250 mm dia Ductile Iron K-9	m		3103.5	
40.04	200 mm dia Ductile Iron K-9	m		2332.32	
40.05	150 mm dia Ductile Iron K-9	m		1728.48	
40.06	100 mm dia Ductile Iron K-9	m	100.00	1411.41	119141
40.07	80 mm dia Ductile Iron K-9	m		905.41	
40.08	300 mm dia Ductile Iron K-7	m		3151.6	
40.09	250 mm dia Ductile Iron K-7	m		2564.5	
40.10	200 mm dia Ductile Iron K-7	m		1848.32	
40.11	150 mm dia Ductile Iron K-7	m		1497.48	
40.12	125 mm dia Ductile Iron K-7	m		1301.41	
40.13	100 mm dia Ductile Iron K-7	m		1007.11	
40.14	80 mm dia Ductile Iron K-7	m		909.49	
41.01	HDPE Pipes PN6, PE 100:- Supply of following sizes pipes for distribution system conforming to latest/relevant I.S. 4984/1995 Specifications with all joining materials and specials conforming to latest/relevant I.S. specifications including F.O.R. destination and all taxes and insurance etc. with loading, unloading and carting up to site of work, also including specials for these pipes and lowering them into the trenches and laying true to alignment and gradient and jointing etc. complete (including testing of pipe lines and cutting of pipes for making up the length but excluding the cost of trenches) all complete as per instructions of Engineer - in-charge.				
41.02	90 mm dia HDPE Pipe PN6, PE 100	m	839.00	229.5	192551
41.03	75 mm dia HDPE Pipe PN6, PE 100	m	40.00	169.2	6768
	63 mm dia HDPE Pipe PN6, PE 100	m	6205.00	125.8	780589
42.01	Isolating Sluice Valve				
42.02	Sluice valve - 300 mm dia	Nos		64042.00	
42.03	Sluice valve - 250 mm dia	Nos		48109.00	
42.04	Sluice valve - 200 mm dia	Nos		27304.00	
42.05	Sluice valve - 150 mm dia	Nos		17626.00	
42.06	Sluice valve - 125 mm dia	Nos	1.00	14505.00	14505
	Sluice valve - 100 mm dia	Nos	2.00	14455.00	28910

Boq Item No.	Description	Unit	Qty	Rate	Amount
42.07	Sluice valve - 80 mm dia	Nos	1.00	12401.00	12401
42.07.1	Sluice valve - 65 mm dia	Nos.	1.00	10650.00	10650
42.07.2	Sluice valve - 50 mm dia	Nos.	5.00	9700.00	48500
42.08	Scour Valve				
42.08	Scour valve - 80 mm dia	Nos	4.00	10160.84	40643
42.09	Scour valve - 100 mm dia	Nos		12335.28	
42.10	Scour valve - 150 mm dia	Nos		17625.57	
42.11	Scour valve - 200 mm dia	Nos		27304.03	
42.12	Scour valve - 250 mm dia	Nos		48109.48	
42.13	Pressure Relief Valve				
42.14	PRV 80 mm dia	Nos		54219.00	
42.15	PRV 100 mm dia	Nos		80025.00	
42.16	PRV 150 mm dia	Nos		124575.00	
42.17	Single / Double ball type Air Valve:- Supply and installation, testing etc. of single/double ball type air valve conforming to latest/relevant I.S. specifications including all taxes and insurance, carting up to site of work and lowering them into the trenches, fixing in position and joining them with pipelines and testing etc. complete (including supply of jointing materials and Valve fittings etc complete) as per instructions of Engineer.				
42.18	20 mm	Nos	4.00	10229.21	40917
42.19	50 mm	Nos		23170.33	
42.20	80 mm	Nos		23170.33	
42.21	150 mm	Nos		41024.88	
42.22	Supply of underground sluice valve type fire hydrant consisting of 80 mm dia sluice valve, 80mm dia tail pieces, 80mm dia duck foot bend and 80 mm dia standard makes iron coupling with cap and etc. complete conforming to latest/relevant I.S. specifications including all taxes and insurance up to site of work and lowering them into the trenches, fixing in position and joining them with pipelines and testing etc. complete (including supply of jointing materials and Valve fittings etc. complete as per instructions of Engineer - in - charge.	Nos	3.00	24500.00	73500
43.00	Valve Chambers:- Construction of following type chambers as per department type design and drawing including Heavy duty M.S. Manhole Cover and all materials, labour, T&P etc complete for proper completion of work as per instructions of Engineer -in -charge.				
43.01-43.02	Sluice Valve Chamber (Masonry Type):- Dia upto 200 mm - 1000 (L) x 1200 (W) x 1300 (H) mm	No.	8.00	25800.00	206400
43.03	Sluice Valve Chamber (Surface Box Type):- Dia upto 200 mm - 1000 (L) x 1200 (W) x 1300 (H) mm	No.		5000.00	
43.04	Fire Hydrant chamber (800 (L) X 1250 (W) X 1000 (H) mm)	No.	3.00	18500.00	55500
43.05	Air Valve Chamber				
43.06	350 (L) x 350 (W) x 500 (H) mm	No.	4.00	9000.00	36000
43.07	Scour Valve Chamber				
43.08	dia upto 200 mm - 1000 (L) x 1200 (W) x 1300 (H) mm	No.	4.00	29670.00	118680
43.09	PRV Valve Chamber - 1000 (L) x 1200 (W) x 1300 (H) mm	No.		28380.00	
44.00	Design and construct Thrust Block made in R.C.C. with cement, coarse sand & 20 mm gauge stone ballast in proportion of 1:1.5:3, for pipe line, including supply of MS reinforcement wrought to equired shape as necessary, its bending, fixing & binding the same with 0.50 mm thick binding wire in position & necessary centering & shuttering including curting and supply of all materials, labour, T & P etc. RCC work as per instructions of Engineer -in -charge.				

BOQ Item No.	Description	Unit	Qty	Rate	Amount
44.01	Reinforced Cement Concrete:- Design and construct Thrust Block made in Reinforced Cement concrete (1:1.5:3), with graded stone chips (20 mm nominal size) excluding shuttering and reinforcement, as per technical requirements.	Cum	0.64	13656.33	8740
44.02	Shuttering:- Providing shuttering for Thrust block using approved stout props and thick hard wood planks of approved thickness with required bracing for concrete works curved or straight including fitting fixing and sinking out after completion of works.	Sqm	6.40	420.00	2688
44.03	Reinforcement of Thrust Block:- Providing reinforcement of Thrust block for reinforced concrete work including distribution bars, stirrups, binders etc. initial straightening and removal of loose rust (if necessary), cutting to requisite length, hooking and bending to correct shape, placing in proper position and binding with wire at every inter-section, complete as per drawing and direction.	MT	0.03	109838.98	3515
45.00	Staff Quarter / Office Room:- Provide all materials labour, T&P etc. and construct single room staff quarter / office room at water works site identified by the Engineer-in-charge as per department type design and drawing and specifications of civil works laid down in the bid document, including all material labour, T&P etc complete for proper completion of work as per instructions of Engineer-in-charge. (Drawing No.D-7)	No	1.00	970600	970600
46.00	Recharge Mechanism:- Water recharge Mechanism within the water works campus	Sqm	16.00	52500.00	840000
47.00	Backfilling of Earth:- Backfilling of abandoned tube well with available Earth	Cum		107.00	
48.00	Assesst replacement items				
48.01	Pumping Plant:- SITC of Pumping plant including pumps with motors, starter, panel, cable, complete in all respect with all required material T&P labour etc.				
48.02	1 HP	Nos		32518.98	
48.03	2 HP	Nos		35843.14	
48.04	3 HP	Nos		46249.21	
48.05	5 HP	Nos		65037.95	
48.06	7.5HP	Nos		228500.00	
48.07	10 HP	Nos		230200.00	
48.08	12.5 HP	Nos		238800.00	
48.09	15 HP	Nos		252100.00	
48.10	17.5 HP	Nos		276504.56	
48.11	20 HP	Nos		295500.00	
48.12	25 HP	Nos		334043.48	
48.13	30 HP (discharge 1000 LPM Head 62 m)	Nos		366163.04	
48.14	35 HP	Nos		393723.70	
48.15	40 HP	Nos		426547.83	
48.16	Turbidity & Chlorine analyzer	Nos		273000.00	
48.17	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		126000.00	
48.18	3Mtr. Long Column Pipe				
48.19	32 mm Dia size - MS pipe	Nos		1500.00	
48.20	40 mm dia size - MS pipe	Nos		2000.01	
48.21	50 mm dia size - MS pipe	Nos		2763.00	
48.22	65 mm Dia size - MS pipe	Nos		3200.01	
48.23	80 mm Dia size - MS pipe	Nos		4200.00	
48.24	100 mm Dia size - MS pipe	Nos		4701.00	
48.25	150 mm Dia size - MS pipe	Nos		6501.00	

BOQ Item No.	Description	Unit	Qty	Rate	Amount
49.00	Installation of suitable capacity T.W. automation system to control operation of the pumping plant with respect to high/low water level in OHT with RTU panel, 7" HMI screen, surge device including energy meter inside the pump house with arrangement for communication of data with GSM and GPRS system to show required parameters including all accessories etc. complete in all respect as per instructions of Engineer -in-charge.	Job	1.00	375000	375000
50.00	Dismantling of Following type of surfaces including sorting out and stacking of serviceable materials and disposal of unserviceable materials upto a distance of 50m as per instructions of Engineer -in-charge.				
50.01	B.O.E. Surface	Sqm	948.00	100.00	94800
50.02	Bituminous Surface	Sqm	2321.00	200.00	464200
50.03	Interlocking Road	Sqm	243.00	155.00	37665
50.04	C.C. Road	Sqm	636.00	329.96	209855
51.00	Restoration of Roads:- Reinstatement of the following type of road surface with old and new materials including supply of all materials, labour, T&P etc. required for proper completion of the work as per instructions of Engineer -in-charge.				
51.01	B.O.E. Surface (50% of existing bricks to be reused)	Sqm	948.00	350	331800
51.02	Bituminous surface	Sqm	2321.00	1534.82	3562317
51.03	Interlocking Road	Sqm	243.00	1070.5	260132
51.04	C.C. Road	Sqm	636.00	1560.71	992612
52.00	Nala/Culvert Crossing:- Provision for following types of Culvert crossing -along the alignment of pipe line complete as per instructions of Engineer -in-charge. (casing of pipe is done by concreting)				
52.01	Nala/Culvert Crossing (width -3.5 m) upto Dia 300 mm	Nos	7.00	19000	133000
52.02-52.03	Trenchless Crossings:- Survey site Investigation Planning, design Drawings as per State Road manual and vetting / checked from State Road Divisional Office and taking NOC for trenchless crossing of National highway road and Railway track/crossing length 15m to 25m), Road for of required dia Raising main pipe with casing pipe as required for proper completion of work required size of MS casing pipe as per drawing and as per coating internally and 250 micron anti corrosive bituminous paint externally by trenchless technology method at an average depth 3.60mtr from normal ground level up to top of casing pipe including excavation & filling of Pit, Dewatering arrangement, Supporting ISI Mark, construction of sluice valve chamber etc. all complete work including supply & fixing specials in carrier pipe over main pipe, as per specification given in the bid documents including supply of all materials, labour T&P etc. for proper completion of work as per instruction of Engineer.				
52.04	Railway Line crossing (Upto Dia 350 mm)	Nos	60000		
52.05	National Highway road crossing (Upto Dia 350 mm)	Nos	40000		
52.06	State Highway road crossing (Upto Dia 350 mm)	Nos	27000		

BoQ Item No.	Description	Unit	Qty	Rate	Amount
52.08	50 mm dia. Pipe	Nos		1400	
52.09	100 mm dia. Pipe	Nos		1700	
52.10	150 mm dia. Pipe	Nos		2000	
52.11	200 mm dia. Pipe	Nos		2400	
52.12	250 mm dia. Pipe	Nos		3600	
52.13	300 mm dia. Pipe	Nos		3900	
52.14	350 mm dia. Pipe	Nos		4386	
52.15	400 mm dia. Pipe	Nos		4700	
52.16	450 mm dia. Pipe	Nos		5200	
52.17	500 mm dia. Pipe	Nos		6200	
52.18	600 mm dia. Pipe	Nos		7600	
52.07	Road Crossing:- Excavation in foundation of trench of proper size in soil mixed with moorum, Shingle, Kanakar, soft rock, hard rock, including refilling, dressing and ramming earth or sand or bajri, ballast, including providing, supply, carrying, lowering, laying and jointing of casing pipe of RCC NP-3 with appropriate size, with rubber ring joint, sand filling in gap inside RCC pipe, insertion of distribution pipe into the casing pipe including supply of T&P, including concrete of 150 mm thick in pipe including gauge brick ballast local sand and cement in proportion of 8:4:1, provision for barricading, labour for traffic diversion etc. Complete for proper completion of work as per instruction of Engineer.				
53.00	Functional House Tap Connection:- Making house connection should be done atleast 2 m inside the boundary wall with provision of tap from distribution line to outer wall of house, with supply of 1 m G.I. pipe (15 mm) (above ground) & average 5 mtr. MDPF Pipe (20 mm) (below ground) including specials, saddle, Tap, etc. of suitable size, T&P etc. including excavation, laying and jointing for proper completion of work as per instructions of Engineer as per Dwg 12 (excluding road restoration)	Nos.	323.00	3500	1130500
54.00	Stand Post:- Construction of single tap pillar type stand post as per type design	Nos.	10.00	10000	100000
55.00	Operation and Maintenance:- Completion including staff required for operation and maintenance, chemicals, all materials, specials T & P for operation and maintenance, excluding electricity charges. Note:- 6% Inflation Factor considered for arriving the O&M Cost (2% of Capex cost for first year of O&M) From Second Year onwards. Cost of DPR Preparation @ 1% of CAPEX Cost of DPR Electromagnetic flow meters	Rs			
56.01	150mm	Nos.		150000	
56.02	200mm	Nos.		190000	
56.03	250mm	Nos.		225000	
56.04	300mm	Nos.		260000	
56.05	350mm	Nos.		330000	
56.06	400mm	Nos.		420000	
56.07	450mm	Nos.		500000	
56.08	500mm	Nos.		550000	
57.00	Soft Starter :-				
57.01	soft starter with RS485 port -400V,7.5KW Rating	Nos		60000	
57.02	soft starter with RS485 port -400V,15KW Rating	Nos		70000	
57.03	soft starter with RS485 port -400V,22KW Rating	Nos		85000	
57.04	soft starter with RS485 port -400V,30KW Rating	Nos		100000	
57.05	soft starter with RS485 port -400V,45KW Rating	Nos		125000	
57.06	soft starter with RS485 port -400V,55KW Rating	Nos		140000	

BQ Item No.	Description	Unit	Qty	Rate	Amount
57.07	soft starter with RS485 port -400V,75KW Rating	Nos		15000	
57.08	soft starter with RS485 port -400V,90KW Rating	Nos		17500	
57.09	soft starter with RS485 port -400V,110KW Rating	Nos		22500	
57.10	soft starter with RS485 port -400V,132KW Rating	Nos		25000	
57.11	soft starter with RS485 port -400V,220KW Rating	Nos		27500	
57.12	soft starter with RS485 port -400V,250KW Rating	Nos		32500	
57.13	soft starter with RS485 port -400V,312KW Rating	Nos		37500	
57.14	soft starter with RS485 port -400V,450KW Rating	Nos		55000	
58.00	Auto Phase Reversal Unit:-	Nos		45000	
58.01	100 Amp rating	Nos		50000	
58.02	125 Amp rating	Nos		70000	
58.03	160 Amp rating	Nos		120000	
58.04	200 Amp rating	Nos		135000	
58.05	250 Amp rating	Nos		140000	
58.06	315 Amp rating	Nos		150000	
58.07	400 Amp rating	Nos		190000	
58.08	500 Amp rating	Nos		225000	
58.09	630 Amp rating	Nos		120000	120000
59.00	Radar type Level transmitter	Nos	1.00	120000	120000
60.00	Control Panel:- control panel for all power equipments with IP 54 protection	Nos	1.00	120000	120000
61.00	Cabling for Tube Well:- complete cabling for tubewell including all power and control cables of all equipments at pump house and OHT	Nos	1.00	60000	60000
62.00	Master control plc with CPU, SCADA software including GSM / GPRS modem, necessary firewall, ethernet switch, CCTV system	Nos		2665000	
63.00	Installation testing and commissioning	Nos	1.00	60000	60000
A.1-1	110 mm dia HDPE Pipe PN6, PE 100	m	189.00	321	60669
A.1-2	125 mm dia HDPE Pipe PN6, PE 100	m		378	
A.1-3	140 mm dia HDPE Pipe PN6, PE 100	m	247.00	498	123006
A.1-4	160 mm dia HDPE Pipe PN6, PE 100	m	26.00	630	16380
A.1-5	180 mm dia HDPE Pipe PN6, PE 100	m		779	
A.1-6	200 mm dia HDPE Pipe PN6, PE 100	m		951	
A.1-7	Supply Installation of Display board of Size 2M X 1 M for Providing details of proposal of water supply scheme	LS	1.00	25000	25000
A.1-8	Provision for arboriculture for development of water works	LS	1.00	50000	50000
A.1-9	Battery back up with accessories for 2KW load	Nos	1.00	92800	92800
A.1-10	40 watts solar street lights inbuild with all accessories	Nos	4.00	30000	120000
A.1-11	SITC of DG for Electricity support	Nos		240000	
A.1-11-1	7.5 KVA	Nos		260000	
A.1-11-2	10 KVA	Nos		306000	
A.1-11-3	15 KVA	Nos		370000	
A.1-11-4	20 KVA	Nos	1.00	370000	370000
A.1-11-4	25-KVA	Nos		389000	
A.1-11-5	30 KVA	Nos		405000	
A.1-11-6	40 KVA	Nos		483000	
A.1-11-7	45 KVA	Nos		495000	
A.1-11-8	50 KVA	Nos		555000	
A.1-11-9	62.5 KVA	Nos		569000	
A.1-12	Electromagnetic flow meters	#VALUE!		100000	
A.1-12-1	100mm Electromagnetic flow meters	Nos.		80000	
A.1-12-2	80mm Electromagnetic flow meters	Nos.	1.00	80000	80000

EXECUTIVE ENGINEER
CONSTRUCTION DIVISION
(EM) U.P. JAL NIGAM
GORAKHPUR

(इंजीनियरिंग डिप्लोमा)
गोपाल कौशिक

Forwarded As Recommended
by DWSSM For SLSSC

U.P. Jal Nigam, 10th Div. Gorakhpur
U.P. Jal Nigam, 10th Div. Gorakhpur
U.P. Jal Nigam, 10th Div. Gorakhpur

J.E(T) Assistant Engineer



गोपाल कौशिक

(इंजीनियरिंग डिप्लोमा)

CHECKED BY

PREPARED BY

Per Capita Cost (NET COST+CONTINGENCY+GST)	6987
TOTAL POPULATION A (ULTIMATE YEAR 2052)	4010

Sr. No.	Description of Work	Amount (Rs. in Lacs)	%	Amount (Rs. in Lacs)	U.P. Share	Govt. of India Share
1	2	3	4	5	6	7
1	Cost of Work	245.60		245.60	236.11	
2	0.14% Discount as per Contract on Cost of work	245.60	-0.14%	34.34		
	Net Cost of Work	236.11		235.78		
3	Add Contingency 2%	245.26	2.00%	4.91	4.72	
	Sub Total (A)	240.50		240.50	235.78	125.08
4	Add GST 12 % -B	250.16	12.00%	28.86	30.06	15.01
5	Add 12.5% Contingency-C	250.16	12.50%	30.06	31.31	
	Grand Total (A+B+C)	299.42		311.45	311.36	140.79
6	Let O&M Cost (after DLP)	245.26	82%	60.50	4.91	7.45
	Total Cost of Scheme (Excluding O&M)			299.42	299.42	

Estimate for Ahirauli 2 Gram Panchayat
Water Supply Scheme
Under - SWSM
Block- Gola, District- Gorakhpur
Form "J" - Comprehensive Scheme