2020

Engineering, Procurement, Construction, Testing, Commissioning, Trial Run and Operation & Maintenance of Various Components of "Rajond, Narmada Lower & Maan Multi-Village Schemes, District Dhar and Nimrani Multi-Village Scheme, District Khargone " in Single Package on Turn-Key Job Basis.

Engineering & Consulting
PHANS4 CONSULTING PVT LTD

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ITEMS	DESCRIPTION
NIT	47/Proc./MPJNM/2019-20
TITLE	Engineering, procurement, construction, testing, commissioning, trial run and operation & maintenance of various components of "Rajond, Narmada Lower & Maan Multi-Village Schemes, District Dhar and Nimrani Multi-Village Scheme, District Khargone" in single package on 'turn-key job basis' including trial run and operation & maintenance of the entire scheme for 10 years. Scheme 1 – Dhar(Rajond) – 94 Cr. Scheme 2 – Dhar(Narmada Lower) - 204 Cr. Scheme 3 – Dhar (Maan)– 218 Cr Scheme 4 – Nimrani – 284 Cr.
BRIEF SCOPE OF WORK	1. The successful bidder has to carry out entire work of Planning, Survey, Soil investigation, Designing, Construction as per the Schedule program, testing, commissioning, trial run of completed scheme and 10 years operation & maintenance of entire water supply scheme after getting a confirmatory survey done with the intention to serve the basic purpose of contract, that is to ensure the supply of drinking water in designated quantity to all villagers & to customers/ institutions/ offices identified for bulk water usage located within the revenue boundary of villages as listed vide Appendix-I. 2. The bidder is/ are required to carry out the survey including necessary data collection from concerning division of PHED of old water supply schemes and if the existing components i.e. pipe line, OHT/ GSR, etc.
TYPE OF CONTRACT	Lump Sum Contract
COST	801.41 Crores
EMD	50 Lakhs
TIME OF COMPLETION	Scheme 1 – Dhar (Rajond) - 24 Months Scheme 2 – Dhar(Narmada Lower) - 30 Months Scheme 3 – Dhar (Maan) - 30 Months Scheme 4 – Khargone (Nimrani) – 36 Months
SUBMISSION OF TENDER	Cover 1 – Prequalification And Emd Cover 2 - Technical Cover 3 – Financial
FINACIAL CRITERIA	The bidder or jv should have average annual turnover of at least 50% of tpac in last 3 financial years preceding the tender submission date at current price level (2018-19).
TECHNICAL CRITERIA	The Bidder or Lead Partner in case of JV must have experience of executing satisfactorily completely or substantially completed (substantially completed means not less than 90% of agreement value, and for which certificate is issued) integrated water supply scheme comprising of raw water intake well cum pump house, ESR/OHBR, raw / clear water reservoir / GSR, Water Treatment Plant, pipe line work within last seven years from the date of bid notification as follows: i. Three works costing not less than the amount equal to 40% of the TPAC. or ii. Two works costing not less than the amount equal to 50% of the TPAC. or

	iii. One work costing not less than the amount equal to 80% of the TPAC.
O & M	The Bidder or Lead Partner in case of JV should have executed, commissioned, and post-commissioning, operated and maintained satisfactorily for minimum 36 months at least one similar integrated water supply work of minimum 10% of TPAC comprising of intake well, pumping machinery, water treatment plant, pipeline and elevated storage reservoir.
WORKING CAPTIAL	Should not be less than 15% of the TPAC
NET WORTH	Net Worth of the bidder or JV of last Financial Year should not be less than 10% of the TPAC
SECURITY DEPOSIT	Shall be equal to 10% (ten percent) of the sum of amount of contract in the form of the unconditional and irrevocable bank guarantee executed.
PRE-BID MEETING	Office of The Managing Director, Madhya Pradesh Jal Nigam, D-Wing, 2nd Floor, Vindhyachal Bhawan, Bhopal (M.P.) PIN – 462004.
IMPORTANT DATES	**Bid Submission Date** 27-Jul-2020 05:30PM **Pre Bid Meeting Date** 08-Jul-2020 03:00 PM

TECHNICAL ASPECTS AND DETAILED PROJECT SCOPE

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SCHEME 1 - MAIN WORKS FOR RAJOND MULTI-VILLAGE SCHEME

<table>
<tr><th>No.</th><th>Main Works</th></tr>
<tr><td>1</td><td>Construction of 7.0 m diameter and 32 m deep R.C.C Intake well (including 5 m High Pump house) of required capacity in 23 hours operation flow with provision for automation (SCADA), construction of R.C.C Foot Bridge (approach bridge) approximately 55 meters, minimum 3.5 m wide with approach road (excluding space for pipeline, kerb, cable duct, railing, electric poles, etc.) & all other necessary/ ancillary structures required at the Mahi Dam near Gondikheda Charan village, Dhar District.</td></tr>
<tr><td>2</td><td>Raw water pumping main of 450 mm diameter DI-K9 pipe of length approximately 2600m including flow meters, valves, sluice valves, air valves, scour valves, valve chambers, thrust blocks, crossings, specials & accessories etc. complete including road restoration.</td></tr>
<tr><td>3</td><td>Water treatment plant to provide 15.84 million litre treated clear water in 23 hours i/c automation (SCADA), with clear water sump having a storage capacity of 45 minutes of overall clear water demand for the design year, complete near Lambriya village, District Dhar i/c construction of boundary wall, internal roads, electrification, laboratory, office building etc., and all other necessary ancillary structures required.</td></tr>
<tr><td>4</td><td>Providing, laying, jointing and Commissioning of clear water pumping main having an approximate length as detailed below with in-lining and out-coating as per IS 8329 i/c flow meter, valves, sluice valves, air valves, scour valves, valve chambers, thrust blocks, crossings, specials & accessories etc. complete including road restoration.
<table>
<tr><th>Type of Pipe</th><th>Diameter in MM</th><th>Length (m)</th></tr>
<tr><td>DI-K9</td><td>80</td><td>11913</td></tr>
<tr><td></td><td>100</td><td>21309</td></tr>
<tr><td></td><td>125</td><td>14073</td></tr>
<tr><td></td><td>150</td><td>20955</td></tr>
<tr><td></td><td>200</td><td>22303</td></tr>
<tr><td></td><td>250</td><td>4067</td></tr>
<tr><td></td><td>300</td><td>3983</td></tr>
<tr><td></td><td>350</td><td>11466</td></tr>
<tr><td></td><td>400</td><td>19001</td></tr>
</table></td></tr>
<tr><td>6</td><td>a) Construction of Overhead Service Reservoirs (OHSR) at different villages of following capacity and staging of minimum 12m or as per design to maintain the required minimum terminal pressure of 7m at consumer end including provision of flow meters at each Reservoir including, compound wall & Approach road.
<table>
<tr><th>S. No.</th><th>Village</th><th>Capacity (KL)</th><th>S. No.</th><th>Village</th><th>Capacity (KL)</th></tr>
<tr><td>1</td><td>Labarya</td><td>420</td><td>16</td><td>Lilykehdi</td><td>270</td></tr>
<tr><td>2</td><td>Barmandal</td><td>190</td><td>17</td><td>Chayan</td><td>110</td></tr>
<tr><td>3</td><td>Barkhera</td><td>100</td><td>18</td><td>Sandala</td><td>140</td></tr>
<tr><td>4</td><td>Sandla</td><td>230</td><td>19</td><td>Chandwarya Khurd</td><td>110</td></tr>
<tr><td>5</td><td>Dholgarh</td><td>100</td><td>20</td><td>Tilgara</td><td>310</td></tr>
<tr><td>6</td><td>Gondi Thakur</td><td>110</td><td>21</td><td>Jabda</td><td>110</td></tr>
<tr><td>7</td><td>Patoliya</td><td>270</td><td>22</td><td>Bhuwani Khera</td><td>540</td></tr>
<tr><td>8</td><td>Rajod</td><td>420</td><td>23</td><td>Rupakehdi</td><td>100</td></tr>
<tr><td>9</td><td>Khedipada</td><td>100</td><td>24</td><td>Kehra</td><td>230</td></tr>
<tr><td>10</td><td>Jhijoda</td><td>130</td><td>25</td><td>Pitgara</td><td>180</td></tr>
</table></td></tr>
</table>

No.	Main Works					
	11	Dharsikehda	140	26	Kankraj	260
	12	Nandlai	120	27	Dolana	280
	13	Hanumantya Sajod	220	28	Damana	270
	14	Bhensola	270	29	Karonda	220

All MBR/ BPT/ IPS/ WTP shall have boundary wall as defined in bid document but all ESRs/ GSRs shall have G.I. Chain link fabric fencing of mesh size 25x25mm made of G.I. wire of 3 mm dia. i/c strengthening with welding or nuts, bolt & washers etc. complete. It shall have ISA 50x50x5mm angle iron post at spacing 2.5 m centre to centre of height 2.0 m. above ground level embedded in M20 cement concrete 30x30 cm pillar min. 75 cm below ground level. Every 7th post & corner shall be strutted with similar specification angle iron & grouting. The top & bottom of chain link as well as on angle a 25x3 mm flat secured with either weld or rivets or bolts, to make fencing safer, shall be provided. It shall have angle iron gate of size 3.0m x 1.8m having ISA 50x50x5mm angle iron & 16mm dia square plain

M.S. bar i/c AL drop, holdfast etc. and shall be fixed up in 45x45 cm wide R.C.C. pillars. An additional gate of size 0.6mx1.5m shall also be provided within the same gate, to avoid opening of bigger gate all the time & made of IS 40x40x5mm angle iron with AL drop, etc. One Room set of min. area 25 sq.m. size with W.C. & toilet and housing of automation system and Solar/single phase electrification with area lighting, landscaping, plantation of the area, etc. complete.

The size of fencing or boundary wall shall be 20x20m i.e. overall 80m i/c gate, for these structures & if it increases or decreases then accordingly variation shall be paid or deducted as per UADD ISOR w.e.f. 1st May 2012 with up to date amendments

b) Construction of Clear Water Sump cum pump houses with following capacity.

Sl.	At Village	Item	Capacity (KL)	Staging Height No. (m)
1	Near WTP (Lambariya)	Sump	900	0
2	Chanvadiya Khurd	Sump	280	0

The CW sump cum pump houses and GLBR will have 2 m high Boundary Wall with 'Y' shape angle iron having 2*3 rows of barbed wire fencing at top of boundary wall and gate, one Room set of area 25 sq. m. size with toilet, automation system and electrification with area lighting, etc. complete.

7 Distribution network for an approximate length as detailed below comprising of: HDPE, PE100 PN6 (minimum) pipelines including valves, specials and other allied works of following diameters-

No.	Main Works
	a. 90 mm dia. minimum 6 kg/cm2 pressure – 286.6 km
	b. 110 mm dia. minimum 6 kg/cm2 pressure – 32.45 km
	c. 160 mm dia. minimum 6 kg/cm2 pressure – 36.42 km
	d. 200 mm dia. minimum 6 kg/cm2 pressure – 24.3 km
	e. 250 mm dia. minimum 6 kg/cm2 pressure – 2.7 km
	f. 80 mm dia. DI-K7 – 2.4 km
	g. 100 mm dia. DI-K7 – 0.6 km
	f. 150 mm dia. DI-K7 – 0.7 km
	f. 200 mm dia. DI-K7 – 0.2 km
	f. 250 mm dia. DI-K7 – 35m
	Pipe line i/c valves, sluice valves, air valves, scour valves, valve chambers, thrust block, bulk water meters for all villages, specials & accessories etc. complete including road restoration.
8	Pumping equipment including suitable motors, protection equipment's for following- (A) Providing and installation of 4 Nos. suitable energy efficient deep well vertical turbine pumps for raw water at Intake well cum pump house i/c automation as under: a) 2 No. pumps of 5220 lpm discharge each and approx. 35 m head b) 2 No. pumps of 2640 lpm discharge each and approx. 35 m head The pumps given above are inclusive of standby pumps (50% standby)
	(B) Providing and installation of suitable energy efficient Centrifugal pumps for Clear water at CW sump cum pump house at WTP to Deopur MBR i/c automation as under: For CWR-1 at WTP: a) 2 Nos. pumps of 4980 lpm discharge each and approx. 104m head b) 2 Nos. pumps of 2520 lpm discharge each and approx. 104 m head For CWR-2 at Chanvadiya Khurd a) 2 Nos. pumps of 1980 lpm discharge each and approx. 74m head b) 2 Nos. pumps of 1020 lpm discharge each and approx. 74m head (The pumps given above are inclusive of standby pumps)
9	Provision for an approximate length of 10 km long dedicated 33KV/ 11 KV power supply from nearby Substation to WTP, Intake well cum pump house inclusive of all allied works complete. Provision of stretching suitable capacity electric line and taking connection for CWS cum pump houses. Any other work necessary to cater the power supply demand of the project (as variation). The work includes construction of substations and stretching of power lines and internal and external electrification etc. complete at all component.
10	Supply, installing, testing and commissioning of following sized transformers and other ancillary works required, along with suitable sized transformer yards complete in all respects as per specifications: i. 2 (1W+1S) Number 160 kVA at Raw Water Pump House/ Intake ii. 2 (1W+1S) Number 315 kVA at WTP/ Clear Water Pump House iii. 2 (1W+1S) Number 63 kVA at IPS-1 (Chanyadiya Khurd) The locations of installation of transfers are, Raw water Intake Pump House, Clear Water Pump

No.	Main Works
	House, WTP, Intermediate Pump Houses etc. If additional transformers are required than the same has to be installed at the required location. 100% standby transformer capacity is to be maintained at each installation site of transformers.
11	Design, Supply, Delivery, Erection, Testing & Commissioning of Automation Components for Monitoring & Maintenance with GPRS Communication with all necessary accessories. (SCADA)
12	House Service Connection approximately 28880 Nos. (up to end of O&M Period)
13	Construction of Staff Quarter / Office Building: Office Building/Admin block - 01 No. in WTP campus - 225 sqm. Store Building - 01 No. – 75 sqm F-type staff quarter with minimum plinth area 46.5 Sqm each - 01 No. G-type staff quarter with minimum plinth area 93.0 Sqm each - 02 Nos. H-type staff quarter with minimum plinth area 46.5 Sqm each - 04 Nos. I-type staff quarter with minimum plinth area 32.5 Sqm each - 04 Nos. Office Building of plinth area approximately 400 sqm at place directed by MPJN The buildings shall be constructed as per specifications and directions of Engineer-in-Charge
14	Operation & Maintenance of the Whole Scheme for first year The Operation and Maintenance cost for the first year, in terms of percentage of contract Amount is given in Annexure H. For every subsequent year, the first-year percentage rates will be increased / decreased according to the percentage change in consumer price index issued by Labour Bureau, GOI (All Industrial Worker) for that period. The index on the date of completion of trial run period will be treated as base for calculation of percentage point increase/decrease in O&M cost of next year. Payment of O&M will be made quarterly. NOTE: a) The operation & maintenance period is 10 years from the date of completion of three months of trial run after successful commissioning of the project. b) The cost of energy charges (excluding penalties) shall be paid by MPJN on reimbursement basis. **c)** Energy Requirement: The estimation for yearly consumption of energy is **19,62,877 kwH** (Unit) for design period. d) If due to any reasons, whatsoever it is desired to supply water in some of the villages before final commissioning and trial run, then the pro-rata rates derived from the Annexure H shall be applicable for the part payment on the basis of duration and quantity supplied, but the date of commissioning of whole work shall be applicable from the dates as stipulated in this contract

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SCHEME 2 - MAIN WORKS FOR NARMADA LOWER MULTI-VILLAGE SCHEME

<table>
<tr><th>No.</th><th>Main Works</th></tr>
<tr><td>1</td><td>Construction of 14.0 m diameter and 42.00 m deep R.C.C Intake well & 14.0 m dia & 8.5 m High Pump house of required capacity in 23 hours operation flow with provision for automation (SCADA), construction of R.C.C Foot Bridge (approach bridge) approximately 200 meters, minimum 5.0 m wide with approach road (excluding space for pipeline, kerb, cable duct, railing, electric poles, etc.) & all other necessary/ ancillary structures required at the bank of Narmada River near Barda Village, Dhar District.</td></tr>
<tr><td>2</td><td>Raw water pumping main of 1300 mm diameter MS pipe (10mm thickness) of length approximately 8080m including flow meters, valves, sluice valves, air valves, scour valves, valve chambers, thrust blocks, crossings, specials & accessories etc. complete including road
restoration.</td></tr>
<tr><td>3</td><td>Water treatment plant to provide 30.82 million litre treated clear water in 23 hours i/c automation (SCADA), with clear water sump having a storage capacity of 45 minutes of overall clear water demand for the design year, complete near Limbi Village, District Dhar i/c construction of boundary wall, internal roads, electrification, laboratory, office building etc.,
and all other necessary ancillary structures required.</td></tr>
<tr><td>4</td><td>Providing, laying, jointing and Commissioning of clear water pumping main having a approximate length of 44 km of DI-K9 and MS (8mm) Pipe with in-lining and out-coating as per IS: 8329 and IS: 1239 i/c flow meter, valves, sluice valves, air valves, scour valves, valve chambers, thrust blocks, crossings, specials & accessories etc. complete including road restoration.
<table>
<tr><th>Type of Pipe</th><th>Diameter in MM</th><th>Length (m)</th></tr>
<tr><td>DI-K7</td><td>300</td><td>39029</td></tr>
<tr><td>DI-K7</td><td>500</td><td>422</td></tr>
<tr><td>DI-K9</td><td>500</td><td>3804</td></tr>
<tr><td>MS (8 mm)</td><td>600</td><td>847</td></tr>
</table></td></tr>
<tr><td>5</td><td>Providing, laying & jointing and Commissioning of Clear water trunk main, DI class K-9 & K- 7 as per IS 8329 and/ or MS pipe as per IS specified in specification i/c flow meters, valves, sluice valves, air valves, scour valves, valve chambers, thrust block, crossings (rail and road), specials & accessories, etc. complete including road restoration.
100mm to 800mm diameter– approximately 286 Km as detailed below:
<table>
<tr><th rowspan="2">Type of Pipe</th><th rowspan="2">Diameter in MM</th><th>Length in m</th></tr>
<tr><th>DI-K7</th></tr>
<tr><td rowspan="8">Up to 800 mm DI K-9/ K-7 Pipe
Above 800 mm DI K-9/ K-7 or MS Pipe</td><td>100</td><td>91171</td></tr>
<tr><td>150</td><td>40821</td></tr>
<tr><td>200</td><td>25907</td></tr>
<tr><td>250</td><td>34578</td></tr>
<tr><td>300</td><td>26990</td></tr>
<tr><td>350</td><td>1381</td></tr>
<tr><td>400</td><td>38479</td></tr>
<tr><td>500</td><td>845</td></tr>
</table></td></tr>
</table>

No.	Main Works		
		600	25962

6 c) Construction of 81 Overhead Service Reservoirs (OHSR) at different villages of following capacity and staging of minimum 12m or as per design to maintain the required minimum terminal pressure of 7m at consumer end including provision of flow meters at each Reservoir including, compound wall & Approach road.

Zone No	Village	Capacity (KL)	Zone No	Village	Capacity (KL)
1	Eklara Buzurg	100	42	Kawathi	110
2	Sulgaon	100	43	Perkhad	100
3	Khatadgaon	130	44	Semalda	230
4	Fatyapur	100	45	Karoli	150
5	Bhawgaon	120	46	Langur	220
6	Pipalda Garh	220	47	Badgaon (2)	140
7	Bagdialias Sagdi	100	48	Jotpura	180
8	Gajipura	490	49	Narayanpura	200
9	Beganda	370	50	Ajanda	210
10	Morgadhi	160	51	Barda	180
11	Khal Buzurg	200	52	Ahmadpur	100
12	Balwada	110	53	Bajattakhurd	110
13	Nagjhiri	510	54	Mirjapur	180
14	Bamkaner	490	55	Ratwa	140
15	Kalyanpura	120	56	Dagadpura	100
16	Rajpura	100	57	Jetapur	120
17	Thangaon	140	58	Ganpur	210
18	Jhirvi	180	59	Akalwara	150
19	Kothada	130	60	Sirsala	100
20	Gogawa	100	61	Sharikpura	100
21	Dewalra	150	62	Kuwali	140
22	Tawalai Khurd	150	63	Konda	290
23	Rehmanpura	220	64	Molkhad	220
24	Kishanpur Khedi	100	65	Nawadpura	100
25	Nisarpur	920	66	Chandankhedi	100
26	Rekti	110	67	Amaljhuma	130
27	Karondiya	480	68	Bhawriya	240
28	Gehalgaon	120	69	Bhilsur	100
29	Bedwalya	100	70	Dehar	150
30	Piplya	230	71	Dugawa	230
31	Chikhalda	640	72	Kikarwasa	140
32	Kheda	280	73	Sindhyapani	100
33	Sisgaon	200	74	Katar Kheda	170
34	Kothada	220	75	Chichwaniya	100
35	Bagdi	440	76	Dasana	140
36	Dahod	200	77	Piplud	150
37	Khandawa	130	78	Thengchya	130
38	Gangali	160	79	Jamda	160
39	Sirsi	180	80	Dharamrai	390
40	Dewgarh	130	81	Kashta	140
41	Mandwi	120			

<table>
<tr><th>No.</th><th>Main Works</th></tr>
<tr><td></td><td>All MBR/ BPT/ IPS/ WTP shall have boundary wall as defined in bid document but all ESRs/ GSRs shall have G.I. Chain link fabric fencing of mesh size 25x25mm made of G.I. wire of 3 mm dia. i/c strengthening with welding or nuts, bolt & washers etc. complete. It shall have ISA 50x50x5mm angle iron post at spacing 2.5 m centre to centre of height 2.0 m. above ground level embedded in M20 cement concrete 30x30 cm pillar min. 75 cm below ground level. Every 7th post & corner shall be strutted with similar specification angle iron & grouting. The top & bottom of chain link as well as on angle a 25x3 mm flat secured with either weld or rivets or bolts, to make fencing safer, shall be provided. It shall have angle iron gate of size 3.0m x 1.8m having ISA 50x50x5mm angle iron & 16mm dia square plain
M.S. bar i/c AL drop, holdfast etc. and shall be fixed up in 45x45 cm wide R.C.C. pillars. An additional gate of size 0.6mx1.5m shall also be provided within the same gate, to avoid opening of bigger gate all the time & made of IS 40x40x5mm angle iron with AL drop, etc. One Room set of min. area 25 sq.m. size with W.C. & toilet and housing of automation system and Solar/single phase electrification with area lighting, landscaping, plantation of the area, etc. complete.
The size of fencing or boundary wall shall be 20x20m i.e. overall 80m i/c gate, for these structures & if it increases or decreases then accordingly variation shall be paid or deducted as per UADD ISOR w.e.f. 1st May 2012 with up to date amendments</td></tr>
<tr><td></td><td>b) Construction of Sumps having following capacity, including all works complete.
1. Clear Water Sump at WTP Site, Limbi Village – 1372 KL</td></tr>
<tr><td></td><td>c) Construction of MBR / Clear Water Sump cum pump houses with following capacity.
<table>
<tr><th>Sl. No.</th><th>At Village</th><th>Item</th><th>Capacity (KL)</th><th>Staging Height (m)</th></tr>
<tr><td>1</td><td>Zhirvi</td><td>MBR</td><td>400</td><td>0</td></tr>
<tr><td>2</td><td>Sirsala</td><td>MBR</td><td>680</td><td>15</td></tr>
<tr><td>3</td><td>Kikarwas</td><td>MBR</td><td>270</td><td>19</td></tr>
<tr><td>4</td><td>At J24 for OHT at Jamda</td><td>CWR Sump</td><td>100</td><td>0</td></tr>
</table></td></tr>
<tr><td></td><td>The CW sump cum pump houses and GLBR will have 2 m high Boundary Wall with ‘Y’ shape angle iron having 2*3 rows of barbed wire fencing at top of boundary wall and gate, one Room set of area 25 sq. m. size with toilet, automation system and electrification with area lighting, etc. complete.</td></tr>
<tr><td>7</td><td>Distribution network for an approximate length of 575.5km comprising of: HDPE, PE100 PN6 (minimum) pipelines including valves, specials and other allied works of following diameters-</td></tr>
<tr><td></td><td>a. 90 mm dia. minimum 6 kg/cm^2 pressure – 541.7 km</td></tr>
<tr><td></td><td>b. 110 mm dia. minimum 6 kg/cm^2 pressure – 26.4 km</td></tr>
<tr><td></td><td>c. 140 mm dia. minimum 6 kg/cm^2 pressure – 44.6 km</td></tr>
<tr><td></td><td>d. 160 mm dia. minimum 6 kg/cm^2 pressure – 9.5 km</td></tr>
<tr><td></td><td>e. 180 mm dia. minimum 6 kg/cm^2 pressure – 21.7 km</td></tr>
<tr><td></td><td>f. 200 mm dia. minimum 6 kg/cm^2 pressure – 22.2 km</td></tr>
<tr><td></td><td>g. 250 mm dia. minimum 6 kg/cm^2 pressure – 8.7 km</td></tr>
</table>

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SCHEME 3 - MAIN WORKS FOR MAAN DAM MULTI-VILLAGE SCHEME

<table>
<tr><th>No.</th><th>Main Works</th></tr>
<tr><td>1</td><td>Construction of Intake well cum pump house having minimum 7 m diameter and approx. 40.5 m (including pump room 8.5m high) deep, 39.31 MLD capacity in 23 hours flow with provision for automation, construction of R.C.C Foot Bridge (approach bridge) approx. 100 meters, min. 5.0 m wide with approach road (excluding space for pipeline, kerb, cable duct, railing, electric poles, etc) & all other necessary/ ancillary structures required at the bank of Maan Dam near Jeerabad village, Dhar District. Raw water shall be taken from the back water of the dam by intake well.</td></tr>
<tr><td>2</td><td>Raw water pumping main of 700 mm diameter MS (8mm) pipe of length approximately 3074m including flow meters, valves, sluice valves, air valves, scour valves, valve chambers, thrust blocks, crossings, specials & accessories etc. complete including road restoration.</td></tr>
<tr><td>3</td><td>Water treatment plant to provide 29.47 million litre treated clear water in 23 hours i/c automation, with clear water sump having a storage capacity of 45 minutes of overall clear water demand for the design year, complete near village Rojabediya village, District Dhar i/c construction of boundary wall, internal roads, electrification, staff quarters, laboratory, office building etc., and all other necessary/ancillary structures required.</td></tr>
<tr><td>4</td><td>Providing, laying, jointing and Commissioning of clear water pumping main having an approximate length of 51450m of DI class K9 Pipe with in-lining and out-coating as per IS 8329 i/c flow meter, valves, sluice valves, air valves, scour valves, valve chambers, thrust blocks, crossings, specials & accessories etc. complete including road restoration.
Type of Pipe Diameter in MM Length (km) K9
400 8.15
450 26.98
MS (8mm) 600 25.02</td></tr>
<tr><td>5</td><td>Providing, laying & jointing and Commissioning of Clear water trunk main, DI class K-9 & K-7 as per IS 8329 and/or MS pipe as per IS specified in specification i/c flow meters, valves, sluice valves, air valves, scour valves, valve chambers, thrust block, crossings (rail and road), specials & accessories, etc. complete including road restoration.

100mm to 600mm diameter – approximately 325.6 Km, detailed below:
<table>
<tr><th>Type of Pipe</th><th>Diameter in MM</th><th>Length in KM</th></tr>
<tr><td rowspan="10">Up to 800 mm DI K-9 Pipe
Above 800 mm DI K-9 or MS Pipe</td><td>100</td><td>140.3</td></tr>
<tr><td>150</td><td>83.7</td></tr>
<tr><td>200</td><td>41.2</td></tr>
<tr><td>250</td><td>30.5</td></tr>
<tr><td>300</td><td>10.6</td></tr>
<tr><td>350</td><td>10.8</td></tr>
<tr><td>400</td><td>9.1</td></tr>
<tr><td>450</td><td>3.7</td></tr>
<tr><td>500</td><td>12.4</td></tr>
<tr><td>600</td><td>3.3</td></tr>
</table></td></tr>
<tr><td>6</td><td>a) Construction of Overhead service reservoirs at different villages of capacity as detailed below and staging of minimum 12 m or as per design to maintain the required minimum residual pressure of 7 m at consumer end including Provision of flow meters at each Reservoir including Staff Quarters, compound wall & Approach road.</td></tr>
</table>

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No.	Main Works					
	S. No.	**Village**	**Capacity (KL)**	**S. No.**	**Village**	**Capacity (KL)**
	Zone 1			**Zone 2**		
	1	Sultanpur-1	200	1	Bichhubardi	100
	1A	Sultanpur-2	200	2	Dad	100
	2	Idriya	150	3	Khadan Bujurg	250
	3	Rajpura	200	4	Sulibardi (2)	100
	4	Amjhera	250	5	Umariya Chhota	150
	4A	Amjhera-2	250	6	Advi	100
	4B	Amjhera-3	250	7	Khadan Khurd	100
	5	Chalani	250	8	Surajpura (2)	100
	6	Minda	150	9	Sitapat	200
	7	Hatod	250	10	Musapura	100
	8	Mangod	200	11	Chelai	100
	9	Golpura	200	12	Mohanpur	250
	10	Khareli	150	13	Ghodabaw	200
	11	Patlawadiya	150	14	Ambapura(1)	150
	12	Badodiya	250	15	Bhutibawdi	100
	13	Bichhiya	250	16	Telipura	150
	14	Bhopawar-1	150	17	Amlyabheru	100
	14A	Bhopawar-2	150	18	Mandli	100
	15	Imlipura	100	19	Kareni	100
	16	Bhilkhedi	100	20	Salkanpur	200
	17	Posiya	100	21	Dilawara	150
	18	Anjan Mal	100	22	Bagdiya	250
	19	Bagpipliya	100	23	Padalya	150
	20	Kumarpat	100	24	Himmatgarh	150
	21	Bodla	100	25	Mafipura	150
	22	Ukala	150	26	Gyanpura(1)	150
	23	Ambasoti	100	27	Ganganagar	100
	24	Kali Devi	150	28	Tirla-1	200
	25	Nan Khodra	100	28A	Tirla-2	200
	26	Jalokhiya	100	29	Raipuria	100
	27	Jhikanyabardi	100	30	Ambakundia	100
	28	Machhlai	100	31	Kokaljhiri	100
	29	Bijalpur	100	32	Kathodiya	250
	30	Kharcha	100	33	Dedala-1	150
	31	Mawad	100	33A	Dedala-2	150
	32	Guwal Bardi	100	34	Dharawara	100
	33	Bhuriya Kund	100	35	Delmi	100
	34	Ramgarh	100	36	Bagditurk	150
	35	Chanduri	100	37	Kalamkhedi	150
	36	Umar Kuwakalan	100	38	Baykheda	100
	37	Hathipawa	100	39	Jetpura-1	150
	38	Bawdi Khodra	100	39A	Jetpura-2	150
	39	Kadada	100	40	Niyamat Khedi	100
	40	Holibyada	100	41	Mirjapur-1	200
	41	Lalgard	100	41A	Mirjapur-2	200

No.	Main Works					
	42	Gyanpura Alias Panchpipilya	150	42	Banediya	150
	43	Bhati Khodara	100	43	Baksana	100
	44	Gwal Magri	100	44	Nijampura	150
	45	Kawad Kuwa	100	45	Sulawad	200
	46	Garwada	150	46	Chambal Baroda	100
	47	Baledi	150	47	Bachhadawada	150
	48	Keli Khurd	200	48	Sejwaya-1	230
	49	Ratakot	100	48A	Sejwaya-2	230
	50	Jamada	100	48B	Sejwaya-3	230
	51	Indla	100	48C	Sejwaya-4	230
	52	Bhutiya	100	49	Sejwani	100
	53	Chunpiya-1	180	50	Najikbaroda	150
	53A	Chunpiya-2	180	51	Naranpura	200
	54	Pantha	200	52	Karondiya	100
				53	Digthan-1	250
				53A	Digthan-2	250
				54	Ratwa	200
				55	Sarphraj	100
				56	Suradevi	100
				57	Nanaghat	100
				58	Semlipura	100
				59	Dhawli	100
	b) Construction of Clear Water Sumps with pump houses having following capacity, including all works complete. 1. WTP Site (Rojabediya) - 1276 KL					
	c) Construction of MBR / BPT of following capacity, i/c all works complete. 1. Minda Village - 571 KL OHMBR (Staging Height 22m) 2. Delmi Village - 710 KL OHMBR (staging Height 27m)					
	The CW sump cum pump houses and GLBR will have 2 m high Boundary Wall with Y shape angle iron with 2*3 rows of wire bed, wire fencing at top of boundary wall and gate, one Room set of area 25 sq. m size with toilet, automation system and electrification with area lighting, etc. complete.					
7	Distribution network for an approximate length as detailed below comprising of HDPE, PE100 PN6 (minimum) and/ or DI-K7 pipelines including valves, specials and other allied works of following diameters and approximate lengths					
	a. 90 mm dia. minimum 6 kg/cm^2 pressure, - 299.2 km					
	b. 110 mm dia. minimum 6 kg/cm^2 pressure - 127.2 km					
	c. 140 mm dia. minimum 6 kg/cm^2 pressure - 104.7 km					
	d. 160 mm dia. minimum 6 kg/cm^2 pressure - 82.3 km					
	e. 180 mm dia. minimum 6 kg/cm^2 pressure - 59.9 km					
	f. 200 mm dia. minimum 6 kg/cm^2 pressure - 52.4 km					
	g. 250 mm dia. minimum 6 kg/cm^2 pressure - 22.5 km					
	Sub Total – 748.2 km					
	HDPE & DI Pipe line i/c valves, sluice valves, air valves, scour valves, valve chambers, thrust block, bulk water meters for all villages, specials & accessories etc. complete including road restoration.					

	Main Works
	Pumping equipment including suitable motors, protection equipment's for following- (A) Providing and installation of 4 Nos. suitable energy efficient deep well vertical turbine pumps for raw water at Intake well cum pump house i/c automation as under: (a) 2 No. pumps of 17188 lpm discharge each and approx. 75 m head (b) 2 No. pumps of 8594 lpm discharge and approx. 75 m head The pumps given above are inclusive of standby pumps (50% standby)
	(B) Providing and installation of suitable energy efficient Centrifugal pumps for Clear water at CW sump cum pump house at WTP, and CW sump cum pump houses for intermediate pumping stations-1, 2, 3, 4 and 5 i/c automation as under: From CW Sump to IPS-1: (a) 3 Nos. (2W+1S) pumps of 16326 lpm discharge each and approx. 107m head From IPS-1 to IPS-2: (a) 3 Nos. (2W + 1 S) pumps of 16326 lpm discharge each and approx. 95m head From IPS-2 to OHMBR: (a) 3 Nos. (2W + 1 S) pumps of 16326 lpm discharge each and approx. 145m head
	Provision for an approximate 40 km long dedicated 33KV power supply line from nearby Substations to WTP, Intake well cum pump house inclusive of all allied works complete. Provision of stretching suitable capacity electric line and taking connection for CWS cum pump houses. Any other work necessary to cater the power supply demand of the project (as variation). The work includes construction of substations and stretching of power lines and internal and external electrification etc. complete at all components.
	Supply, installing, testing and commissioning of following sized transformers and other ancillary works required, along with suitable sized transformer yards complete in all respects as per specifications: vii. 4 (2W+2S) Number 1000 kVA viii. 2 (1W+1S) Number 630kVA ix. 2 (1W+1S) Number 500kVA The locations of installation of transfers are, Raw water Intake Pump House, Clear Water Pump House, WTP, Intermediate Pump Houses etc. 100% standby transformer capacity is to be maintained at each installation site of transformers.
	Design, Supply, Delivery, Erection, Testing & Commissioning of Automation Components for Monitoring & Maintenance with GPRS Communication with all necessary accessories. (SCADA)
	House Service Connection approximately 39840 Nos. (up to end of O&M Period)
	Construction of Staff Quarter / Office Building: Office Building/Admin block - 01 No. in WTP campus - 225 sqm. Store Building - 01 No. – 75 sqm F-type staff quarter with minimum plinth area 46.5 Sqm each – 01 No. G-type staff quarter with minimum plinth area 93.0 Sqm each - 02 Nos. H-type staff quarter with minimum plinth area 46.5 Sqm each - 04 Nos. I-type staff quarter with minimum plinth area 32.5 Sqm each - 04 Nos. Office Building of 400 sqm at place directed by MPJN

No.	Main Works
14	Operation & Maintenance of the Whole Scheme for first year The Operation and Maintenance cost for the first year, in terms of percentage of contract Amount is given in Annexure H. For every subsequent year, the first-year percentage rates will be increased / decreased according to the percentage change in consumer price index issued by Labour Bureau, GOI (All Industrial Worker) for that period. The index on the date of completion of trial run period will be treated as base for calculation of percentage point increase/decrease in O&M cost of next year. Payment of O&M will be made quarterly. NOTE: a) The operation & maintenance period is 10 years from the date of completion of three months of trial run after successful commissioning of the project. b) The cost of energy charges (excluding penalties) shall be paid by MPJN on reimbursement basis. c) Energy Requirement: The estimation for maximum yearly consumption of energy is **1,70,84,406 kwH** (Unit) for design period. Any units above this shall not be considered for reimbursement by MPJN. d) If due to any reasons, whatsoever it is desired to supply water in some of the villages before final commissioning and trial run, then the pro-rata rates derived from the Annexure H shall be applicable for the part payment on the basis of duration and quantity supplied, but the date of commissioning of whole work shall be applicable from the dates as stipulated in this contract

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SCHEME 4 - MAIN WORKS FOR NIMRANI MULTI-VILLAGE SCHEME

<table>
<tr><th>No.</th><th>Main Works</th></tr>
<tr><td>1</td><td>Construction of intake well cum pump house having minimum 10 m diameter and approx. 46m (including pump room 7m high) deep to draw a total of 26.9 million liters of water in 23 hours flow with provision for automation, construction of RCC Foot Bridge (approach bridge) approx. 750 meters long, minimum 5 m wide with approach road (excluding space for pipeline, kerb, cable duct, railing, electric poles, etc.) & all other necessary/ ancillary structures required at the bank of Narmada River near Lepa village, Khargone District.</td></tr>
<tr><td>2</td><td>Raw water pumping main of 500 mm diameter DI-K9 of length approximately 10.8km including flow meters, valves, sluice valves, air valves, scour valves, valve chambers, thrust blocks, crossings, specials & accessories, etc. complete including road restoration.</td></tr>
<tr><td>3</td><td>Water treatment plant to provide 23.09 million liters of treated clear water in 23 hours near Kasrawad village, Khargone District including automation (SCADA), construction of boundary wall, internal roads, electrification, laboratory, etc., and all other necessary/ancillary structures required.</td></tr>
<tr><td>4</td><td>Providing, laying, jointing, testing and commissioning of clear water pumping main of diameter and approximate length as detailed below of DI-K9 Pipe with in-lining and out-coating as per IS 8329 including flow meter, valves, sluice valves, air valves, scour valves, valve chambers, thrust blocks, crossings, specials & accessories, etc. complete including road restoration.
<table>
<tr><th>Type of Pipe</th><th>Diameter (mm)</th><th>Length (km)</th></tr>
<tr><td rowspan="5">DI-K9</td><td>100</td><td>16.9</td></tr>
<tr><td>150</td><td>2.8</td></tr>
<tr><td>350</td><td>0.2</td></tr>
<tr><td>400</td><td>0.5</td></tr>
<tr><td>450</td><td>18.7</td></tr>
</table>
</td></tr>
<tr><td>5</td><td>Providing, laying, jointing, testing and commissioning of clear water trunk main, DI (K-9 or K-7) as per IS 8329 and/ or MS pipe as per IS specified in specification including flow meters, valves, sluice valves, air valves, scour valves, valve chambers, thrust block, crossings (rail and road), specials & accessories, etc. complete including road restoration of diameter and corresponding length as detailed below:
<table>
<tr><th>Type of Pipe</th><th>Diameter in MM</th><th>Length in KM</th></tr>
<tr><td rowspan="10">Up to 800 mm DI K-9 Pipe Above 800 mm DI K-9 or MS Pipe</td><td>100</td><td>31.3</td></tr>
<tr><td>150</td><td>86.4</td></tr>
<tr><td>200</td><td>39.4</td></tr>
<tr><td>250</td><td>28.0</td></tr>
<tr><td>300</td><td>12.4</td></tr>
<tr><td>350</td><td>13.8</td></tr>
<tr><td>400</td><td>11.8</td></tr>
<tr><td>450</td><td>6.4</td></tr>
<tr><td>500</td><td>3.1</td></tr>
</table>
</td></tr>
</table>

No.	Main Works					
	Reservoir including operator room, compound wall & Approach road.					
	S. No.	**Village**	**Capacity (KL)**	**S. No.**	**Village**	**Capacity (KL)**
	1	Ghatvadya	100	28	Nayadad	180
	2	Chichali	210	29	Thuwakhedi	170
	3	Khal Khurd	140	30	Patiyapura	140
	4	Bhoinda	200	31	Dakhanipura	190
	5	Jaroli	140	32	Maltar	220
	6	Satrati	200	33	Hatola	140
	7	Balsamound	600	34	Saikheda	200
	8	Akbarpura	120	35	Balakwada	240
	9	Panwa	120	36	Badya	150
	10	Khal Bujura	330	37	Bajitpura	180
	11	Nimrani	340	38	Pokhar	110
	12	Balkhad	230	39	Bither	200
	13	Pathora	130	40	Ojhara	170
	14	Bhilgaon	300	41	Karondia	200
	15	Dongergaon	110	42	Selani	280
	16	Sayata	110	43	Beganda	120
	17	Makadkheda	300	44	Begandi	130
	18	Sonkhedi	190	45	Singun	200
	19	Regwon	180	46	Temrni	180
	20	Khadakwani	190	47	Khedi	130
	21	Pipljhopa	420	48	Lohari	210
	22	Bahadarpura	300	49	Bhulgaon	440
	23	Satkur	190	50	Mukundpura	290
	24	Ekalghria	120	51	Dharmpuri	550
	25	Pagakhedi	160	52	Ahilyapura	330
	26	Bamondi	360	53	Kasrawad Khurd	220
	27	Mehatpura	120	54	Dogawan	310
	b) Construction of clear water (CW) sumps with pump houses having following capacity, including all works complete. 2. WTP Site (Lepa Village) - 1000 KL 3. IPS- 1 (Bhesaved) - 60 KL 4. IPS- 2 (Titranya) - 50 KL 5. IPS- 3 (Ramdaspura) - 50 KL 6. IPS- 4 (Dagakhedi) - 50 KL 7. IPS- 5 (Kusumpura) - 50 KL					
	c) Construction of MBR / BPT of following capacity, including all works complete. 3. MBR-1 (Rasidpur) - 490 KL 4. MBR-2 (Bitter) - 530 KL 5. MBR-3 (Bitter) - 350 KL					
	All MBR/ BPT/ IPS/ WTP shall have boundary wall as defined in bid document but all ESRs/ GSRs shall have G.I. chain link fabric fencing of mesh size 25x25mm made of G.I. wire of 3 mm diameter including strengthening with welding or nuts, bolt & washers etc. complete. It					

No.	Main Works
	shall have ISA 50x50x5mm angle iron post at a spacing 2.5 m centre to centre of height 2m above ground level embedded in M20 cement concrete 30x30 cm pillar minimum 75cm below ground level. Every 7th post & corners shall be strutted with similar specification angle iron & grouting. The top & bottom of chain link as well as on angle a 25x3mm flat secured with either weld or rivets or bolts, to make fencing safer, shall be provided. It shall have angle iron gate of size 3.0m x 1.8m having ISA 50x50x5mm angle iron & 16mm diameter plain M.S. bar including AL drop, holdfast etc. and shall be fixed up in 45x45 cm wide R.C.C. pillars. An additional gate of size 0.6mx1.5m shall also be provided within the same gate, to avoid opening of bigger gate all the time & it shall be made of IS 40x40x5mm angle iron with AL drop, etc. The CW sump cum pump houses and GLBR/ MBR/ BPT will have 2m high boundary wall with 'Y' shape angle iron with 2*3 rows of wire bed, wire fencing at top of boundary wall and gate, one room set of area 25sqm size with W.C. & bathroom, automation system and electrification with area lighting, etc. complete. The size of fencing or boundary wall shall be 20x20m including gate for these structures & if it increases or decreases then accordingly variation shall be paid or deducted as per UADD ISOR w.e.f. 1st May 2012 (with up to date amendments). One room set of minimum area 25 sqm size with W.C. & bathroom and housing of automation system and solar/ single phase electrification with area lighting, landscaping, plantation, etc. complete. The approach road for the MBR, OHSR, etc. shall be of approx. 30 m for each location. Any alteration to the total length of approach roads considering all structures shall be paid or deducted as per the MPPWD SOR w.e.f. 29th August 2017 (with up to date amendments). The length of the approach road shall be finalized by the Engineer-in-Charge.
7	Distribution network of diameter and approximate length as detailed below comprising of HDPE, PE100 PN6 (minimum) and DI-K7 pipelines including valves, specials, sluice valves, air valves, scour valves, valve chambers, thrust block, bulk water meters for all villages, specials & accessories, etc. complete including road restoration and other allied works
	a. 90 mm dia. minimum 6 kg/cm^2 pressure - 301.15 km
	b. 110 mm dia. minimum 6 kg/cm^2 pressure - 45.96 km
	c. 125 mm dia. minimum 6 kg/cm^2 pressure - 2.1 km
	d. 140 mm dia. minimum 6 kg/cm^2 pressure - 2.8 km
	e. 160 mm dia. minimum 6 kg/cm^2 pressure - 3.3 km
	e. 100 mm dia. DI-K7 - 73.7 km
	f. 150 mm dia. DI-K7 - 49.7 km
	g. 200 mm dia. DI-K7 - 16.1 km
	f. 150 mm dia. DI-K7 - 4.3 km
8	(A) Providing and installation of 4 nos. suitable energy efficient deep well vertical turbine pumps for raw water at intake well cum pump house including automation as under: (a) 2 No. pumps of 7820 lpm discharge each and approx. 105m head (b) 2 No. pumps of 3910 lpm discharge and approx. 105m head The pumps given above are inclusive of standby pumps
	(B)Providing and installation of suitable energy efficient centrifugal pumps for clear water at clear water sump cum pump house at WTP, and clear water sump cum pump houses for intermediate pumping stations including automation as under:

	Main Works
	For CW Sump of 1000 KL capacity to MBR-1: (a) 2 Nos. (W) pumps of 3583 lpm discharge each and approx. 30 m head (b) 2 Nos. (S) pumps of 1792 lpm discharge each and approx. 30 m head For CW Sump of 1000 KL capacity to MBR-2: (a) 2 Nos. (W) pumps of 3867 lpm discharge each and approx. 80 m head (b) 2 Nos. (S) pumps of 1933 lpm discharge each and approx. 80 m head For MBR-2 to MBR-3: (a) 2 Nos. (W) pumps of 2583 lpm discharge each and approx. 40 m head (b) 2 Nos. (S) pumps of 1292 lpm discharge each and approx. 40 m head At IPS-1: (a) 2 Nos. (W) pumps of 383 lpm discharge each and approx. 28 m head (b) 2 Nos. (S) pumps of 192 lpm discharge each and approx. 28 m head At IPS-2: (a) 2 Nos. (W) pumps of 183 lpm discharge each and approx. 48 m head (b) 2 Nos. (S) pumps of 92 lpm discharge each and approx. 48 m head At IPS-3: (a) 2 Nos. (W) pumps of 117 lpm discharge each and approx. 20 m head (b) 2 Nos. (S) pumps of 58 lpm discharge each and approx. 20 m head At IPS-4: (a) 2 Nos. (W) pumps of 200 lpm discharge each and approx. 22m head (b) 2 Nos. (S) pumps of 100 lpm discharge each and approx. 22 m head At IPS-5: (a) 2 Nos. (W) pumps of 200 lpm discharge each and approx. 35m head (b) 2 Nos. (S) pumps of 100 lpm discharge each and approx. 35m head The pumps given above are inclusive of standby pumps.
	Provision for dedicated power supply lines from nearby substation to WTP, intake well cum pump house inclusive of all allied works complete as detailed below: (a) 33 KV: 10 km Provision of stretching suitable capacity electric line and taking connection for clear water sump cum pump houses. Any other work necessary to cater the power supply demand of the project (as variation). The work includes construction of substations and stretching of power lines and internal and external electrification etc. complete at all components. Supply, installing, testing and commissioning of following sized transformers and other ancillary works required, along with suitable sized transformer yards complete in all respects as per specifications: x. 2 (1W+1S) Number 630 kVA at Intake/ Raw water Pump House xi. 2 (1W+1S) Number 400kVA at Clear Water Pump House/ WTP xii. 2 (1W+1S) Number 100kVA at MBR-2 xiii. 2 (1W+1S) Number 16kVA at IPS-1

No.	Main Works
	xiv. 2 (1W+1S) Number 16kVA at IPS-2 The locations of installation of transfers are Raw Water Intake Pump House, Clear Water Pump House, WTP, Intermediate Pumping Stations (IPS), etc. 100% standby transformer capacity is to be maintained at each installation site of transformers.
10	Design, Supply, Delivery, Erection, Testing & Commissioning of Automation Components for Monitoring & Maintenance with GPRS Communication with all necessary accessories. (SCADA)
11	House Service Connection approximately 21000 Nos. (up to end of O&M Period)
12	Construction of Staff Quarter / Office Building: Office Building/Admin block - 01 No. in WTP campus - 225 sqm. Store Building - 01 No. – 75 sqm F-type staff quarter with minimum plinth area 46.5 Sqm each – 02 Nos. G-type staff quarter with minimum plinth area 93.0 Sqm each - 04 Nos. H-type staff quarter with minimum plinth area 46.5 Sqm each - 01 Nos. I-type staff quarter with minimum plinth area 32.5 Sqm each – 06 Nos. Office Building of 400 sqm at place directed by MPJN
13	Operation & Maintenance of the whole scheme for first year The Operation and Maintenance cost for the first year, in terms of percentage of contract Amount is given in Annexure H. For every subsequent year, the first-year percentage rates will be increased/ decreased according to the percentage change in consumer price index issued by Labour Bureau, GOI (All Industrial Worker) for that period. The index on the date of completion of trial run period will be treated as base for calculation of percentage point increase/decrease in O&M cost of next year. Payment of O&M will be made quarterly. NOTE: e) The operation & maintenance period is 10 years from the date of completion of three months of trial run after successful commissioning of the project. f) The cost of energy charges (excluding penalties) shall be paid by MPJN on reimbursement basis. g) Energy Requirement: The estimation for maximum yearly consumption of energy is **71,63,288 kwH** (Unit) for design period. The estimate will be finalized based on the equipment installed as per the approved design. For intermediate years, payment will be made on pro rata / calculation basis. h) If due to any reasons, whatsoever it is desired to supply water in some of the villages before final commissioning and trial run, then the pro-rata rates derived from the Annexure H shall be applicable for the part payment on the basis of duration and quantity supplied, but the date of commissioning of whole work shall be applicable from the dates as stipulated in this contract.

END OF THE DOCUMENT