

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/MS/107w/52	Date And Time -	07/1/2022/11:40AM
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Description:	Lowering of pipe with Assembly & filling gka-circuit.
Location:	Block – Gajaha C.I. Sonney sithon B.H.
Preceding RFI No.	NA
Commencement of work:	08/01/2022
Submitted By:	from M/s. [Signature]
Signature:	[Signature]
Designation:	

Concessionaire:	Proceed	Hold
Name:		
Designation:		

① Re gravel are not stacked properly.
 ② Paint to be needed on Assembly.
 ③ Barringing, are not properly at the site.

Signature
 Contractor Representative

[Signature]

Signature
 Consultant Representative

[Signature]
 08/01/2022
 T.P.T.A

Signature
 Client Representative

[Signature]
 8-1-2022

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/52/21	Date And Time - 08/01/2022
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Description:	Verification of compliance.
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Location:	Block - Bagda, G.P. - Sonay Sadon Buth.
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Preceding RFI No.	SWSM-UP-GKP/N/S/Tw/52
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Commencement of work:	08/01/2022
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Submitted By:	Permittee.
---------------	------------

Signature:	
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Designation:	Super visor.
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Concessionaire:	Proceed	Hold
-----------------	---------	------

Name:	Designation:
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Comments:	<p>① Per - Board stated in proper way.</p> <p>② Assembly formed with the proper.</p> <p>③ Boring log generated Area is done properly. Compliance submitted by MC.</p>
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Contractor Representative
 Signature

Consultant Representative
 Signature

Client Representative
 Signature

08/01/2022



Ref No: NCC/SWSM UP-GKP(S)/QC/066

Dated: 01/02/2022

To,
The Executive Engineer
E&M, Jal Nigam
Gorakhpur, Uttar Pradesh

Sub - Compliance of NCR - Reg.
Ref: - MTCPL/SWSM/TPA-CLUSTER-9/2021-22/15532 Dated: - 13 Jan 2022.

Respected Sir,

This has reference to the letter cited above. We are furnishing here under the rectifications carried out in the compliance to the observations in the NCR mentioned.

Sr No.	Non - Conformities Reported	Category of Defect	Location	Action Taken	Remarks
1	Pea gravel was not stacked in Trapezoidal way.	Major	Village: Samay Sthan	Pea Gravel stacked in Trapezoidal way.	Snap-01
2	Pipe Assembly was not painted with 2 coat Anti corrosion paint.	Major	Block: Bhati, Gagaha	We paint pipe assembly with Anti Corrosive Paint.	Snap - 02

This is for your kind information & record.

Thanking you and assuring best services all the time.

For NCC Limited
PIN 273002
SWSM - Gorakhpur
Authorized Signatory

CC: Medhaj Techno Concepts Pvt. Ltd.

Encl: Annexure I

3-2-22
Prof. C. P. Singh
3-2-22
273004

Reviewed
D Kumar
01/02/22



Samay Sathan
Bhiti

GORAKHPUR-UP
SIEVE ANALYSIS OF PEA GRAVELS (SIZE-1.6 mm to 4.8 mm)
 (As per IS : 460 and IS: 4097)

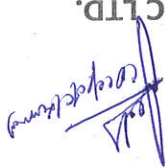


Date of Testing : 08/01/2022	Test report no : NCC/CEP-5/8/052
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SL NO.	DESCRIPTION	OBSERVATIONS
1	Source of material :	Lalkuan, Nainital, Uttarakhand.
2	Location :	Block Name- GORAKHPUR G.P Name- SAHAY SATHAN BHITI
3	Date of sampling :	07/01/2022
4	Lab. Test no :	52
5	Sample no. :	52
6	Total wt. of sample (gm) :	1000 gm

SIEVE ANALYSIS					
IS Sieve Size	retained	Cumulative wt. Retained (gm)	Cumulative % wt. Retained	% passing	Acceptable / Not Acceptable
6.3 mm	09	09	0.9	99.1	OK
4.75 mm	220	229	22.9	76.1	OK
2.36 mm	696	925	92.5	6.5	OK
1.18 mm	97	996	99.6	0.4	OK
Pan	04				
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 
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Note : The Specific Gravity should not be less than 2.5


10	Specific Gravity =	$(W2 - W1) - (W3 - W4)$	=	$\frac{209}{209-126}$	=	2.518
9	Weight of the Jar + Water, W4 (gm)=	7.8 gm				
8	Weight of Jar + Gravel + Water, W3 (gm)=	853 gm				
7	Weight of Jar + Gravel, W2 (gm)=	461 gm				
6	Weight of the Jar, W1 (gm)=	852 gm				

SPECIFIC GRAVITY TEST AT ROOM TEMPERATURE

5	Sample no :	52
4	Lab. Test no :	52
3	Date of sampling :	07/01/2022
2	Location :	NAME OF THE BLOCK - GORAKH NAME OF THE GRAM PANCHAYAT - SHRI SATHAN BARI
1	Source of material :	Lalpur, Nanda, Uttarpradesh
SL NO.	DESCRIPTION	OBSERVATIONS
Test report no :	NCC/CRH-S/BL/052	
Date of Testing-	08/01/2022	

As per IS : 2386 (Part-3)

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

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

NAME OF THE DISTRICT- GORAKHPUR

GAGANA

NAME OF THE BLOCK-

SAMAY STHAN BHITI

NAME OF THE VILLAGE-

DISCHARGE - 600 LPM

DEPTH B.G.L. IN METER

0 M

BORING CHART

STRATA

EXECUTED ASSEMBLY

ASSEMBLY DETAILS

40.0 M

MEDIUM SAND

35.90 M

35.0 M

SANDY CLAY

35.90 M

30.0 M

MEDIUM SAND

35.90 M

20.0 M

SANDY CLAY

35.90 M

15.0 M

MEDIUM SAND

35.90 M

10.0 M

SANDY CLAY

35.90 M

7.50 M

MEDIUM SAND

35.90 M

5.00 M

CONCRETE CLAY

35.90 M

105.0 M

MEDIUM SAND

35.90 M

120.0 M

MEDIUM SAND

35.90 M

136.0 M

CLAY

35.90 M

155.0 M



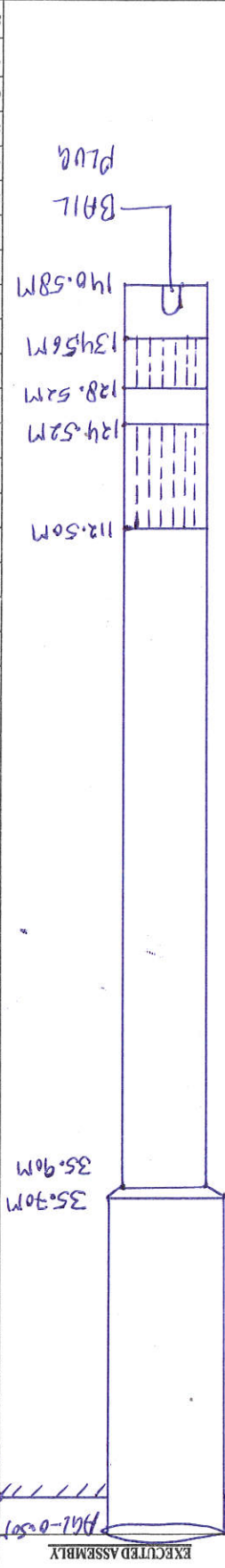
JE & AE (Mansu Prasad) (Bodhrajyadav)

U.K. Prasad (Mansu Prasad)

E.E

Xm. S

LOGGING REPORT	ABSTRACT	ASSEMBLY DETAILS
1. Drilling Started-		mm Dia Housing Pipe A.G.L. = 0.50 m
2. Drilling Completed/Lowering- 10/10/2022		300 mm Dia Housing Pipe m to 36.20 m
3. Drilling Depth (m)- 155.0 M		300/150 mm Dia Reducer 35.90 m to 35.90 m
4. Assembly Lowered (m)- 141.08		150 mm Dia BLIND pipe 35.90 m to 112.50 m
5. Housing Pipe (m)- 36.20 M		150 mm Dia Stated pipe 112.50 m to 124.50 m
6. Plain Pipe (m)- 86.62 M		150 mm Dia BLIND pipe 124.50 m to 128.50 m
7. Slotted Pipe (m)- 18.06 M		150 mm Dia Stated pipe 128.50 m to 134.50 m
8. Reducer (m)- 0.20 M		150 mm Dia BLIND pipe 134.50 m to 140.50 m
Total Assembly = 140.58 m + A.G.L. (m) = 141.08 m		



DEPTH B.G.L. IN METER	BORING CHART	STRATA
0 M		
20.0 M		SANDY CLAY
30.0 M		MEDIUM SAND
35.0 M		SANDY CLAY
35.0 M		MEDIUM SAND
35.0 M		SANDY CLAY
35.0 M		MEDIUM SAND
35.0 M		SANDY CLAY
35.0 M		MEDIUM SAND
35.0 M		SANDY CLAY
35.0 M		MEDIUM SAND
35.0 M		CONCRETE CLAY
35.0 M		MEDIUM SAND
35.0 M		MEDIUM SAND
35.0 M		CLAY
155.0 M		

Aqua Xplore

(Groundwater Assessment & Allied Services)

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

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

Ref. 106 - S / AX - 2022 Date 06.01.2022

Geophysical Borehole Logging Report

Name of the site : Samay Sthan Bhitl , Block- Gagaha

District : Gorakhpur

Date : 06.01.2022

Depth logged : 150.0 mbgl

Depth drilled : 155.0 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	25.0---40.0	15.0	Good all
2	50.0---56.0	6.0	
3	75.0---80.0	5.0	
4	100.0---105.0	5.0	
5	112.0---126.0	14.0	
6	128.0---136.0	8.0	

Note: SI.Nos. 3, 4 & 6 are intermixed with kanakar.

for Aqua Xplore

CC:

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

Verified as per logs provided.

ASSISTANT HYDROLOGIST,
YAKHTA MANDAL
U.P. JAL NIGAM (RURAL)
GORAKHPUR

Note - Zone H - 100-105 mbgl
should avoid. as it is in
transition zone.



TUV INDIA PRIVATE LIMITED
INSPECTION RELEASE NOTE / CERTIFICATE
 IRN-8119494049-NCC/ROK/SWSMUP-G(S)/PO/47 - S/N 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 Client: MS. DADU PIPES PVT LTD

Name: NCC LIMITED.

Contractor Name & Location: NCC/ROK/SWSMUP-G(S)/PO/47
 NCC/ROK/SWSMUP-G(S)/PO/47
 Location: A-72, Ind. Area, Sikandrabad
 Bulandshahr (U.P.)

Vendor Name & Location: M/S. Dadu Pipes (P) Ltd.

Sub Vendor Name & Location: Not Applicable

Item Description: Executive Director, State Water and Sanitation Mission, (U.P)
 Not Applicable

End User Name: Not Applicable

Name: P.O. Number: (if applicable - Vendor PO on Sub Vendor)

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, length, slotting as per IS:8110 & Zig-Zag Slots	WT:5.40 MM conforming to IS:4270, 6 Mtr	Mtrs	438	438	438	438
		780 Nos (+ 10%, Varnished.					

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)	GAP / ITP / QCP	DPLL/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 (Specify)	IS 4270, IS 8110, IS 4711	Not Applicable	Approved

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

- Total offered quantity verified.
- GAP Sr.No 3.5 Visual inspection done for surface defects, workmanship and protective coating for all items- found satisfactory.
- GAP 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.
- GAP Sr.No 3.2 Mechanical testing (Tensile, Flattening) checked on identified samples - found to meet the specification requirement (IS 4270) - found satisfactory.

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Head Office: TUV India Pvt. Ltd. (TUV INDIA PRIVATE LIMITED), REGD. & HEAD OFFICE, 801, Raheja Plaza - I, LBS Marg, Chakloper (West), Mumbai - 400086, Maharashtra, India.

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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 (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.



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 66477000, Email: inspection@tuv-nord.com Website: www.tuv-nord.com
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Rate of Water Supply : 64.70 LPCD (Added 15 % losses over 55 LPCD)

Nature of Sources : Ground Water

Source of Development : Tube Well

Daily Water Demand Summary :

a) Initial Year 2022 : 168 KLD

b) Intermediate Year 2037 : 223KLD

c) Ultimate Year 2052 : 280 KLD

Number of Tube Wells : 1

Nature of Treatments : Chlorinator through HDPE Tank (100L) and Dosing metering pump (0-6LPH)

Average Dosing Capacity : 0.50 PPM

Pumping plant for Tube Well : 1

a) No. and Type of Plant :

S. NO.	DESCRIPTION	TOTAL	SC/ST	HOUSE HOLDS
1	As Per Census 2011	1993	704	280
2	Initial Stage 2022	2590	915	364
3	Intermediate Stage 2037	3440	1215	483
4	Ultimate Stage 2052	4330	1530	608

Table 2: Gram Panchayat Population Summary

District	Sub District	Block	Gram Panchayat	2011 Census Code	Revenue Village Name	Habitat Sr. No.	Habitat Name
Gorakhpur	Gorakhpur	Gagha	Bhiti	187920	Bhiti	1	Bhiti
			A BHATPURW	187921	BHATPURWA	2	BHATPURWA

Table 1: List of village and Habitation

Name of the State : Uttar Pradesh

Name of the District : Gorakhpur

Name of the Block : Gagha

Name of the Programme : Jal Jeevan Mission

Name of the Gram Panchayat : Bhiti

No. of Village/Habitations : 2

Salient Feature



Sr.No.	Pipe Material	Pressure Class	Diameter (mm)	Total Pipe Length (m)	
				Length (m)	
1	HDPE, PE100	PN6	63	2783	
2	HDPE, PE100	PN6	75	353	
3	HDPE, PE100	PN6	90	288	
4	HDPE, PE100	PN6	110	268	
5	HDPE, PE100	PN6	125	219	
6	HDPE, PE100	PN6	140	16	
7	HDPE, PE100	PN6	160	389	
				4315	

Table 4: Distribution Network Summary

Total Length of Rising Main (m)						
Pipeline Type	From	To	Material	Class	Diameter (mm)	Length (m)
Rising Mains	TW - 1	OHT-1	DI	K-9	150	35
						35

Table 3: Rising Mains

Pipeline Summary

- b) Anticipated Discharge : 600LPM
- c) Total Working Head : 41m
- d) Motor (HP) : 12.5 HP
- Service Storage
- a) Quantity : 1
- b) Capacity : 175 KL
- c) Staging : 12m



Estimate for Bhitli Gram Panchayat
Water Supply Scheme
Under - SWSM
Block-Gagha District-Gorakhpur

BOQ 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	219650.00	219650
2.00	Drilling of Borehole for Tubewell construction by DC/RC/PTH 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	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.	45.00	2144.00	96480
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	
3.01	MSERW plain pipe,As per IS 4270				
3.02	100 MMØ	Mtr.		927.50	
3.03	150 MMØ	Mtr.	58.00	1900.00	110200
3.04	200 MMØ	Mtr.		2550.00	
3.05	300 MMØ	Mtr.	36.00	3800.00	136800
3.06	MSERW Pipe slotted pipe as per IS 8110				
3.07	100 MMØ	Mtr.		1366.85	
3.08	150 MMØ	Mtr.	36.00	2800.00	100800
3.09	200 MMØ	Mtr.		3833.80	
3.10	300 MMØ	Mtr.		5188.59	
3.11	M5 fittings such as clamp, ball plug, reducer, well cap, girder & support structure	LS	1.00	32295.00	32295
3.12	M5 fittings such as ring & centre guide	RM	130.00	471.68	61318
	Tubewell 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 Plain/Slotted Pipe	Mtr.		129.45	
4.03	150 MMØ MSERW Plain/Slotted Pipe	Mtr.	64.00	281.00	17984
4.04	200 MMØ MSERW Plain/Slotted Pipe	Mtr.		376.50	
4.05	300 MMØ MSERW Plain/Slotted Pipe	Mtr.	36.00	472.00	16992
4.06	Lowering from 101 Mtr. To 200 Mtr. Deep				
4.07	150 MMØ MSERW Plane/Slotted Pipe	Mtr.	30.00	376.00	11280

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	Mtr.		385.19	
4.11	150 MMØ MSERW Plane/Slotted Pipe	Mtr.		459.00	
4.12	200 MMØ MSERW Plane/Slotted Pipe	Mtr.		606.62	
4.13	300 MMØ MSERW Plane/Slotted Pipe	Mtr.		426.53	
4.14	Lowering from 301 Mtr. To 400 Mtr. Deep & above	Mtr.		499.00	
4.15	150 MMØ MSERW Plane/Slotted Pipe	Mtr.		643.94	
4.16	200 MMØ MSERW Plane/Slotted Pipe	Mtr.			
4.17	300 MMØ MSERW Plane/Slotted Pipe	Mtr.			
5.00	Supply and Packing of Gravel Works				
5.00	Supply and unconsolidated packing of gravel with suitable size	Cum	38.00	7500.00	285000
6.01	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.	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	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.	100.00	959.00	95900
6.11	Charges for Development of TW by 3 cusec OP Unit	Hr.		1196.00	
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		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	334043
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.1 - 13.01	Electrically operated Sluice Valve PN 1.0 dia 80 mm	Nos		125000	
A.1 - 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	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
A.1 - 14	Check Valve:-				
A.1 - 14.01	Check Valve PN 1.0 DPCV dia 80 mm	Nos		27519.8	
9.03	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	

BOQ Item No.	Description	Unit	Qty	Rate	Amount
A1-15	Dismantling Joint :-				
A1-15.01	Dismantling Joint PN 1.0 dia 80 mm	Nos		3923.92	
A1-15.02	Dismantling Joint PN 1.0 dia 125 mm	Nos		5605.6	
9.06	Dismantling Joint PN 1.0 dia 100 mm	Nos		3923.92	
9.07	Dismantling Joint PN 1.0 dia 150 mm	Nos		5605.6	5606
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		
9.10	1 Tonne	Nos	1.00	46305	46305
9.11	2 Tonne	Nos	1.00	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	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	
13.06	100 mm Dia size - MS pipe	Mtr.		1567	
13.07	150 mm Dia size - MS pipe	Mtr.	30.00	2167	65010
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. (Vendor have to select the technology based on capacity (Electrolytic-de 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	

BOQ Item No.	Description	Unit	Qty	Rate	Amount
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
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	39.00	86800	3385200
21.00	Boundary Wall:- Construction of 1.3 m high and 15mm thick boundary wall with 230 mmx230 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	115.20	6400	737280
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.	212.40	1070.5	227374
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	42.48	2800	118944
26.00	Construction of WBM:- Construction of WBM by providing grade materials, spreading in uniform layers including watering and compaction complete.	Cum	53.10	3029	160840

BOQ Item No.	Description	Unit	Qty	Rate	Amount
27.00	Earth Filling:- 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:- Provision for inside semicircular drain 200mm dia including supply of all materials, labour and T & P etc. complete.	Rmt	120.00	1607.14	192857
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 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	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	
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
32.01	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 staircases, 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 aluminum 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	Job		1712500.00	
32.02	50 KL 10 M Staging	Job		1788750.00	
32.03	75 KL 10 M Staging	Job		2150000.00	
32.04	75 KL 12 M Staging	Job		2242500.00	

BQ Item No.	Description	Unit	Qty	Rate	Amount
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		3241250.00	
32.08	150 KL 16 M Staging	Job		3457500.00	
32.09	175 KIL 12 M Staging	Job	1.00	3441250.00	3441250
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)	Run		172062.50	
33.00	Excavation:- Excavation of earth in ordinary soil (loam, clay or sand) for pipe line 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	1681.87	214.61	360946
35.00	Mixed Soil with Kanakar	Cum	1681.87	249.27	419240
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	8.50	1656.00	14069
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 belted 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 /mortum /bajn 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 bending, 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 shunting, 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	

BQ Item No.	Description	Unit	Qty	Rate	Amount
40.00	Supply of following sizes (D.I.) pipes for rising main/distribution system conforming to latest/relevant I.S. 8329/2000 Specifications with all jointing 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, 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.				
40.01	Ductile Iron Pipe (K-9)				
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	35.00	1728.48	60497
40.06	100 mm dia Ductile Iron K-9	m		1411.41	
40.07	80 mm dia Ductile Iron K-9	m		905.41	
40.08	Ductile Iron Pipe (K-7)				
40.09	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	Supply of following sizes pipes for distribution system conforming to latest/relevant I.S. 4984/1995 Specifications with all jointing 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.				
41.01	90 mm dia HDPE Pipe PN6, PE 100	m	480.00	229.5	110160
41.02	75 mm dia HDPE Pipe PN6, PE 100	m	447.00	169.2	75632
41.03	63 mm dia HDPE Pipe PN6, PE 100	m	1780.00	125.8	223924
42.00	Valves:- Supply and carting up to site of work of the following dia DI butterfly /sluice valves, class I, working pressure 10 Kg/cm2 conforming to IS: 780/1969 or its latest amendments, including valve fittings & dismantling joints as per requirement F.O.R. destination, and lowering them into the already prepared trenches, fixing in position and jointing with pipe materials etc. complete and also including supply of jointing materials etc. complete, including all taxes and insurance, as per instructions of Engineer -in-charge.				
42.01	Isolating Sluice Valve				
42.01	Sluice valve - 300 mm dia	Nos		64042.00	
42.02	Sluice valve - 250 mm dia	Nos		48109.00	
42.03	Sluice valve - 200 mm dia	Nos		27304.00	
42.04	Sluice valve - 150 mm dia	Nos	1.00	17626.00	17626
42.05	Sluice valve - 125 mm dia	Nos		14505.00	
42.06	Sluice valve - 100 mm dia	Nos		14455.00	

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		9700.00	
42.08	Scour Valve				
42.08	Scour valve - 80 mm dia	Nos	1.00	10160.84	10161
42.09	Scour valve - 100 mm dia	Nos		12535.28	
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 and lowering them into the trenches, fixing in position and joining them with pipelines and testing etc. complete (including materials and Valve fittings etc complete) as per instructions of Engineer.				
42.18	20 mm	Nos	1.00	10229.21	10229
42.19	50 mm	Nos		23170.33	
42.20	80 mm	Nos		23170.33	
42.21	150 mm	Nos		41024.88	
42.22	Fire Hydrant:- Supply of under ground sluice valve type fire hydrant consisting of 80 mm dia sluice valve, 80mm dia tall 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 joining 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.	1.00	25800.00	25800
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.	1.00	9000.00	9000
43.07	Scour Valve Chamber				
43.08	dia upto 200 mm - 1000 (L) x 1200 (W) x 1300 (H) mm	No.	1.00	29670.00	29670
43.09	PRV Valve Chamber - 1000 (L) x 1200 (W) x 1300 (H) mm	No.		28380.00	
44.00	Design and construct Thrust Block:- 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 equated shape as necessary, its bending, fixing & binding the same with 0.50 mm thick binding wire in position & necessary centering & shuttering including curing and supply of all materials, labour, T & P etc. required for proper completion of the work and as per specifications for 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	8685
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 striking out after completion of works.	Sqm	7.20	420.00	3024
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	0.04	109838.98	4107
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	Assess replacement items				
48.01	SSS				
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	<p>TubeWell Automation System:- Installation of suitable capacity simple 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.</p>	Job	1.00	375000	375000
50.00	<p>Dismantling of Roads:- Dismantling of following type of surfaces including sorting out and stacking of servicable materials and disposal of unservicable materials upto a distance of 50m as per instructions of Engineer-in-charge.</p>				
50.01	B.O.E. Surface	Sqm	1179.25	100.00	117925
50.02	Bituminous Surface	Sqm	1086.76	200.00	217352
50.03	Interlocking Road	Sqm		155.00	
50.04	C.C. Road	Sqm		329.96	
51.00	<p>Restoration of Roads:- Restatement 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.</p>				
51.01	B.O.E. Surface (50% of existing bricks to be reused)	Sqm	1179.25	350	412736
51.02	Bituminous surface	Sqm	1086.76	1534.82	1667984
51.03	Interlocking Road	Sqm		1070.5	
51.04	C.C. Road	Sqm		1560.71	
52.00	<p>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)</p>				
52.01	Nala/Culvert Crossing (width -3.5 m) upto Dia 300 mm	Nos	19000		
52.02-52.03	<p>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 Rising main pipe with casing pipe as required for proper completion of work required size of MS casing pipe as per drawing and as per (IS:3589 & made from confining to IS:2062) with 750 Micron PU coating internally and 250 micron anti corrosive bituminous paint mtr from normal ground level up to top of casing pipe including excavation & filling of Pit, Dewatering arrangement, Supporting system for soil, also including supply and fixing of 2 no Sluice valve 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.</p>				
52.04	Railway Line crossing (Up to Dia 350 mm)	Nos	60000		
52.05	National Highway road crossing (Up to Dia 350 mm)	Nos	40000		
52.06	State Highway road crossing (Up to 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		100000
52.11	200 mm dia. Pipe	Nos	2400		26400
52.12	250 mm dia. Pipe	Nos	3600		7200
52.13	300 mm dia. Pipe	Nos	3900		19500
52.14	350 mm dia. Pipe	Nos	4386		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 baji, ballast, including providing supply, carting, lowering, laying and joining 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 with 40mm 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. MDPE Pipe (20 mm) (below ground) including specials, saddle, Tap, etc. of suitable size, T&P etc. including excavation, laying and joining for proper completion of work as per instructions of Engineer as per Dwg 12 (excluding road restoration)	Nos.	364.00	3500	1274000
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:- Operation and Maintenance for 10 years of water supply schemes after completion including staff required for operation and maintenance, chemicals, all materials, specials T & P for operation and maintenance, excluding electricity charges. (2% of Capex cost for first year of O&M) Note:- 6% Inflation Factor considered for arriving the O&M Cost 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		
A1-56.09	100mm	Nos.	100000.00		100000
A1-56.10	80mm	Nos.	80000.00		
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

BoQ Item No.	Description	Unit	Qty	Rate	Amount
57.05	soft starter with RS485 port -400V,45KW Rating	Nos		125000	
57.06	soft starter with RS485 port -400V,55KW Rating	Nos		140000	
57.07	soft starter with RS485 port -400V,75KW Rating	Nos		150000	
57.08	soft starter with RS485 port -400V,90KW Rating	Nos		175000	
57.09	soft starter with RS485 port -400V,110KW Rating	Nos		225000	
57.10	soft starter with RS485 port -400V,132KW Rating	Nos		250000	
57.11	soft starter with RS485 port -400V,220KW Rating	Nos		275000	
57.12	soft starter with RS485 port -400V,250KW Rating	Nos		325000	
57.13	soft starter with RS485 port -400V,312KW Rating	Nos		375000	
57.14	soft starter with RS485 port -400V,450KW Rating	Nos		550000	
58.00	Auto Phase Reversal Unit:-				
58.01	100 Amp rating	Nos		45000	
58.02	125 Amp rating	Nos		50000	
58.03	160 Amp rating	Nos		70000	
58.04	200 Amp rating	Nos		120000	
58.05	250 Amp rating	Nos		135000	
58.06	315 Amp rating	Nos		140000	
58.07	400 Amp rating	Nos		150000	
58.08	500 Amp rating	Nos		190000	
58.09	630 Amp rating	Nos		225000	
59.00	Radar type Level transmitter	Nos	1.00	120000	120000
60.00	control panel for all power equipments with IP 54 protection	Nos	1.00	120000	120000
61.00	Cablling for Tube Well:- complete cablling for tubewell including all power and control cables of all equipments at pumphouse and OHT	Nos	1.00	60000	60000
62.00	Master Control PLC:- 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
Additional Items					
A/1-1	110 mm dia HDPE Pipe PN6, PE 100	m	480.00	326.71	156821
A/1-2	125 mm dia HDPE Pipe PN6, PE 100	m	236.00	414.95	97928
A/1-3	140 mm dia HDPE Pipe PN6, PE 100	m	133.00	513.86	68343
A/1-4	160 mm dia HDPE Pipe PN6, PE 100	m	135.00	663.92	89629
A/1-5	180 mm dia HDPE Pipe PN6, PE 100	m	219.00	829.93	181755
A/1-6	200 mm dia HDPE Pipe PN6, PE 100	m	405.00	1016.89	411840
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 Backup with Accessories for 2 Kw Load	Nos		92800	
A/1-10	40 Watts Solar Street Lights inbuilt with all accessories	Nos	4.00	30000	120000
A/1-11	SITC of DG for Electricity support	Nos			
A/1-11-1	7.5 KVA	Nos		240000	
A/1-11-2	10 KVA	Nos		260000	
A/1-11-3	15 KVA	Nos		306000	
A/1-11-4	20 KVA	Nos		370000	
A/1-11-5	25 KVA	Nos		389000	
A/1-11-6	30 KVA	Nos		405000	
A/1-11-7	40 KVA	Nos	1.00	483000	483000
A/1-11-8	45 KVA	Nos		495000	
A/1-11-9	50 KVA	Nos		555000	
A/1-11-10	62.5 KVA	Nos		569000	
A/1-12	Electromagnetic flow meters	Nos			
A/1-12-1	100mm Electromagnetic flow meters	Nos		100000	
A/1-12-2	80mm Electromagnetic flow meters	Nos		80000	

Estimate for Bhitl Gram Panchayat
 Water Supply Scheme
 Under - SWSM
 Block-Gagha District-Gorakhpur
 Form "J" - Comprehensive Scheme

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	-219.65		-219.65	-212.78	
2	0.14% Discount as per Contract on Cost of work	-219.65	-0.14%	-0.31		
	Net Cost of Work			-219.34	-212.49	
3	Add Contingency 2%	-219.34	2.00%	-4.39		
	Sub Total (A)	216.74		223.73	111.86	111.86
4	Add GST 12%-B	-223.73	12.00%	26.01	26.85	13.42
5	Add 12.5% Conting-C	-223.73	12.50%	27.09	27.97	27.97
	Grand Total (A+B+C)	269.84		278.54	153.25	125.29
6	1st O&M Cost (after DLP)	219.34	2%	5.52	4.39	2.19
	Per Capita Cost (NET COST+CONTINGENCY+GST)	4330		5787		

CHECKED BY _____ PREPARED BY _____

Member Secretary DWSM
 Executive Engineer,
 U.P. Jal Nigam, 10th Div. Gorakhpur

J.E.(T) Assistant Engineer
 J.E.(T) Assistant Engineer

M/S NCC Ltd.

Forwarded As Recommended
 by DWSM For SLSSC

(50 जोड़ो योजना)
 ग्रहण कार्यालय
 एवं कार्यालय

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 ग्रहण कार्यालय
 एवं कार्यालय

Break up of Cost

Sl. No.	Sub Head	Total Cost of work	Building	R.C.C. Reservoir	Pipe Line	Machinery	Misc.
A.	Civil works :						
1	2	3.0	4.0	5.0	6.0	7.0	8.0
1	Pump house & Chlorinating room	5,97,000	5,97,000				
2	Rising Main	90,755			90,755		
3	R.C.C. Over head tank (___ KL/ ___ m staging)	37,97,250		37,97,250			
4	Distribution System	62,35,371		62,35,371			
5	Approach Road	16,29,084 5,29,084	16,29,084				
6	Boundary Wall and approach road	8,08,280	8,08,280				
7	Staff Quarter	9,70,600	9,70,600				
8	Surveying and designing	2,12,849.82					2,19,650
	(Total A)	1,43,47,990 13,66,190.00	40,04,964	1,00,32,621	90,755	-	2,19,650
B.	E&M works:						
1	Cost of Tubewell construction	16,16,793				16,16,793	
2	Cost of pumping plant and Chlorinating Plant	13,76,998				13,76,998	
3	Solar plant	33,85,200				33,85,200	
4	Electrification of pump house, SCADA	12,38,000				12,38,000	
	Total (B)	76,16,992	-	-	-	76,16,992	-
	G. Total (A+B)	2,19,64,982 21,27,8182.00	40,04,964	1,00,32,621	90,755	76,16,992	2,19,650

21,27,8182.00