

**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE BENCH, CHENNAI
ORIGINAL APPLICATION NO. 140/2023**

IN THE MATTER OF:

HJ Prasanna Kumar

...PETITIONER

Versus

Department of Urban Development
Karnataka and Others

...RESPONDENTS

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Filed By



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Date: 11.02.2025

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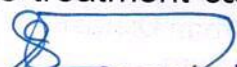
**REPORT ON BEHALF OF RESPONDENT NO. 5 (DEPUTY
COMMISSIONER, BENGALURU URBAN DISTRICT)**

MOST RESPECTFULLY SHOWETH:

1. That the instant report is being filed pursuant to order dated 04.12.2024 passed by this Hon'ble Tribunal wherein it was *inter alia* observed as follows:

6. The report of the Deputy Commissioner – Bengaluru Urban District states that the collection tank is located at Sy. No.147, which is a low-lying area of the Hennagara Lake and is filled with water and there is no mode for the movement of the vehicles to collect the sewage. It is further stated that the flow of sewage is diverted to the existing STP of capacity 120 KLD located at Madhumithra Phase I and II layout in Jigani TMC Limit. If the collection tank is not approachable, how the sewage is being diverted into the STP may be reported.


2. In this regard it is submitted that the Jigani Town Municipal Council currently has a sewage treatment capacity of 950 kilolitres per day,


Deputy Commissioner
Bangalore Urban District
Bangalore

which is managed by the association of apartments and layouts and the ULB maintains sewage treatment plants with a capacity of 350 kilolitres per day, and the treated water is reused for gardening purposes.


SHORT TERM MEASURE

3. A small quantity of untreated sewage that flows into the Hennagara Lake during rainy season. To address the issue of untreated sewage flowing into the Hennagara Lake, Jigani TMC has taken immediate action to tap the untreated sewage points and connect them to the existing sewage treatment plants at Madhumitra Layout when the collection tank located at Sy No 147 near the low lying area of Hennagara lake was not approachable.
4. Furthermore, a mud road structure is being developed by the layout association nearby Sy. No. 147. If any untreated sewage that flows through the rajakaluve to Hennagara Lake, will be tapped and sent to the collection tank. The collection tank will be equipped with sedimentation and aeration processes to treat the sewage with a proper retention time. This interim measure will help mitigate the issue until a long-term solution is implemented.


Deputy Commissioner
Bangalore Urban District
Bangalore

LONG TERM MEASURE

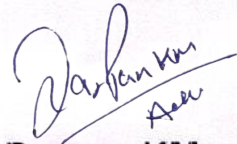
5. It is submitted that the Karnataka Urban Water Supply and Sewerage Board has initiated a long-term project to improve the sewage management infrastructure in Jigani TMC. The project involves the construction of 6 million liters per day sewage treatment plant using Sequencing Batch Reactor technology for Jigani and a 100 kilolitres per day sewage treatment plant will be built using Moving Bed Biofilm Reactor technology for Sriramapura of Jigani.
6. It is further submitted that The project also includes the laying of 73.56 kilometres of sewer lines to ensure efficient sewage collection and transportation. Two wet wells will be constructed at Madhumitra Layout and Hennagara Lake to facilitate the sewage treatment process. The total cost of the project is estimated to be ₹124.75 crores.
7. The project report of the STP along with photographs of the STP and Collection Tank, and Jigani Key Map are annexed herewith as **Annexure R-1**.
8. It is hence submitted that the above steps are being to ensure that there is no entry of Sewage in to Hennagara Lake, Bengaluru. It is


Deputy Commissioner
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Bangalore

prayed that the above information be taken on record and the instant OA may be disposed of. And the answering Respondent shall be duty bound to implement all orders passed by this Hon'ble Tribunal.


Deputy Commissioner
Bengaluru Urban District
Bengaluru Urban District
Bengaluru

Filed by


Darpan KM
Standing Counsel
State of Karnataka

Date:11.02.2025

Annexure R-1

REPORT

PROVIDING UNDER GROUND DRINAGE SCHEME TO JIGANI TOWN

A. TOWN PROFILE

Jigani Hobli is located in **Anekal** taluk in South **Bangalore, India** and is situated at a distance of 43 km from Bangalore city railway station. Some of the features of Jigani town are that it has a well-established Jigani industrial area and also very near to **Electronics City** in **Bangalore**. Several such Government initiatives to improve development to this area in Bangalore has led to growth of population in this area starting 2004. Jigani is located at 12.46°N 77.38°E and the town area is 13.5 sqm. The average altitude of the town is 920 m (3,020 ft) above the MSL. The population of the town based on 2011 census is 21438 souls and the present population is 26461 souls.

B. Existing water supply

There are about 97 high yielding bore wells and the per capita supply of water supply to the town is 75 LPCD. There are 5 nos of 1 LL OHT's and 1 no. of 5 LL OHT and 8LL GLSR in the Jigani town which has been built 15-20 years ago with about 7 to 9 mtr staging.

BWSSB has executed pipeline and other related works for providing bulk water supply to Anekal and KHB-Surya city townships. BWSSB has laid rising main for 34.23 kms from Jambu Savari Gudda (JSG) reservoir to Suryanagar of KHB and Anekal town with a bulk meter at reservoir and also construction of a pumping station of 35 MLD near JSG reservoir.

- The route will be JSG-Gottigere, Bannerghatta road, Jigani, Haragadde village, Bannerghatta road and Anekal.
- The diameter of the rising main from Jambu Savari Gudda (JSG) reservoir passing through the Bannerghatta road- Jigani-Haragadde village is 700mm dia MS rising main.
- MS pipeline of 600mm dia/500mm dia will branch at Haragadde village after Jigani town i.e at chainage 17 kms.
- Further one branch reaches Anekal town at Ch 25 kms and other branch reaches Suryanagar townships through Rajapura road after 4.03 & 4.785 kms respectively.

During the meeting held under the Chairmanship of DC, Bengaluru Urban District on 7-04-2021, approval was accorded by DC, Bengaluru Urban District to allocate 1.5MLD of water to Jigani from the present water supply scheme to Anekal and KHB-Surya city townships and 6 MLD for the 2021 from the 2nd stage water supply scheme. The approval has been accorded vide Proceedings of DC, Bengaluru Urban District dated:7-4-2021.

Improvements of water supply scheme to Jigani town from BWSSB as source for 1.5 ML and 6 MLD after completion of 5th phase water supply scheme has been proposed under AMRUT 2.0

Existing UGD network:-

The sewer network was designed and laid in the core Jigani town for a length of 20km for an estimated cost of Rs.617.00 lakhs by Town Panchayat. At present the sewage is being led to drains which reaches Jigani lake and further to Hennagara lake. The rest of the town has individual soak pits.

Jigani town was considered under Faecal Sludge and Septage Management scheme out of other 55 towns as per the Govt Order No.NAE 163 CSS 2018, Bng dtd:3-12-2018. As per the Chief Officer, TMC, Jigani request letter vide No.25 dtd:8-4-2021 the estimate has been prepared.

Population forecast:-

Jigani town is very near to Bangalore city and it is having vast scope for expansion. The population projected by the end of 2025, 2040 and 2055 is 36000, 55000 & 90000 respectively.

SL No:	DESCRIPTION	YEARS				
		2011	2020	2025	2040	2055
I	ARITHMETICAL PROGRESSION	21438	27140	30308	39812	49316
II	GEOMETRICAL PROGRESSION	21438	34991	45937	103942	235187
III	INCREMENTAL INCREASE	21438	34277	44331	87012	148473
IV	EXPONENTIAL METHOD (31.54% State Urban Growth)	21438	27437	31468	47474	71621
V	EXPONENTIAL METHOD (46.48% Bangalore Urban Growth)	21438	30226	36583	64855	114976
VI	DECADAL GROWTH (46.14% Anekal taluk urban growth rate)	21438	30163	36464	64419	113807
	Average except (Excluding Sl.No.II & III)	21438	28742	33706	54140	87430
	Population considered	21438	29000	30000	55000	90000

Proposed UGD System:

The town is having 23 wards which are divided into three zones for UGD System. The Intermediate and ultimate populations covered under each zones are detailed as follows.

Sl No	Zone's	Intermediate Year (2040)	MLD	Ultimate year (2055)	MLD	Treatment type
1	Zone-1	14803	1.60	24223	2.70	STP of 6.00 MLD at Jigani kere
2	Existing	13162	1.50	21537	2.40	
3	Zone-2	26444	2.90	43273	4.70	
4	Zone-3	591	0.10	967	0.20	MBBR of 0.10 MLD
	Total	55000	6.10	90000	10.00	

The Zonal population and length is as follows;

Sl No	Zone,s	Zone Population (2055)	Length
1	Zone-1	24223	22494
3	Zone-2	43273	40184
2	Zone-3	967	898
4	Existing	21537	20000
	Total	90000	83576

- Sewer Pipe line Network:** The proposed internal sewer are PVC-U, Stone ware pipe of size 150 mm dia to 250 mm dia and above 250 mm dia NP3 class RCC pipes are considered. PVC-U pipes are proposed in streets/roads where the width of the roads are less than 3.0 mtr wide for easy laying and to avoid inconvenience to the public by reducing the number of joints in pipeline during execution.

The details of length of sewer network of various dia Mtrs are as follows.

Dia	Zone-1	Zone-2	Zone-3	Existing Zone	Total	Total length considered for sewer length
150 SWG	15994	30232	898	11776	58901	53013
150 DI	0	0	0	0	0	0
160 UPVC	1970	3450	0	5962	11382	8401
200 SWG	1627	2318	0	1453	5398	4671
200 UPVC	0	0	0	0	0	0
250 SWG	107	1005	0	749	1861	1487
200 DI	0	0	0	0	0	0
250 UPVC	0	0	0	0	0	0
300 RCC	0	2349	0	30	2379	2364
350 RCC	0	0	0	0	0	0
400 RCC	407	800	0	30	1237	1222
450 RCC	308	30	0	0	338	338
500 RCC	386	0	0	0	386	386
600 RCC	1322	0	0	0	1322	1322
700 RCC	0	0	0	0	0	0
800 RCC	371	0	0	0	371	371
Total	22494	40184	898	20000	83576	73576

Provision for 2 nos of Jigani -Anekal road crossing for about 80m with trenchless technology is made.

About 20km of sewer network has been taken up by Jigani Panchayat and Jigani town as and when based on the requirement and funds availability. Out of 20km of existing sewer network about 10km is retained and 10 km of sewer network is considered in the estimate. The provision for conditional assessment of existing sewer network has been made in the estimate.

Machine holes: Machine holes are proposed to provide according to Central Public Health & Environmental Engineering Organization standard specifications. The difference between the invert level of inlet and outlet sewer in Machine hole is kept as minimum of 30 mm. The minimum cover to the Machine hole is proposed to provide 1 Mtr. There are 2 types of Machine hole are Proposed (1) If the depth of Machine hole is less than are equal to 2.3 Mtr the dia Mtr of the Machine hole proposed is 1200 mm and (2) If the depth of Machine hole exceeds 2.3 Mtr the dia Mtr Proposed is 1500 mm. Drop Machine hole are proposed at required places.

Further, RCC machine holes are proposed wherever the pipeline has to be laid in the Nala portion and in main roads.

The details of machine holes are indicated as follows :

Sl.No	Brick Machine hole		RCC manhole	Total (nos)
	FOR DIA 1.2m	FOR DIA 1.5m		
1	1930	464	396	2790

- **House Connection:** The number of properties as per the TMC Jigani CWBP is 6300 nos. Considering the 3 years completion time 6300 nos of House service connections is proposed.
- **Wet Well Cum Pump House:** The town is sloping towards 3 different directions in order to treat the sewage at single point, 2 Nos, of Wet Well cum Pump houses are proposed.

The Sewage from Zone-1 and existing sewer network flows by gravity to 8 mtr dia wetwell 1 at Madhumita layout in Zone-1 and Sewage from Zone-2 flows by gravity to Wetwell 2 of 8 mtr dia at Hennagara kere. The sewage from Wetwell-2 is pumped to ridge Machine hole no.202 in Zone-1 by 400mm dia DI K9 rising main for a length of 3.35km. The sewage from 8m dia Wetwell No.1 at Zone-1 at Madhumita layout is proposed to be pumped to 6 MLD STP at Jigani kere through 500mm dia DI K9 rising main.

The sewage from 8 Mtr dia wetwell 1 at Zone 2 is proposed to pumped with 3 Nos, of 25 HP sewage pumpsets to ridge Machine hole & sewage from wetwell 2 is pumped with 3 Nos of 60 HP sewage pumpsets to proposed 6 MLD STP of SBR technology.

Construction of 7.5 x 5m Diesel Generator room near wetwell-1 at Madhumitha layout in Zone-1 and near wetwell-2 in Hennagara kere in Zone-2 and at STP at Jigani kere

- **Rising mains:**

Rising main of DI K9 400mm dia for a length of 3.35 km from Wetwell-2 to ridge Machine hole no.202 in Zone-1 and DI K9 500mm dia for a length of 3.5 km from Wetwell No.1 at Zone-1 to 6 MLD STP at Jigani kere is proposed.

- **Sewage Treatment plants:**

Sewage treatment plant of 6MLD of SBR technology at Jigani Kere for an intermediate population of 54409 for Zone-1 and Zone-2 at 110 LPCD is proposed. The site has been visited by KSPCB department along with ULB officials and the consent has to be given by KSPCB Board.

Sewage treatment plant of 0.10 MLD MBBR technology at Srirampura for an intermediate population of 591 for Zone-3 at 110 LPCD is proposed.

Provision for OCEMS along with Transmission of Quality Paramaters Index of KSPCB and CPCB Portal at 2 nos of STP's has been made.

- **Sewage pumpsets:**

Provision for Supply, Erection, Electrification & Commissioning of 3 nos 60 HP sewage pumpsets and 125 KVA DG set along with allied accessories at Wetwell-1 and 3 nos 25 HP sewage pumpsets and 62.5 KVA DG set along with allied accessories at Wetwell-2 is made

- **Power lines :-**

Provision for 11 KV express feeder mains to Wetwell-1, Wetwell-2 and to 2 nos of Sewage treatment plants

- **Provision for Procurement** of Bandicoot (V2.0) Machine hole cleaning robot, Truck mounted 2000 liters Suction cum 4000 liters Jetting machine, Mini truck mounted Desilting machine, Rodding machine for maintenance of sewer network has been made.

- **Provision for Operation and Maintenance of assets built under the scheme for 5 years**

Abstract

Sl.No.	Item Of Work	Amount
		(Rs in lakhs)
1	Providing and laying Sewer lines of SWG/PVC-U/RCC/DI for different diameter from 150-800mm for a length of 73.56 km with construction of brick machine holes- 2379 nos and precast RCC machine holes-396 nos and Providing house service connections- 6300 nos	5343.00
2	Construction of 8m dia Wetwell-cum pumphouse-1 at Madhumitha layout in Zone-1 with 7.5x5 DG room	142.74
3	Construction of 8m dia Wetwell-cum-pumphouse-2 near Hennagara kere in Zone-2 with 7.5x5 DG room	112.54
4	Providing and laying sewage pumping main of 500 mm dia DI K9 for a length of 3.5km from Wetwell-cum pumphouse-1 at Madhumitha layout in Zone-1 to STP near Jigani kere	461.00
5	Providing and laying sewage pumping main of 350 mm dia DI K9 for a length of 3.35 km from Wetwell-cum-pumphouse-2 at Hennagara kere in Zone-2 to ridge machinehole no.202 of zone-1	354.50
6	Construction of 6 MLD SBR technology STP at Jigani kere	838.00
7	Construction of 100KLD MBBR technology STP in Zone-3 Srirampura	94.41
8	Supply, Erection, Electrification & Commissioning of 3 nos 60 HP sewage pumpsets and 180 KVA DG set along with allied accessories at Wetwell-1 (76lps against 38mtr)	99.00
9	Supply, Erection, Electrification & Commissioning of 3 nos 25 HP sewage pumpsets and 62.5 KVA DG set along with allied accessories at Wetwell-2 (37lps against 20mtr)	51.00
10	Providing 11 KV express feeder mains to Wetwell-1, Wetwell-2 and to 2 nos of Sewage treatment plants	120.00
	A. Works	-
		7616.19
11	Operation and Maintenance For 5 Years	
a	O & M for the assets built under this contract	882.7
	Sub Total 2 (Rs)	882.7
	Total (SubTotal 1 + SubTotal 2)	8498.89
12	Price adjustment charges at 5% per year for 2 years	761.62
13	Third party inspection charges @0.45%	36.19
	Sub-Total(Rs)	9296.70
14	GST @18%	1673.41
	Total- Basic cost	10970.10
15	E.T.P Charges @ 9 %	987.31

16	Contingency Charges @ 1%	109.70
17	Provision towards Road cutting and crossing charges for PWD, SH departments, BESCOM clearances etc.	407.00
18	Miscellaneous and rounding off	0.88
	Grand Total (Rs in lakhs).	12475.00

The estimate is prepared based on UNISR and amendments issued thereafter with ETP 9%, Price adjustment @ 5% for 2 years, Provision towards Road cutting and crossing charges for PWD, BESCOM, Third party inspection charges @0.45% and GST 18%.

The estimate for providing UGD to Jigani town amounting to Rs 124.75 crores is submitted.

Sd/-

Assistant Executive Engineer,
KUWS&DB, Sub-Division,
Bangalore

Sd/-

Executive Engineer,
KUWS&DB, Division,
Bangalore



KARNATAKA URBAN WATER SUPPLY AND DRAINAGE BOARD

Office of the Executive Engineer, 3rd floor, JALBHAVAN, No.6, 1 Stage, 1 Phase, BTM Layout, Bannerghatta Road, Bangalore - 560 029.
Email: kwbeebng@gmail.com

No:KWB/EE/BNG/TEC/TA/AE-3/NGT-UGD-HBJ/ 828 /2024-25 Date: 23.08.2024

Issue of notice to proceed with the work

To,

M/s. Ayyappa Infra Projects Private Limited,
3rd floor, No.68, T-2 Telecom Layout Penn Field Garden,
Jakkur Post, Jakkuru,
Bengaluru -560 064

JV with

M/s. Amrutha Constructions Private Limited,
#390, Amrutha Towers, 2nd Cross, 80 feet road,
RMV 2nd stage,
Bengaluru - 560 094

Sir,

Sub: Providing Under Ground drainage system to Hebbagodi City, Bommsandra and Jigani towns including Operation and Maintenance for a period of 5 years (including 1 year DLP) as per NGT guidelines through Design, Build, Operate and Transfer (DBOT) mode with JV.

Ref: Tender Agreement No:08/2024-25 Dt: 23.08.2024

Pursuant to your furnishing the requisite security deposit as stipulated in ITT Clause 29.1 and signing of the contract agreement for the work of "Providing Under Ground drainage system to Hebbagodi City, Bommsandra and Jigani towns Including Operation and Maintenance for a period of 5 years (including 1 year DLP) as per NGT guidelines through Design, Build, Operate and Transfer (DBOT) mode with JV" a tender price of Rs.2,94,43,49,555/- (Rupees Two hundred ninety four crores forty three lakhs forty nine thousand five hundred fifty five only) excluding GST (CAPEX : Rs.2,68,63,37,678/- and OPEX: Rs.25,80,11,877/-) which is 4.75% above APT and 0.44% below CSR 2023-24 and Contract period of 36 (thirty six) months including monsoon for carrying out the works specified in Part A from the date of issue of the notice to proceed with the works and 60 (sixty) months including defect liability period of one year for Part B (O&M), you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully,

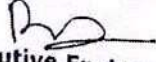
Sd/-

Executive Engineer,
KUWS&D Board, Division,
Bengaluru

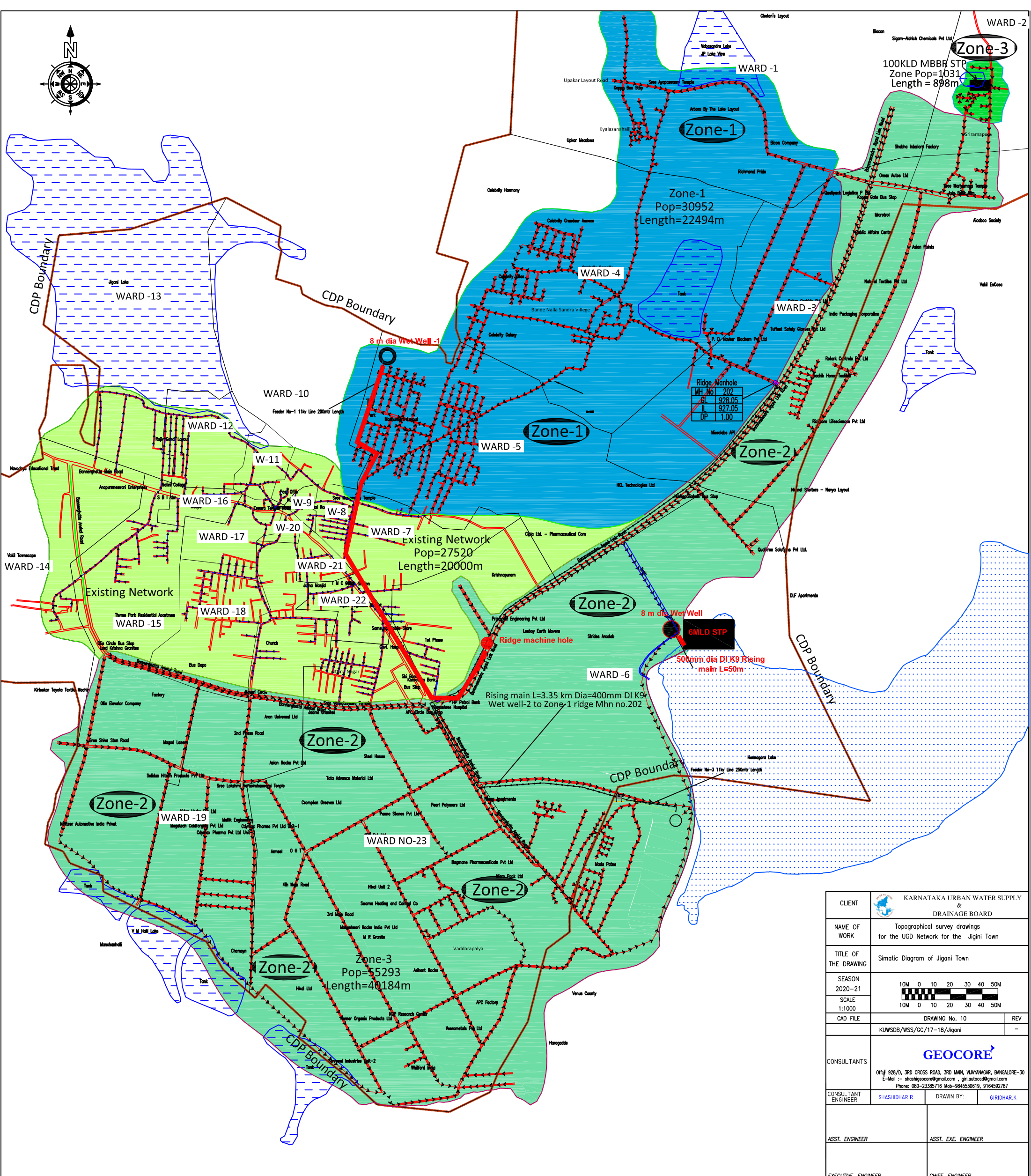
AP
3/9
AB-3

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1. Copy submitted to the Chief Engineer, K.U.W.S & D.Board, Bengaluru for kind information.
2. Copy submitted to the Chief Accounts Officer, K.U.W.S & D.Board, Bengaluru for information.
3. Copy to the Assistant Executive Engineer, K.U.W.S & D.Board, Bengaluru Sub-division necessary action.
4. Copy to the M/s. BVIPL, #1030, 13th cross, Banashankari 2nd stage, Attimabbe Bengaluru-560 070 for information and necessary action.
5. Copy forwarded to Accounts Section, K.U.W.S & D.Board, Bengaluru Division for information.


Executive Engineer,
KUWS&D Board, Division,
Bengaluru

9/c



CLIENT	KARNATAKA URBAN WATER SUPPLY & DRAINAGE BOARD		
NAME OF WORK	Topographical survey drawings for the UGD Network for the Jigini Town		
TITLE OF THE DRAWING	Simatic Diagram of Jigini Town		
SEASON 2020-21	10M 0 10 20 30 40 50M		
SCALE 1:1000			
CAD FILE	DRAWING No. 10	REV	-
	KUWSDB/WSS/GC/17-18/Jigini		
CONSULTANTS	GEOCORE Off: 928/D, 3RD CROSS ROAD, 3RD MAN, VAYANAGAR, BANGALORE-30 E-Mail :- shashigecore@gmail.com , giri.autocad@gmail.com Phone: 080-23385716 Mob-9845530619, 9164592787		
CONSULTANT ENGINEER	SHASHIDHAR R	DRAWN BY:	GIRIDHAR.K
ASST. ENGINEER		ASST. EXE. ENGINEER	
EXECUTIVE ENGINEER		CHIEF ENGINEER	

**PHOTOGRAPHS OF COLLECTION TANK
BEFORE**





AFTER





PHOTOGRAPHS OF STP





Time: 07-02-2025 11:26
Note: stp



Latitude: 12.78911
Longitude: 77.64507
Altitude: 826.6±1 m
Accuracy: 21.8 m
Time: 07-02-2025 06:57
Note: stp



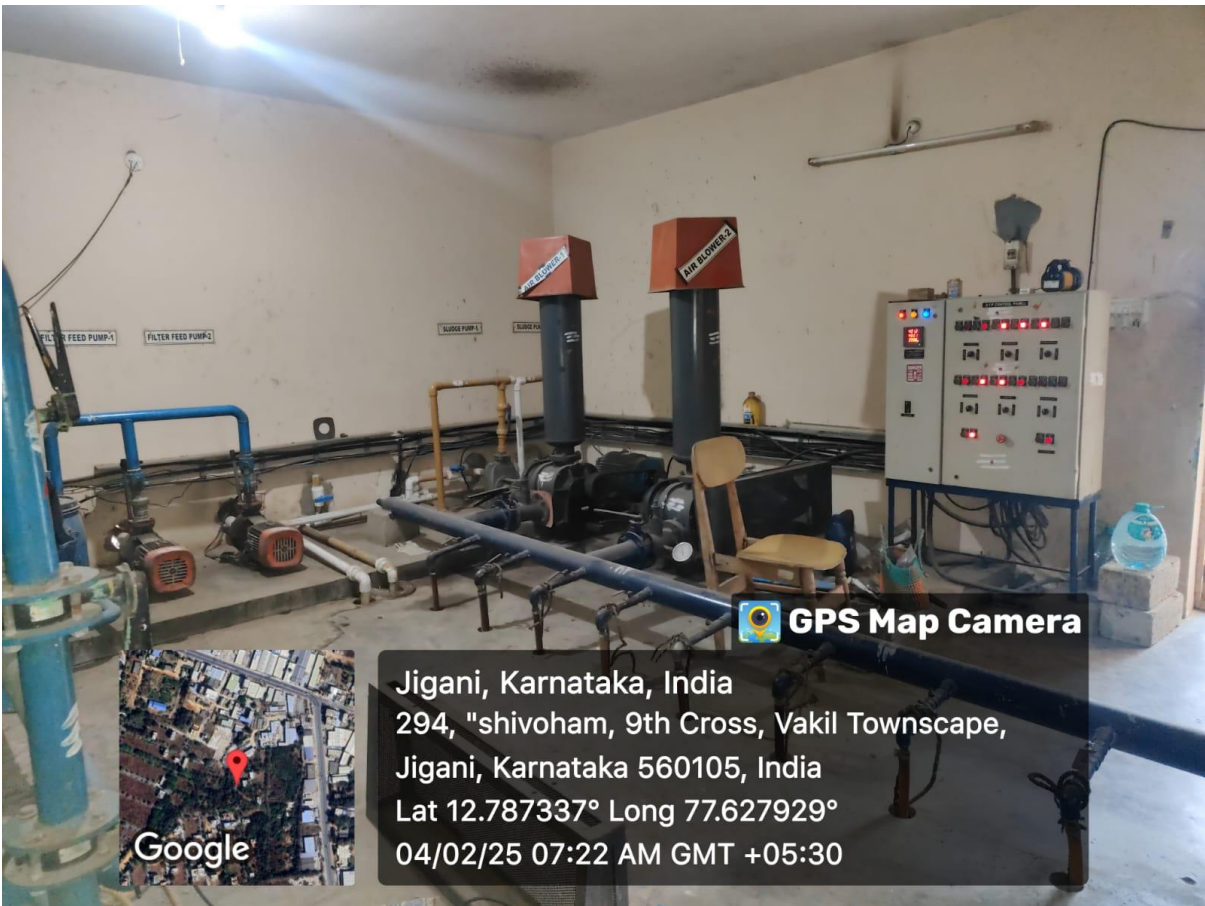
Villa 18, Arbors by the Lake, Kyalasanahalli,
Bengaluru, Jigani, Karnataka 560105, India,
Lat: 12.800992, Long: 77.654954
04 Feb, 25, 08:33 AM, Tuesday

 
20.24° 36 NE
Author:
KEERTHIRAJ.K



Villa 18, Arbors by the Lake, Kyalasanahalli,
Bengaluru, Jigani, Karnataka 560105, India,
Lat: 12.800931, Long: 77.654945
04 Feb, 25, 08:33 AM, Tuesday

 
20.24° 12 N
Author:
KEERTHIRAJ.K











C-Block, THYME PARK, Jigani, Karnataka 560105,
India,
Lat: 12.782956, Long: 77.632008
04 Feb, 25, 07:31 AM, Tuesday

 
16.35° 298 NE
Author:
KEERTHIRAJ.K