ANDHRA PRADESH

(INDIA)

PROJECT REPORT

NALGONDA DISTRICT

P
RWS
E NAP
D AP-III

C.P.W.S. Scheme to 226 Revenue Villages and 337 Hamlets in Nalgonda District, ANDHRA PRADESH.

ESTIMATE COST Rs. 9742 lakhs

VOLUME-I

Chief Engineer
Rural Water Supply
Panchayat Raj Engineering Department
Govt. of Andhra Pradesh.

TABLE OF CONTENTS

NETHERLANDS ASSISTED PROJECTS - ANDHRA PRADESH
INTEGRATED RURAL WATER SUPPLY PROJECTS

AP III - NALGONDA (NALGONDA DISTRICT)
RURAL WATER SUPPLY COMPONENT

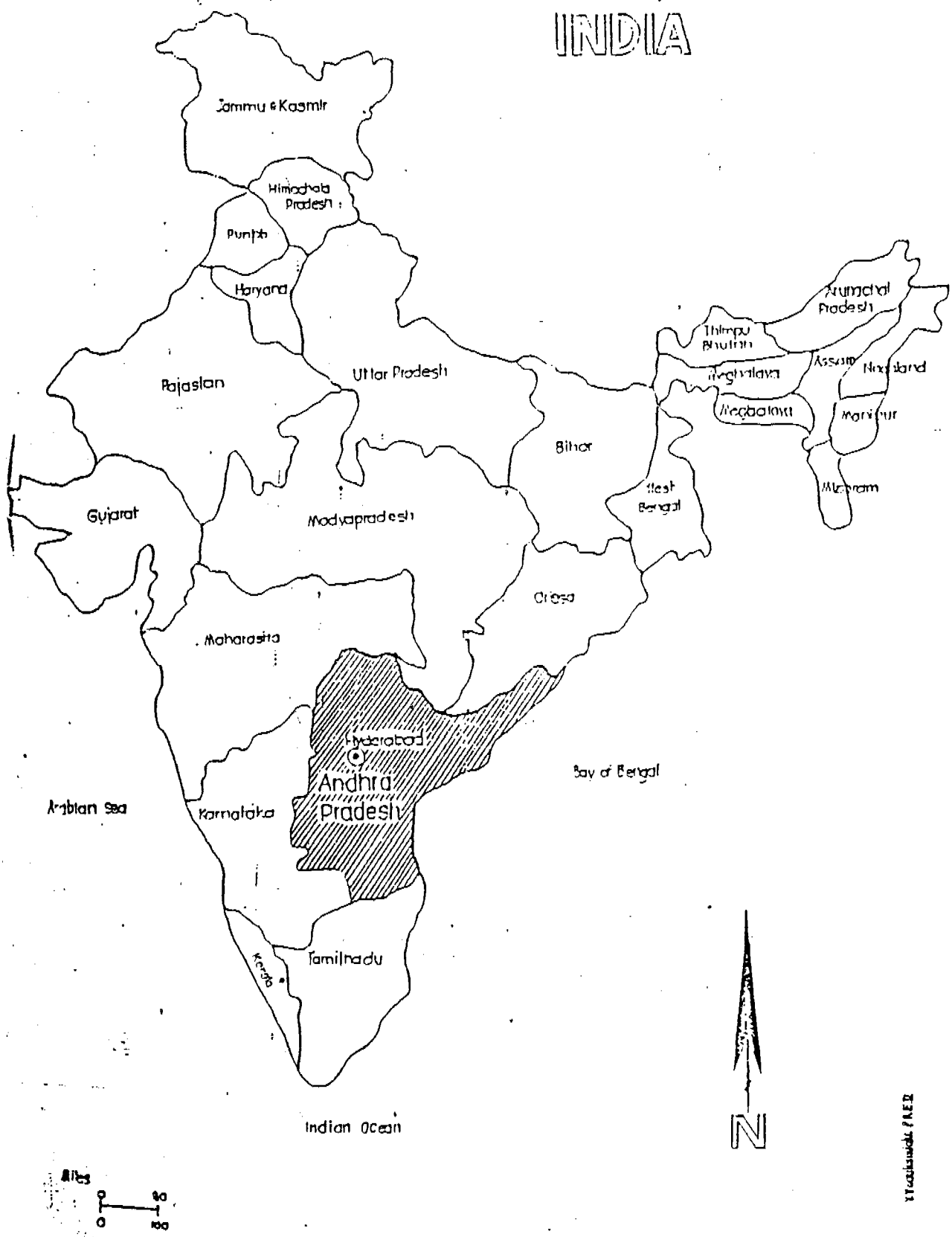
TIME SCHEDULE : 1992 - 1998 (6 YEARS)
PROJECT COST : 9742 LAKHS
COVERAGE : 226 REVENUE VILLAGES AND 337 HAMLETS

Phase	Period	Vills/Hamlets	Cost (Lkhs)
Phase 1	1992/93 - 1995/96	82/99	3863.00
Phase 2	1994/95 - 1997/98	144/238	5879.00

(R.KONDALA RAO)
CHIEF ENGINEER (RWS & ADMINISTRATION)

PANCHAYATI RAJ ENGINEERING DEPARTMENT
10TH FLOOR, GAGANVIHAR BUILDING, M.J.ROAD
HYDERABAD - 500 001.

28 DECEMBER 1990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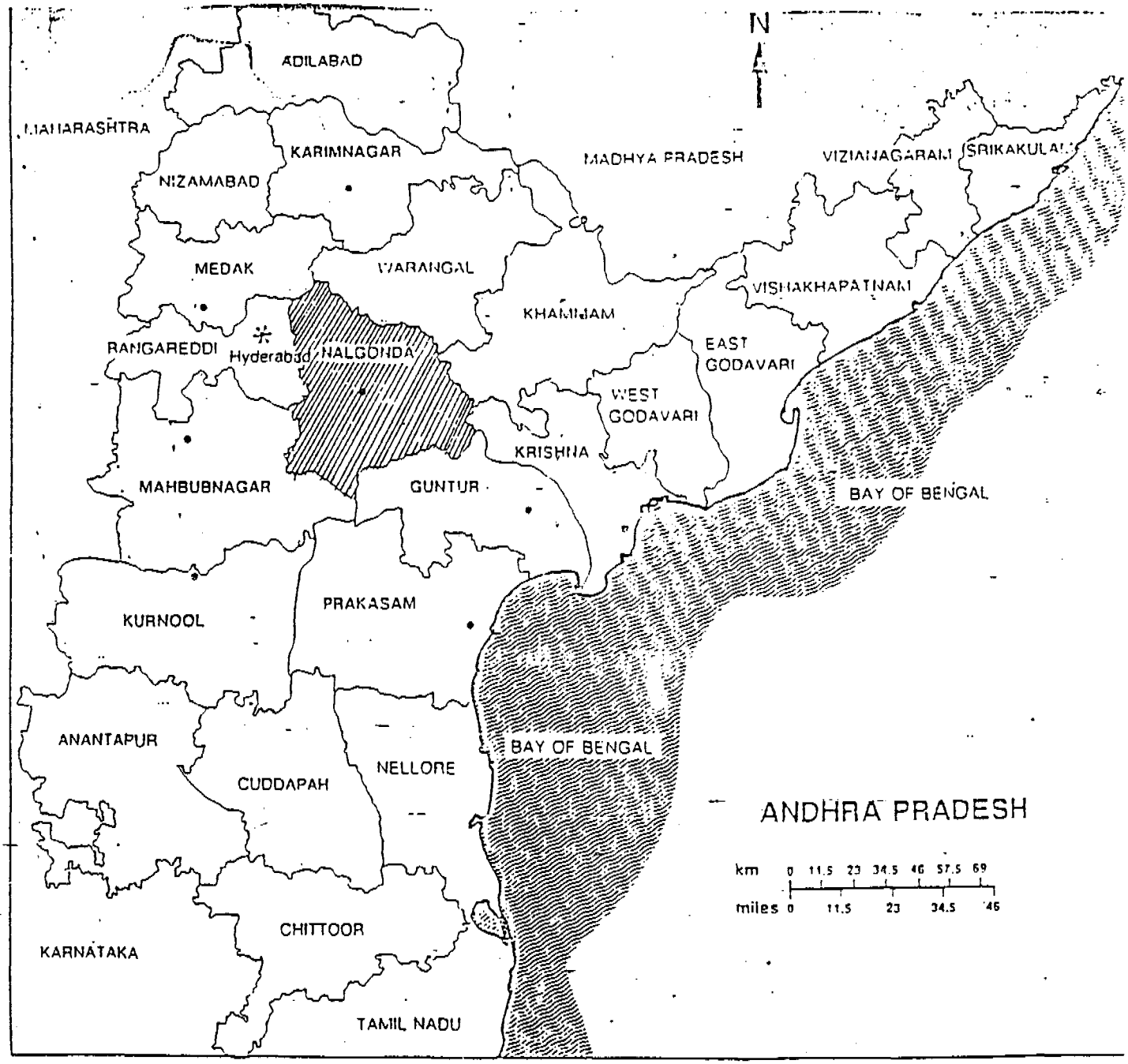
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NIZAMABAD
MADHYA PRADESH
VIZIANAGARAM
SRIKAKULAM
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KHAMMAM
VISHAKHAPATNAM
RANGAREDDI
Hyderabad
NALGONDA
EAST GODAVARI
WEST GODAVARI
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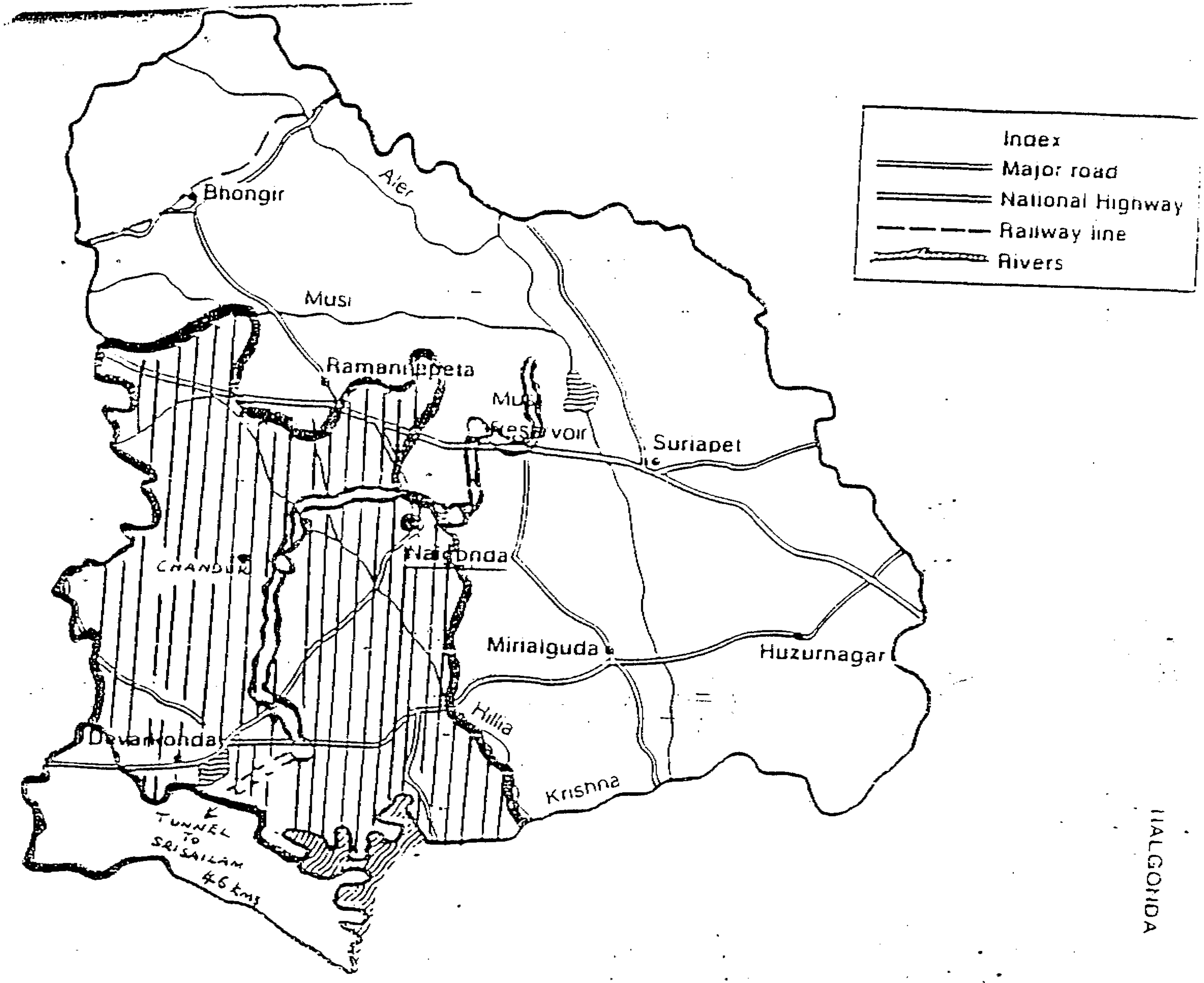


Index
Major road
National Highway
Railway line
Rivers
Bhongir
Aler
Musi
Ramannapeta
Musi Reservoir
Suriapet
CHANDUR
Nalgonda
Mirialguda
Huzurnagar
Hillia
Devarkonda
Krishna
TUNNEL TO SRISAILAM 46 kms

NALGONDA

1. RURAL WATER SUPPLY SECTOR SCENARIO IN ANDHRA PRADESH

1.1 Andhra Pradesh is one of the participating states in the International Drinking Water Supply and Sanitation Decade. The state stands first in India in provision of spot sources, having provided 1.60 lakh bore wells fitted with handpumps.

1.2 The rural water supply programme is being implemented under State/Central Government funds, bilateral assistance programme (Royal Netherlands Government Assistance), and now under the World Bank assistance. It is planned to cover all problem villages in the State by the end of the VIII Five Year Plan.

1.3 The norms adopted for identifying problem villages are as follows:

Category - I : Drinking water not available within 1.6 Kms. radius

Category - II: Areas which are endemic to water borne diseases

Category -III: Chemically contaminated traditional sources

1.4 Out of total 27379 villages, 22860 problem villages have been identified . By the end of VII plan (April 1990), 17316 problem villages were covered through 1.60 lakh bore wells and 8067 PWS schemes and 5 CPWS schemes.The balance 5544 problem villages are planned to be covered during the VIII plan.

1.5 Physical Achievements Upto April 1990:

No.of Villages covered	: 17316
No.of PWS schemes completed	: 8067
No.of CPWS schemes completed	: 5
No. of bore well completed	:159917

1.6 With falling ground water tables, bore well schemes are now yielding inadequate supplies. This adds annually to the list of problem villages under the category of scarcity. Further fluoride/salinity effected areas have to generally depend on surface water sources. These problems have placed heavy resources constraint on the Government. It is hoped that external assistance can be mobilised in a bigger way to meet the challenges. The PRED is also gearing itself up to meet the growing demands and challenges in the sector. This has already been acknowledged by the Review and Support Missions being fielded by the Royal Netherlands Government.

1.7 Among the steps being initiated the most note worthy are: an

in-house training centre, external training of departmental engineers, introduction of improved management techniques/ information and monitoring systems, setting up of exclusive project cells both in the field and in headquarters, a study to be taken up on village level operation and maintenance of piped water supply schemes, etc.

2. NAP INTERVENTION IN THE WATER SECTOR

2.1 The Royal Netherlands Government has been supporting the Government of Andhra Pradesh with bilateral assistance for meeting the targets of the International Drinking Water supply and Sanitation Decade.

2.2 Under AP I (1979-1990), 201 villages were taken up in 6 districts at an original estimates of Rs.1441.00 lakhs (later revised to Rs.1825.51 lakhs). The schemes are nearing completion and administrative closing report is to be ready in March 1991. Under this phase 4 comprehensive schemes (CPWS) and 50 PWS Schemes have been taken up.

2.3 AP II was taken up from 1988 and will be completed in March 1993. 288 villages in 4 districts are to be covered with 12 CPWS and 33 PWS schemes, and 10000 acres of land are to be irrigated with a Lift Irrigation Scheme, at an original estimate of Rs.2889.40 lakhs (now revised to Rs.4236.00 lakhs).

2.4 Under Phase II, in keeping with the integrated approach recommended by the IDWSSD, support activities such as community education and participation, health awareness, sanitation, income generation, external water quality monitoring, etc. were also taken up at a projected cost of Rs.585 lakhs. The estimates for these components is likely to be revised to Rs.750 lakhs.

2.5 The third generation AP III projects now under consideration of the Royal Netherlands Government, is much more ambitious in nature, both in terms of coverage and costs. Two projects have been posed for active consideration: for Nalgonda District, and for the Kanigiri area of Prakasam District. Unlike the other two previous projects, the department has given considerable attention to the formulation of the project, drawing lessons and experiences from the past. Voluntary organisations and other governmnetal agencies are being involved right from the outset to ensure that the project has inbuilt provisions for the active involvement of the community and to ensure that the project will indeed go to enhance the quality of life and health standards of the community.

3. PROJECT OUTREACH - NALGONDA

3.1 Nalgonda district is one of the most backward districts in the state with chronic drought problems leading to poor agricultural productivity. The situation is made, more complex by the presence of excess fluoride in available ground water sources. Thus scarcity and fluorosis are two main areas to be tackled under drinking water supply programmes.

3.2 Till 1983, the responsibilty for the execution and maintenance of all rural water supply schemes in the district was vested with one division at Nalgonda. After the territorial system was started in 1983, PRED divisons were set up at each revenue division of all districts. Thus in Nalgonda District, three PR Divisions were set up; at Nalgonda, Miriyalaguda and Bhonghir. These divisions come under the jurisdiction of the Superintending Engineer, Panchayati Raj, Hyderabad.

3.3 The problems of drinking water in Nalgonda District are similar to the problems of the State. Here too most of the people (20.2 lakh people out of 22.8 lakhs - 88.6%) live in villages. There are 1147 villages in the district (in 59 mandals) out of which 910 have been identified as problem villages. Upto March 1990, 733 problem villages have been covered with 345 PWS schemes and 9517 bore wells fitted with hand pumps. There are spill over of 177 problem villages, to be covered during the VIII plan.

3.4 11 PWS schemes, covering 14 villages of the district had been taken up under AP I. The villages covered are:

Mandal	Village	1981 population
Nalgonda	Nagaram	
	Anneparthy	1411
	Kanchenapally	1927
	Marriguda	1706
	M. Duppalapally	1157
	Kammagudem	84
	Annisettypalli	
Narketpally	Yellareddyguda	2664
Thipparthy	Kankanalapally	451
P.A.Pally	Chawlagudem	740
Damarcherla	Adavidevulapally	5147
Gaudapally	Ponugode	6938
Nadigudem	Tellebally	1253
Gurrampode	Tanedarpally	1253

3.5 Since assured surface water sources are rare, ground water is the general source. Wherever fluoride free ground water is struck PWS/MPWS schemes are taken up. But even deep bore wells

indicate increasing fluoride content in their yields. When fluoride free sources are not available, defluoridation plants are proposed. Though, indigeneous methods are propogated for defluoridation (for example in Nalgonda Technique) they are not popular. Defluoridation plants, designed to supply 180 cubic metres of water per day are being put up under Technology Mission. 17 such schemes are under various stages of progress. Mini defluoridation plants attached to the bore wells are also been taken up. 21 hand pumps defluoridation plants are also functioning or in progress.

3.6 Before the introduction of bore wells, open wells were the source of drinking water. But due to continuous drought the bore wells generally do not yield adequate water in summer. After the bore wells started functioning, most of the open wells dried/fell in disuse. The bore wells sooner or later develop mechanical problems and this is even today a problem in the villages. Thus the scarcity problem remains. In extreme conditions the only source of drinking water is agricultural wells. These are deeper wells and need electricity to pump the water. The problem is the near total power cut in summer. Besides, the villages have to depend on the goodwill of the landlord to take the water from the agricultural villages.

3.7 The Nagarjuna Sagar and its left canal has partially solved the problems for the south-eastern parts of the district. But the south-western, central and northern parts of the district continue to suffer from acute shortage of safe drinking water.

3.8 A project proposal was submitted to the Netherlands Embassy in 1988, proposing to cover with one comprehensive surface water scheme 172 revenue villages and 281 hamlets in some of the worst affected fluoride/salinity problem villages in 16 mandals. After discussions with the review missions and with NAP Office, it was decided to reformulate the project proposal taking into consideration the strategies recommended by the IWSSD. The 172 revenue villages were studied at depth through a socio-economic survey, commissioned by the Netherlands Embassy and carried out by the Arthik Samata Mandal during 1990. The survey, while supporting the fact that the project villages identified were indeed fluoride/scarcity problem villages, drew the attention of the department to the fact that some of the known fluoride pockets in Narayanpur, Chityal, Narketpalli mandals had not been covered by the first proposal. The survey also pointed out possible ramifications of not making provisions for enroute villages, which also suffer from scarcity especially during summer season, eventhough they are covered under ARWS/MNP programmes with PWS/MPWS schemes.

3.9 During subsequent discussions it was decided that the left over fluoride villages within the 16 mandals and the enroute villages will also be proposed under the revised project. However, enroute villages would be considered as clear water

augmentation schemes only, the state government taking up the responsibility to improve internal distribution from its own funds.

3.10 Taking into consideration the findings of the survey, and detailed survey of the 16 mandals originally identified for any left over fluoride villages, a revised project proposal has now been finalised. This proposal is to cover 226 revenue villages and 337 hamlets within the jurisdiction of the original 16 mandals.

3.11 Out of the 226 villages, 170 villages have fluoride contents above permissible limits. 56 villages have scarcity/source problems or are enroute. 142 of the 226 villages have some existing PWS/MPWS schemes. But none of them can ensure assured supply to the villages right round the year. The remaining 84 villages have no protected water supply schemes at all.

3.12 Some of the streams flowing through the identified 16 mandals are Kangal, Peddavagu, Chandur Vagu. As there is uncertainity of normal rainfall, the flows in these local streams are not perennial. The sand thickness is also very little. Due to continuous drought for the past 10 years, the static water level has gone down below the sandy zones, and even below the weathering zones in some areas of the project.

3.13 Various alternate sources were considered for drawal of raw water:

- drawal of water directly from Nagarjuna Sagar Project Reservoir (Dam) at Peddamunagal which is at a distance of 38 kms, from Mallepalli was examined. It was not pursued as there were technical and operational difficulties.

- there are two balancing reservoirs in the alignment of canal from where the water is supplied to Nalgonda and Miryalguda towns. But they are very far from the Project area.

- to draw water from Dindi Project area. However, this is also far from the project area.

- to draw water from Pendlipakala tank if it is made as balancing reservoir for the proposed Srisailam Left Bank Canal. But since the commissioning of the SLBC is likely to be delayed, the proposal was not taken up.

- to draw water from Akkampalli reservoir which is proposed as an impounding reservoir to supply water to Hyderabad city which is to be fed by Nagarjuna Sagar (Dam) Reservoir during flood season. This Project is still under way and may take another 10 years.

3.14 So the only alternative left is to draw water from Nagarjuna Sagar left canal at Nidamanuru and Alwal villages, since M.I.Tanks are available at these two villages, and can be used as SSTs during canal closure period of 45 days.

3.15 The raw water is drawn from the S.S.tanks and after treating it through rapid gravity filters, and supply it through a network of pumping/gravity distribution lines to 226 scarcity/fluoride problem villages and 337 hamlets in 16 mandals.

3.16 The project will cover a 1981 population of 375380, a 1992 population of 482655, and an ultimate 2022 population of 877370.

4. PROJECT SCOPE

4.1 It is planned to take up the project in two phases, keeping in mind both technical and financial parameters. 82 villages and 99 Hamlets are to be covered in Phase I. Of these, 76 villages are fluoride problem villages, 6 are scarcity problem villages. 144 villages and 238 hamlets will be taken up in Phase II. Of these, 94 are fluoride affected and the balance 50 are scarcity problem villages.

4.2 Details regarding population coverage are provided below:

Zone	No.of Vills/ Hamlets		Population 1981	1992	2022
Phase One:					
1	22	14	51257	66126	119029
2	60	85	123683	158551	288971
	82	99	174940	225677	408000
Phase Two:					
1	16	19	22305	28774	52082
2	20	27	23936	30879	55891
3	48	81	52726	68018	123265
4	15	26	27100	34859	63277
5	29	35	42583	53440	100634
6	16	50	31790	41008	74221
	144	238	200440	256978	469370

Grand Total:

Phase I	82	99	174940	225677	408000
Phase II	144	238	200440	256978	469370
	226	337	375380	482655	877370

4.3 The Nagarjuna Sagar Left Canal with existing M.I.Tank at Nidamanuru (at 31/3 KM chainage) which is already being used as SST by the PHED is adopted as source of water for phase 1. The Nagarjuna Sagar Left Canal with existing M.I.Tank near Alwal village at 11/0 KM chainage (to be improved) is to be used as SST for phase 2.

5. OBJECTIVES OF THE PROJECT

The main objective of this Project is to supply potable disinfected good quality of water in adequate quantities to the target villages. Complementary objectives are to ensure improved health and quality of life of the beneficiary population. Effective and sustainable operation and maintenance of the scheme with the cooperation of the target population will also receive attention. These complementary objectives are discussed in separate volumes.

6. PROJECT SUMMARY

6.1 Under Phase I, it is proposed to draw water from N.S.L.C. at Nidamanuru and utilise the existing SST during canal closure period of 45 days. The raw water will be treated in R.S. Filters and supplied through a Net work of pumping/gravity/distribution lines to 82 revenue villages and 99 hamlets, grouped into two zones. Phase I is planned for 4 years from 1992/93 to 1995/96.

6.2 Under phase II, it is proposed to draw water from Nagarjuna Sagar Left Canal at Alwal utilising the existing improved M.I.Tank as SST for the Canal closure period of 45 days. After treating through Rapid Gravity Sand Filters, the water is to be supplied through a Net-work of pumping/gravity distribution lines to 144 Revenue villages and 238 hamlets, grouped into 6 zones. The time schedule is also 4 years from 1994/95 to 1997/98. There will be an overlap of 2 years between phase I and II.

7. DESIGN CRITERIA

Per capita supply: 65 lpcd raw water and 55 lpcd clear water (including provision for 25% private connections, cattle troughs, water for Sanitation facilities)

Design Period: 30 years for all components except pumps which are designed for 15 years.

Distribution: 8 hours per day with peak load factor of 3.

Supply Outlets: Overhead service reservoirs for population of 2000 and above and ground level service reservoir for population below 2000. Each public stand-post to cover an average of 40 households or 200 people. All SC & ST localities will be covered and all locations more than 250 mtrs. from any of the proposed supply outlets will be provided extension lines.

Pumping Mains: Designed for 16 hours with stand-by electrical pumps and generators to take care of power failure/low voltage.

Storage: The storage capacity for clear water sumps is 2 hours, for balancing reservoirs is 30 minutes and for overhead service reservoirs 1/3rd daily capacity for the ultimate population commanded by them.

8. TECHNICAL DETAILS

8.1 The capacity of SST is for 45 days with 20% losses. Taking the requirement of Raw Water at 65 lpcd, the total raw water requirement is 108.84 mcft. The SST selected at Alwal village (Ramasamudram Tank) will have a maximum capacity of only 60 mcft., even after renovation and improvements. This quantity is adequate for meeting only part of the total requirement. Hence another SST is necessary to take care of the balance demand. The Nidamanuru Tank on the right bank of Nagarjuna Sagar Left Canal, presently utilised as SST by the Public Health Department for providing Drinking Water to Nalgonda Town and having a capacity of 110 mcft., has been identified as the second source. Considering 20% evaporation and percolation losses during the canal closure period the available capacity will be 90 mcft. The quantity utilised by the Public Health Department is 40 mcft. As such 50 mcft., is still available in the S.S.Tank. The Public Health Department has agreed in principle to spare the balance quantity of 50 mcft. of water from Nidamanuru SST.

8.2 Phase I covering 82 villages considering Nidamanur Tank as S.S. Tank (spare availability: 50 mcft.). Phase II covering 144 villages will have Ramasamundram Tank at Alwal as S.S.Tank (with 58.26 mcft. capacity).

9. PHASE I: 82 VILLAGES WITH NIDAMANURU TANK AS SST

9.1 50 mcft. of raw water is drawn from N.S.L.C. at Nidamanuru during normal flow period of 320 days by gravity and from SST during Canal Closure period of 45 days through pumping, to Rapid Sand Filters of 22,440 KL capacity.

9.2 The Nidamanuru Tank has got the facility of being filled to F.T.L. by N.S. Left Canal water once in 15 days by gravity. Hence the Tank will be filled to F.T.L. just before closure of canal and this water will be sufficient to meet, both Public Health Department's and this Project Phase I demand.

9.3 From the Rapid Sand Filters the water is drawn to Clear Water Sump of 468 KL capacity, by gravity.

9.4 From the Clear Water Sump the water will be pumped to G.L.S.R at Yerrabally through 700 mm dia PSC Pipes (10 Kms) with the help of 6 nos of 100 HP pump sets and stored at G.L.S.R. Yerrabally of 702 KL capacity.

9.5 From Yerrabally G.L.S.R., the water will be drawn to Sump of capacity 2805 K.L. at Rasulguda through 900 mm dia PSC Pipes (10 Kms) by gravity.

9.6 From Rasulguda Sump the water will be pumped to Sump at middle of Kaprallagutta at Nalgonda (12 Kms) through 700 mm dia PSC Pipes with the help of 5 nos of 150 H.P. Pumps.

9.7 From the sump at middle of Kaprallagutta, water will be pumped to two O.H.B.Rs at +336.00 M and +356.00 M on the top of Kaprallagutta. The water to B.R.1 at +336.00 M will be pumped through 600 mm dia AC.Cl.15 (0.50 Kms) with 5 nos of 80 H.P.pumps. Water to B.R.2 at +356.00 M will be pumped through 400 mm dia A.C. Cl 15 (0.50 KM) with 4 nos of 60 H.P. pumps.

9.8 The water from B.R.1 at +336.00 will be drawn to 60 village towards Munugode, Kompally, Yepur and Chandur. At Kompally water will be stored in 860 K.L. sump and then pumped to Narayanpur O.H.B.R. of 126 K.L. through 450 mm dia pipes (4 km length), and with 400 mm dia A.C. Cl 20 pipes (9.5 Km length) with 4 nos of 80 H.P.pumps. From Narayanpur O.H.B.R., water will be drawn by gravity towards villages in Choutuppal and Gundrampalli.

9.9 The water from B.R.2 at +356.00 M of Kaprallagutta will be drawn towards 22 villages in Narkatpally, Nimmani, Buddaram, Appajipet and Chityal through gravity mains.

10. PHASE II - 144 VILLAGES WITH ALWAL TANK AS SST

10.1 Raw water will be drawn directly from Nagarjuna Sagar Left Canal in normal flow period of 320 days to filters of capacity 25850 KL. During canal closure period of 45 days, the required quantity of Raw Water will be drawn to filters from the improved M.I.Tank near Alwal village, used as SST with 58.26 cft. capacity (including 20% losses during 45 days canal closure period). The treated water is collected into a clear water sump of half an hour capacity of 540 KL. The clear water is pumped to a sump well near Chepur village (22 Kms: 800 mm dia PSC Pipes).

10.2 From this point three pumping mains are provided:

1. to OHBR at mount near Chepur village (1 KM: 300 mm dia AC.Cl 10 pipes) with 30 H.P. Pump Set

2. to OHBR at Kacharam mount (10 KMs.: 350 mm dia A.C. Cl,20 pipes) with 120 HP pump set

3. to Sump at Mahammadapur Hill Junction (20 KMs: 700 mm dia PSC pipes) with 750 H.P. Pump sets

10.3 From Mahammadapur foot of the hillock sump well, water is pumped to a sump well half way up the hillock (+350 msl). From this point water is pumped to two OHBRs.

- OHBR at +423 msl: from where the water is taken by gravity to Marriguda Sump (6 KMs: 500 mm dia A.C.Cl.20 pipes and 4.50 KMs: 350 mm dia A.C.Cl.20 pipes, and 9 KMs: 300mm dia A.C.Cl.20 pipes)

- From Marriguda Sump (+365) water is pumped to Yerragandlapally Sump (+450) through 2 KMs: 350 mm dia A.C.Cl.20 pipes with Pump Set of 150 H.P. capacity. From Yerragandlapally Sump water is pumped to G.l.B.R. at Mal village (+527) with 8 KMs: 350 mm dia A.C.Cl.20 pipes.

- OHBR at +377: from where water is taken by gravity to Donipamula & Ghattuppal and Vattikoda, K.Mallepalli, Rollakal etc.

10.4 For technical and operational reasons the villages to be covered under phase II are grouped into 6 zones:

- Zone I (Chepur-16 villages): 4 villages are given water directly from the pumping main from Alwal to Chepur and

the remaining 12 village are given water from the OHBR at Chepur mount.

- Zone II (Kacharam-20 villages): 1 village is given water from the pumping main from Chepur to Kacharam and the remaining 19 villages from OHBR at Kacharam.

- Zone III (K.Mallepalli-48 villages): All these villages are given water from the gravity main from OHBR on Mahammadapur Hillock (+337.00).

- Zone IV (Marriguda-15 villages): Of these 4 villages are given water from the pumping main from Marriguda to Mal and remaining 11 villages from GLSR at Mal by Gravity.

- Zone V (Nampally-29 villages) and Zone VI: (Gattuppal - 16 villages):

11. WATER QUALITY MONITORING

11.1 Panchayati Raj Engineering Department has already established internal water quality Monitoring Laboratories to carry out the required tests and suggest the treatment/preventive/ emergent measures to be adopted for maintaining the safety and quality standards of drinking water.

11.2 Under Netherlands Assisted Projects internal water quality monitoring labs is to be set up at each headworks. This is already being implemented in AP I and II schemes. The O&M manual development consultancy for CPWS Darsi (AP I) is to come up with specific recommendations regarding internal water quality monitoring. These recommendations after study will be adopted as standing procedures for all Netherlands Assisted Projects.

11.3 Under this present project, it is proposed to set up 2 internal water quality monitoring laboratories, one at each headwork, at an estimated cost of Rs.3.40 lakhs per unit. The maintenance costs will be met from maintenance estimates.

11.4 Apart from internal monitoring, the Institute of Preventive Medicine is being assisted by the Netherlands Government for setting up 8 external water quality monitoring labs. One of these labs is to be set up at Nalgonda. The IPM is to set up standing procedures for independently monitoring the quality of water. Such monitoring will also cover the present project.

12. OPERATION AND MAINTENANCE

12.1 The Government of Andhra Pradesh has taken up the responsibility of maintaining all CPWS Schemes and all schemes completed under bilateral assistance (both comprehensive and individual schemes). The annual O&M costs are being provided under non-plan component of the budget.

12.2 The department is to take up a detailed study on procedures: technical, financial and managerial, to be adopted for operation and maintenance of completed schemes, fully involving also the Gram Panchayats. The study is to come up with recommendations regarding procedures to be adopted for providing private connections, tariffing, sharing of technical and managerial responsibilities with Gram Panchayats, the overall supervisory responsibilities of the PRED etc. This study has already been in principle commissioned both by the Netherlands Embassy and has the approval of GOAP.

12.3 The recommendations of the study will be field tested and will form the basic framework for evolving O&M policies and guidelines for all protected water supply schemes. The recommendations of the study will be implemented also in this project.

12.4 In order to generate some revenue for O&M provisions have been made under this project to provide atleast 25% house connections. The revenue from down payments and from monthly tariffs will contribute to improved O&M of the project.

12.5 Further since Arthik Samata Mandal is to take up community participation activities right from the start of the project, the involvement of the people and of the Gram Panchayats both in the execution and maintenance of schemes can be considerably enhanced. The community will be involved fully in location of public standposts and in the village level preventive maintenance of water supply, sanitation around public standposts and ground level service reservoirs, etc.

12.6 The designs developed for water supply outlets (public standposts and GLSRs), will have built in provisions for drainage and for preventive contamination of water. This will be supported by health education programmes taken up by Arthik Samata Mandal. Under sanitation programme it is proposed to take up also sanitation around water supply and environmental/domestic sanitation programmes.

12.7 Chlorination will receive adequate attention right at the design stage itself to ensure that a residual chlorine of 0.2 ppm is maintained at the tap level. The estimates contain provisions for chlorinators and booster chlorination.

12.8 In order to ensure regular supply despite low voltage/power breakdown problems, the estimates contain provisions for generators/diesel engines to be provided at all pumping stations.

12.9 Under the proposed Human Resources Development programme extensive O&M training will be provided for all staff to be involved in the maintenance of the scheme. The department will impart training also to community leaders and people in cooperation with the Non Governmental Organisation. The NGO is also planning to organise visits by community leaders to the project headworks, etc. so that their involvement and sense of belonging among the people can be improved. The department will organise monthly and quarterly review/coordination meetings with Arthik Samata Mandal to facilitate community participation.

12.10The department will finalise annual O&M estimates and submit for approval to higher authorities. These estimates will provide for O&M supervisory and operating personnel, preventive and corrective maintenance, cost of chemicals, spares, accessories, payment of power supply, etc.

12.11A tentative O&M estimate is annexed to this report. The proposal is for an exclusive O&M Division, including an Executive Engineer and 4 Dy.Executive Engineers. The estimate is for Rs.280.00 lakhs. Before the project is commissioned, the department will obtain necessary clearance and accord for the annual O&M estimates.

12.12The maintenance engineer will also prepare an exclusive O&M manual for the project in line with the manual now being developed for CPWS Darsi.

13. PROJECT ESTIMATES

13.1 In keeping with the guidelines discussed during Review and Support Mission AP 23, the estimates are based on realistic projection of the standard schedule of rates to 1992 (assuming that the project can take off in 1992). Provisions for price escalations have been made at the rate of 10% per annum for expenditures to be incurred in the subsequent years. 15% further provision has been made for meeting tender premia. A further 10% is provided for contingencies. It is anticipated that the project estimates will not require any subsequent revision.

13.2 Establishment charges (12.5%) are provided for as follows:

- major supervision charges 7.5%
- petty supervision charges 4%
- tools and plant 1%

13.3 In preparing the estimates, the SSRs from 1987-88 to 1990-91 have been projected to 1991-92. Based on this projected SSR, the unit rate for various components has been worked out. The estimates are worked out on the basis of these unit rates.

13.4 An abstract of the estimate based on 1991-92 SSR is provided below:

Phase	Component	Estimate (Lakhs)
I	Headworks	153.90
	Pumping mains	633.16
	B.Rs/sumps etc.	315.47
	OHSRs/GLSRs/PSPs/ Gravity mains/Bldgs.	1447.47
		2550.00
	15% tender premia	383.00
		2933.00
II	Headworks	268.24
	Pumping mains	1070.94
	BRs/Sumps	163.15
	OHSRs/GLSRs/PSPs/ Gravity mains	1708.82
	Buildings	38.85
		3250.00
	15% tender premia	488.00
		3738.00

13.5 Based on realistic annual expenditure plans and providing for 10% escalations on expenditures to be incurred annually, the financial plan for the two phases is:

Phase I:

1st year 1992-93	:	1800.00
2nd year 1993-94	:	600.00
10% price escalation 93-94	:	60.00
3rd year 1994-95	:	400.00
21% price escalation 94-95	:	84.00
4th year 1995-96	:	133.00
33.1% price escalation 95-96	:	44.02
		3121.02
Add 10% for contingencies		312.10
		3433.12
Add 12.5% for establishment charges		429.88
TOTAL:		3863.00

Phase II:		
1st year 1994-95	:	2500.00
Add,21% escl 92-93 to 94-95	:	525.00
2nd year 1995-96	:	800.00
33.1% price escalation 95-96	:	264.00
3rd year 1996-97	:	300.00
46.41% price escalation 96-97	:	139.23
4th year 1997-98	:	138.00
61.05% price escalation 97-98	:	84.25
		4750.48
Add 10% for contingencies		475.05
		5225.53
Add 12.5% for establishment charges		653.47
TOTAL:		5879.00

13.6 The cumulated annual expenditure plan for a project period of 6 years, with an overlap of 2 years between the two phases is as follows:

Year	Phase	Est.92 SSR	Est.prvdng Escls.	Cum.Exp.Plan
1992-93	I	1800.00	1800.00	1800.00
1993-94	I	600.00	660.00	2460.00
1994-95	I	400.00	484.00	2944.00
	II	2500.00	3025.00	5969.00
1995-96	I	133.00	177.02	6146.02
	II	800.00	1064.00	7210.02
1996-97	II	300.00	439.23	7649.25
1997-98	II	138.00	222.25	7871.15
Add 10% for Contingencies				
	Phase I		312.10	8183.25
	Phase II		475.05	8658.30
Add Estt. charges				
	Phase I		429.88	9088.18
	Phase II		653.47	9741.65

13.7 The per capita cost on the project works out to Rs.1110.83. Per capita cost on O&M is Rs.31.93 and the annual production cost per 1000 ltrs is Rs.1.60.

14. PROJECT TIME SCHEDULING AND EXECUTION PLAN

14.1 It is projected that the project can be executed within a period of 6 years (1992-1998). Phase I is planned for 4 years (1992-1996) and phase II for 4 years (1994-1998). There will be an overlap of 2 years between the two phases.

14.2 A tentative activity flow chart is annexed to this document. However, during detailed investigation, the department will finalise financial and physical action plans. As is the practice during AP II, monthly reviews will be organised by CE (RWS) and quarterly reviews involving also the NAP Office. During the proposed MIS consultancy, suitable monitoring formats and procedures will be developed for physical and financial planning and for progress monitoring, dovetailing expenditures with physical progress.

14.3 SE (Projects) Hyderabad will be responsible for the project implementation. It is tentatively proposed that four full divisions be mobilised for the execution work and that one full division be mobilised for O&M.

15. MONITORING/COORDINATION

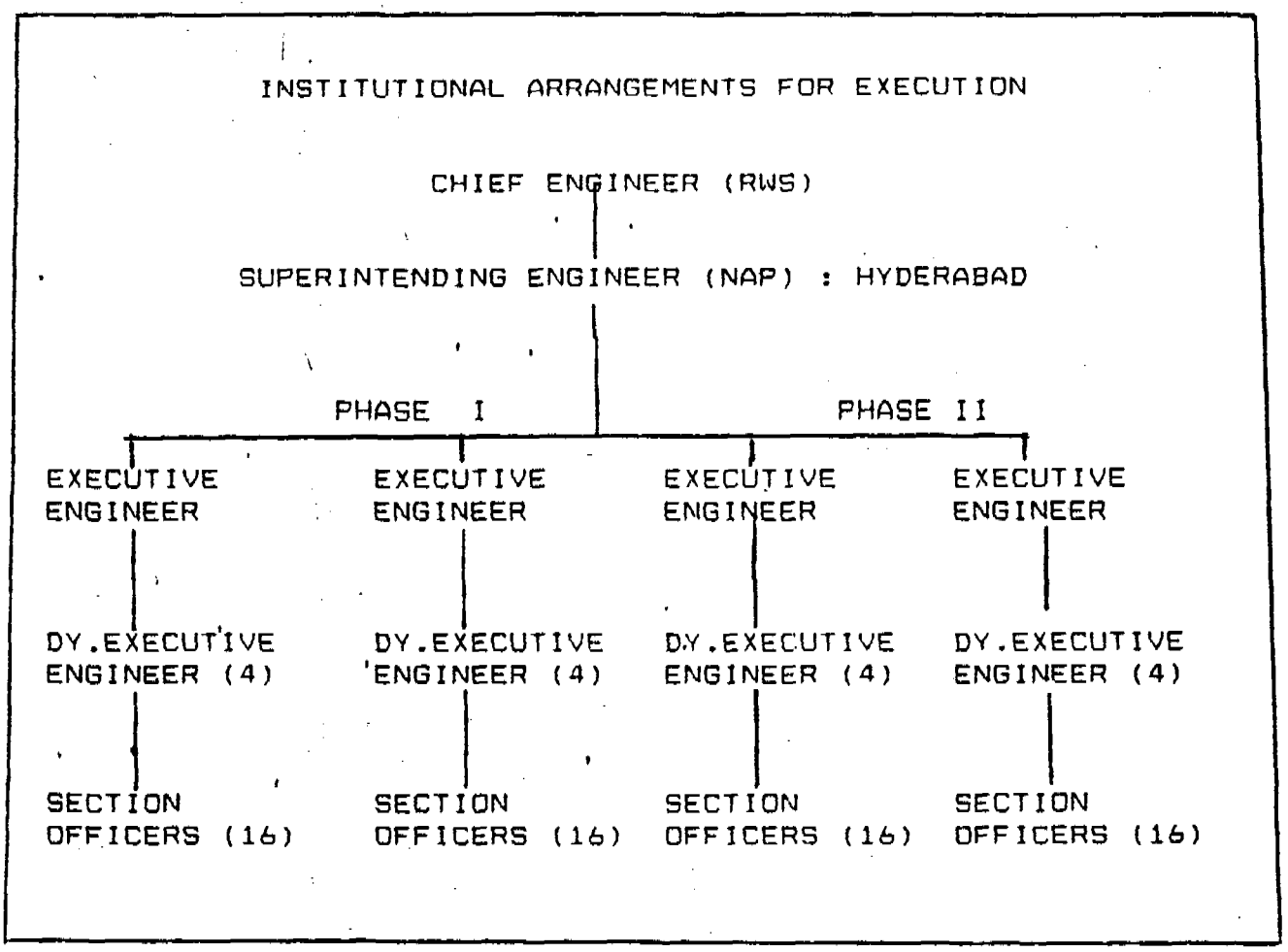
15.1 The Chief Engineer, Rural Water supply as the nodal project executive will convene monthly and quarterly conference involving the personnel involved in execution and review the progress and issue necessary timely instructions in case of short fall of the targets. The Superintending Engineer's will also review the progress once in a month at their level.

15.2 At the district level, Pahchayati Raj Engineering Department will function as the pivotal agency. The institutional mechanism will be the district project committee chaired by the Superintending Engineer responsible of the works with the Had quarters executive as the Convenor. All the other participating agencies will also be represented. The Superintending Engineer will also facilitate coordination with the district authorities.

15.3 Similarly the Executive Engineers will also review the progress of respective sub-division and share up the progress to achieve the targets.

15.4 At the state level the Apex steering committee chaired by the Chief Secretary with Chief Engineer, Rural Water Supply as Convenor, with all concerned Secretaries, the Water Coordinator of the Royal Netherlands Embassy and the Advisor of NAP Office as members, and representatives of all implementing agencies as invitees, will review progress.

15.5 As far as operation and maintenance is concerned, the present policy is to hand over individual schemes to Gram Panchayats and comprehensive schemes are maintained directly by the Department. However, all schemes executed under bilateral assistance programme are maintained by the department itself. AS per the discussion with Review Mission AP 22, it was felt that the whole issues of operation and maintenance needs to be studied carefully to evolve a desirable systematic approach for O&M. A committee to study village level water management is constituted by the state government.


INSTITUTIONAL ARRANGEMENTS FOR EXECUTION
CHIEF ENGINEER (RWS)
SUPERINTENDING ENGINEER (NAP) : HYDERABAD
PHASE I
PHASE II
EXECUTIVE ENGINEER
EXECUTIVE ENGINEER
EXECUTIVE ENGINEER
EXECUTIVE ENGINEER
DY.EXECUTIVE ENGINEER (4)
DY.EXECUTIVE ENGINEER (4)
DY.EXECUTIVE ENGINEER (4)
DY.EXECUTIVE ENGINEER (4)
SECTION OFFICERS (16)
SECTION OFFICERS (16)
SECTION OFFICERS (16)
SECTION OFFICERS (16)

LIST OF VILLAGES AND HAMLETS

PHASE I - ZONE 1:

Sl. No.	Name of the Revenue Villages & Hamlets	Sl. No.	Name of the Revenue Villages & Hamlets
1.	Marriguda	2.	Buddaram
3.	Appajipet a) Narloniguda b) Bottuguda	4.	Avaravani
5.	Vellemla a) Kothaguda	6.	Chandrampalli
7.	Elikatta	8.	Rathipalli
9.	Neereda a) Guddireddipalli	10.	Urumadala
11.	Chityala a) Venkatapuram b) Pochambaviguda	12.	Shivaneniguda
13.	Vanipakala	14.	Mandra
15.	Wattimarthi	16.	Anaparthi
17.	Yellareddiguda a) Dasariguda b) Seshbaviguda c) Chinnarayananpur d) Kondapakagudem	18.	Cheruvugattu a) Gummalabavi b) Enuguladori
19.	Narketpalli a) Gopalapalli b) Chintabaviguda	20.	M.Yedavalli
21.	Nimmani	22.	Cherlapalli

TOTAL NO. OF VILLAGES : 22
TOTAL NO. OF HAMLETS : 14

PHASE I - ZONE 2:

Sl. No.	Name of the Revenue Villages & Hamlets	Sl. No.	Name of the Revenue Villages & Hamlets
1.	Bangarigadda a) Gollaguda b) Papireddiguda	2.	Angadipet
3.	Chandur a) Lakkineniguda	4.	Kastala
5.	Ponugode a) Ramachandrapur	6.	Udathalapally a) Perumala thanda b) Yotavaliguda c) Kubbakaguda
7.	Ragatta	8.	Idikuda a) Turkoniguda

9. Pullemla
   a) Singoronibavi
   b) Marribavi
10. Bondangiparthy
11. Sirdepally
   a) Gollaguda
12. Munugode
   a) Kammaguda
   b) Battakalva
   c) Laxmideviguda
   d) Turpuguda
   e) Somabata
   f) Mangellaguda
   g) Nattoniguda
13. Chollede
   a) Gollaguda
14. Chikatimamidi
   a) Kammaguda
   b) Erukalaguda
15. Kompalli
   a) Turupuguda
   b) Padamatiguda
16. Kalvakuntla
   a) Ballvaniguda
17. Kondapur
18. Yelmakanne
   a) Kashollaguda
19. Puttapaka
   a) Baltonibai
   b) Saigonibai
   c) Mathuroniguda
20. Kothaguda
   a) Kurmaguda
   b) Gagulonibavi
21. Narayanpur
   a) G.Nagar thanda
   b) Kurmakasharam
22. Servel
   a) Moroniguda
   b) Rajammabavi
   c) Malreddiguda
   d) Lingavariguda
   e) Thurkoniguda
   f) Devireddiguda
   g) Chittambavi
   h) Yerrakunta
   i) Ellamdevicheruvu
   j) Gollaguda
23. Chelmeda
24. Gujja
   a) Kammaguda
   b) Peddabaviguda
   c) Mukkdideummabaiguda
   d) Buddamarlaguda
   e) Thangellaguda
25. Kothlaram
   a) Madupugudem
26. Chimriyal
   a) Suddabhaviguda
   b) Bantonibhavi
   c) Marribhavi
27. K.K.Guda
   a) Suriguda
   b) Narammabavi
   c) Lovodithanda
28. Mohammadabad
   a) V.B.L.Thanda
   b) B.Dhubbathanda
29. Kothulapur
   a) Madupugudem
30. G.Malkapur
31. Thagadapally
   a) Chintalaguda
   b) Dhamera
32. Choutuppal
   a) Lingareddiguda
33. Lakkaram
   a) Dharmogiguda
34. Thalasingaram

35. Lingojiguda
    a) Ankireddiguda
    b) Gilleduchelk
    c) Katur

36. Panthangi
    a) Aregudem
    b) Reddibai
    c) Gundlabai
    d) Thumbai
    e) Saidabad

37. Gundrampalli

38. Aipur
    a) Isathigudem

39. Peddakaparthi
40. Pitlampalli
41. Bongonicheruvu
42. Perepalli
43. Kachlapuram
44. Palvela
45. Ukondi
46. Singaram
47. T.Vellamla
    a) Vembavi
48. Ipparti
49. Chinnakaparthi
    a) Mosuguda
    b) Boyagubba
    c) Yenuguladori
50. Kistapur
51. Gudapur
52. Jamistanpally
53. Pulipalpula
    a) Beeravalliguda
    b) Gangoliguda
54. Kalwapalli
55. Kanchanpalli
    a) Deepakunta
56. Kakulakondaram
    a) Ramulabanda
57. Donekal
58. Koratikal
    a) Dubbakalva
59. P.Domalapally
    a) M.Domalapally
    b) Mallubaviguda
    c) Gollaguda
    d) Ponepallyguda
60. Solipur

TOTAL NO. OF VILLAGES: 60
TOTAL NO. OF HAMLETS: 85

PHASE II - ZONE 1:

Sl. No.	Name of the Revenue Villages & Hamlets	Sl. No.	Name of the Revenue Villages & Hamlets
1.	Alwal	2.	Chintapally a) C.Thanda (East) b) " (West)
3.	Peddavoora a) Bhattiguda b) Kothaguda c) Ellullagudem	4.	Mosangi
5.	Chepur a) Konniguda b) Bapanaguda c) Battuguda d) Teretiguda	6.	Bollaram

7.	Nadikuda	8.	Mukkumala
9.	Venkatadripalem	10.	Korsalamarri
11.	Yacharam a) Kochollaguda	12.	Koppole a) Elamlapahad b) Venkatupur c) Koyagronibai d) Buddareddiguda e) Bodapahad f) Lakshmideviguda g) Agragudem
13.	Gowraram	14.	Thurkapalli a) Agalapur
15.	Marapalli	16.	Kothulapur

TOTAL NO. OF VILLAGES: 16
TOTAL NO. OF HAMLETS : 19

PHASE II - ZONE 2:

Sl. No.	Name of the Revenue Villages & Hamlets	Sl. No.	Name of the Revenue Villages & Hamlets
1.	Pallepahad	2.	Kacharam
3.	G.Bhimanapally a) Rayanipalem b) Jinukalavaniguda	4.	Keshavanipally
5.	Ghanpally	6.	Polkampally
7.	Gudipally a) Bharathpur b) Nadimbaigudem c) Singa Rajupally d) Chigullaguda	8.	Ghanpur a) Kodandapur b) Munavat Tanda c) Ghanpur gate
9.	G.Nemalipur	10.	Madhapur
11.	Pinnavura	12.	Medaram a) Rangareddy guda b) Madharigudem
13.	Thirumalagiri	14.	Dugyal a) Pilligundla Tanda
15.	Pothunur	16.	Singaram
17.	Pulicherla a) Komati Kunta Tanda b) Yerrakunta Tanda	18.	Waddipatla a) Chintala Tanda b) Padamati Tanda c) Palugu Tanda d) Hamugoni Tanda e) Puttagandhi Tanda f) Pavurala Tanda
19.	Utlapally a) Ganganayakthanda b) Kashyathanda c) Jagyaram Tanda	20.	Parvedla a) Pathy Tanda b) Suddabai Tanda c) Bettu Thanda

TOTAL NO. OF VILLAGES : 20
TOTAL NO. OF HAMLETS : 27

PHASE II - ZONE 3:

Sl. No.	Name of the Revenue Villages & Hamlets	Sl. No.	Name of the Revenue Villages & Hamlets
1.	Gurrampode a) Waddireddyguda b) Upparigudem	2.	Chamled a) Bantuguda b) Kothoniguda c) Peddabhaiguda d) Pittalguda
3.	Tenepally a) Satyagopu Thanda b) Chintaguda c) Kothaniguda	4.	Mulkalpally
5.	G.Mallepally a) Bantuguda	6.	Ootlapallyt
7.	Sultanpur a) Padamvariguda	8.	Juvviguda a) Thandaripally b) Juviguda Thanda c) Jinnai Chintha
9.	Junuthala a) Velloniguda b) Medibaiguda c) Rajyagari Tanda	10.	Makkapalli
11.	Mylapur	12.	Thummalapally
13.	Kondapur	14.	Shakajpur
15.	Parlapalli	16.	Palwai a) Mondi Kani Tanda
17.	Surepally	18.	Gummadivalli
19.	Kalwapalli a) Vaddariguda	20.	Chintaguda
21.	Reballi	22.	Medlavai
23.	Fakeerpur	24.	Sunkisala a) Pothimeedi Tanda
25.	B.Thimmapur	26.	Pagidipally
27.	Mustipally a) Raja Naik Tanda b) Botai Tanda c) Munti Tanda d) Persai Tanda e) Rathgoni tanda	28.	K.Mallepally a) Mallepally X Rd b) Chinmoriguda c) Pacheti bai d) Gourikunthatanda e) Buddoni Tanda f) Natyala Tanda g) Geeja Tanda h) Pathlavathi tanda
29.	Kolumunthala Pad a) Kothabai b) Ramunigudla Tanda c) Kindi Tanda d) Kesao Tanda e) Jaggaiah Tanda	30.	Donial a) Reddiyagani tanda
31.	Chintakuntla a) Korroni Tanda b) Chinmanbai Tanda c) Deshmuk Tanda	32.	Fakirpur

d) Palapatla Tanda
e) Modugundla Tanda

33. Mallapur

34. Pendlipakala
a) Pendlipakal Tanda
b) Islabad Tanda
c) Honica Tanda
d) Barodhgani Tanda

35. C.A.Palli
a) Eaddiya Tanda

36. Chilkamarri
a) Peddabaiguda

37. Rolekal

38. P.A.Palli
a) Angadipet
b) Pothireddypalli
c) Akkinepally
d) Pogakaniguda
e) Ramapur
f) Mangali Tanda
g) Pole Pally Tanda
h) Romavatha Tanda
i) Nenavath Tanda
j) Suryagani Tanda
k) Suryagani Tanda

39. Chennaram
a) Gemyanaik Tanda
b) Komyanaik Tanda
c) Anubothu Tanda
d) Gurula Tanda

40. Serlpally
a) Pedda Tanda
b) Jaliya Tanda
c) Ratya Tanda

41. Devathapally
a) Kusuma Tanda
b) Rekya Tanda
c) Devata pally Tanda

42. Sherbapur

43. Venkatampet
a) laxmi tanda
b) Gasiram tanda
c) K.Tanda
d) Amargani Tanda
e) Donia Tanda

44. Nelvalapalli

45. Pasnur
a) CHalloni kunta
b) Naminayak Tanda
c) Raja Tanda
d) Jammiguda
e) Pogillaguda

46. Thirumalagiri

47. Katepally

48. Amloor

TOTAL NO. OF VILLAGES : 48
TOTAL NO. OF HAMLETS : 81

PHASE II - ZONE 4:

Sl. No.	Name of the Revenue Villages & Hamlets	Sl. No.	Name of the Revenue Villages & Hamlets
1.	Marriguda a) Thanda	2.	Kondur
3.	Yeregandlapalli a) Narasimhapur b) Aulapur c) Azulapur Tanda	4.	Tirugandlapalli
5.	Thammadapalli	6.	Godukondla a) Mall (V.Nagar)
7.	Polepalli Ram Nagar a) Botinedi Tanda b) Thurupu Tanda c) Padamati Tanda	8.	Madanapur
9.	Takke apalli a) Rotigadda Tanda	10.	Chakali Sherpalli
11.	Umapur	12.	Kurmed a) Gopya Tanda b) Bojya Tanda c) Gollapalli d) Ratya Tanda
13.	Kurmapalli a) Sai Reddigudem	14.	Vinjamur a) Kitarayan palli b) Edullapalli c) Narasimkapur d) Rayaniguda e) Battugudem f) Vinjamur tanda g) Devula thanda h) Beddavariguda
15.	P.K.Mallepalli		

TOTAL NO. OF VILLAGES: 15
TOTAL NO. OF HAMLETS : 26

PHASE II - ZONE 5:

Sl. No.	Name of the Revenue Villages & Hamlets	Sl. No.	Name of the Revenue Villages & Hamlets
1.	Mohammadapur a) Chinna Mohammadapur	2.	Nampalli a) Untlegaddaguda b) Uppariguda
3.	Chittempad	4.	Vaddepalli
5.	S.Lingotam a) Lakshmapuram	6.	Wattipalli a) Rajapet Tanda

7.	Damera	8.	D.Bhimanpalli a) Kammaguda b) Chimal tanda c) Boya tanda
9.	Batlapalli	10.	Lankalapalli a) Poliniguda b) Inulagudem
11.	Sarampet a) Gaddonigudem b) Savamput Tanda c) Mummoriguda	12.	Indurthy a) Sivannaguda b) Thandarpalli c) Ram Reddipalli d) Cherlaguda e) Narrireddiguda
13.	Medichandapur a) Gajalapur b) Kothala	14.	Namapur
15.	Anthampet a) Anthampet Thanda	16.	Somarajugudem a) Arjun Thanda b) Dharma thanda c) Rajya Thanda d) Batla Thanda e) Orodhan Thanda
17.	K.B.Palli a) Saibaba Thanda b) Bandakindi Thanda c) Roni thanda d) Padmati thanda	18.	Yenkapally
19.	K.Gouraram	20.	Hanumanthalapally
21.	Mallareddypally	22.	Nasarlapalli a) N.Palli Tanda
23.	Chintapalli	24.	Gadia Gouraram a) Hamjanapur b) Mrsu Goraram
25.	Varkala	26.	Hydalapur
27.	T.P.Gouraram a) Narasimhulagudem b) Thugapadu	28.	Mallapur Raj pally
29.	Thirumalapur		

TOTAL NO. OF VILLAGES : 29
TOTAL NO. OF HAMLETS : 35

PHASE II - ZONE 6:

Sl. No.	Name of the Revenue Villages & Hamlets	Sl. No.	Name of the Revenue Villages & Hamlets
1.	Peddapur a) Peddathanda b) Raja kunta thanda c) Thurpu thanda	2.	Nerellapalli

d) Narisimhagudem
e) Navullaguda
f) Nimmatoni bhavi
g) Bhojya thanda
h) Bandlaguda
i) Jinthanda

3. K.Tirumulgiri
4. Somalapalli
5. Ganugupalli
6. Gundrepalli
   a) Komatibaviguda
   b) Anjulabaviguda
7. Pochampalli
   a) Bantuguda
   b) Papponiguda
8. Tummlapalli
   a) Thunmareddyguda
9. Doni pamula
10. Nermata
    a) Jogiguda
11. Vattikode
    a) Bungonibai
    b) Chammalonibai
12. Ghattuppal
    a) Dharmathanda
13. Theretipally
    a) Kammaguda
    b) Seriguda
14. Voilapally
    a) Gollaguda
    b) Satya thanda
    c) Marribai tanda
    d) Pallegattu thanda
    e) Radhanagar thanda
    f) Amboth thanda
    g) Korra thanda
    h) Pothaluri thanda
    i) Saparata thanda
    j) Lohodi thanda
    k) Jagan thanda
15. Chillapur
    a) Lachammaguda
    b) Daku thanda
    c) Dubba thanda
    d) Yerra thanda
    e) Kaddila thanda
    f) Bollamdevi thanda
    g) Koppula thanda
    h) Raku Thanda
    i) Kothaguda
16. Jangaon
    a) Vachya thanda
    b) Gandamalla thanda
    c) Botimedi thanda
    d) Palligattu thanda
    e) Kadapagandithanda
    f) Aregudem
    g) Porlukunta
    h) Botimedi thanda
    i) Amboth thanda
    j) Torupu thanda

TOTAL NO. OF VILLAGES : 16
TOTAL NO. OF HAMLETS : 50

P H A S E - I

1. POPULATION
2. Demographic Data of Villages
3. Villages provided with GLSR/ OHSR/and Existing PWS Schemes.
4. Lay-out Diagrams
5. Flow Diagrams
6. Technical Designs
7. Abstract Estimates
8. Sub-Estimates
9. Hydraulic Statements
10. Key Maps.

PHASE . I

A B S T R A C T

STATEMENT SHWOING THE POPULATION PARTICULARS OF 82 VILLAGES & 99 HAMLETS

Sl. No.	Name of the Zone.	No.of villages (V)	(H)	POPULATION (NEAREST ROUNDED) As per 1881 census (X)	Present Population. (1.29 x X) = Y.	Prospective population. (1.35 x Y)	Ultimate population. (1.51 x Y)	ULTIMATE DEMAND Raw water at 65 LPCD.	Clear water at 55 LPCD.	PROBLEM CATEGORY Fluoride	SFD (En-route)	REMARKS
1	2	3	4	5	6	7	8	9	10	11	12	13
1.	I	22	14	51257	66126	88784	119020	7736825	6546595	20	2	
2.	II	60	85	123683	158551	215427	288971	18783115	15893405	56	4	
3.		82	99	174940	225677	304211	408800	26520000	22440000	76	6	

PHASE - I : STATEMENT SHOIWNG THE VILLAGE-WISE POPULATION PARTICULARS

ZONE - I : OF 82 VILLAGES

Sl. No.	Name of the Mandal.	Name of the village.	POPULATION				ULTIMATE DEMAND		Problem category.	Mini sub-mission.
			As per 1991 census (X)	Present population ('92) (1.29 x X = Y)	Prospective population. (1.35 x Y)	Ultimate population. (1.81 x Y)	Raw Water @ 65 LPCD	Clear water @ 55 LPCD.		
1	2	3	4	5	6	7	8	9	10	11
1.	Nalgonda	Marriguda	1725	2226	3006	4030	261950	221650	SFD	V
2.	Nalgonda	Buddaram	1892	2440	3296	4419	287235	243045	F	II
3.	Nalgonda	Appajipet	2961	3820	5157	6914	449410	380270	F	II
4.	Market pally.	Auravani	1097	1392	1910	2561	166465	140855	F	II
5.	Market-pally	B. Vellemla	2454	3166	4274	5730	372450	315150	F	II
6.	Market-pally	Choudampally	577	745	1006	1349	87685	74195	F	II
7.	Chityala	Yelikatta	1561	2015	2719	3645	236925	200475	F	II
8.	Nungode	Retipally	565	729	985	1320	85500	72600	F	II
9.	Market-pally	Nerada	2877	3712	5012	6719	432735	369545	F	II
10.	Chityala	Urumadla	2563	3307	4465	5986	389090	329230	F	II
11.	Chityala	Chityala	6009	7752	10466	14032	912080	771760	F	II

1	2	3	4	5	6	7	8	9	10	11
12.	Chityala	Shivaneniguda	937	1209	1633	2189	142285	120325	F	II
13.	Chityala	Vanipakala	2110	2722	3675	4927	320255	270985	F	II
14.	Chityala	Wattimarthy	1993	2571	3471	4654	302510	255970	F	II
15.	Narkatpally	Mandra	1245	1607	2170	2909	189085	159995	F	II
16.	Nalgonda	Anneparthy	1323	1707	2305	3090	200850	116950	F	II
17.	Narkatpally	Yellareddyguda	4564	5888	7449	9987	692770	586190	F	II
18.	Narkatpally	Cheruvugatty	3506	4523	6107	8187	532155	450285	F	II
19.	Narkatpally	Narkatpally	3777	4873	6579	8821	573365	485155	F	II
20.	Narkatpally	M.Yedavally	2265	2922	3945	5289	343785	290895	F	II
21.	Narkatpally	Nimmani	1654	2134	2881	3863	251095	212465	F	II
22.	Nalgonda	Cherlapally	3602	4664	6274	8412	246780	462660	SFD	V
		TOTAL ...	51257	66126	88784	119029	7736885	6546595		

ZONE - II - PHASE I

1	2	3	4	5	6	7	8	9	10	11
1.	Chandur	Bangarugadda	2150	2773	3744	5019	326235	276045	F	II
2.	Chandur	Angadipet	1247	1609	2172	2912	189280	160160	F	II
3.	Chandur	Chandur	6858	8845	11943	16013	1040845	880715	F	II
4.	Chandur	Kastala	2205	2845	3841	5150	334750	283250	F	II
5.	Kangal	Ponugodu	2604	3359	4535	6080	395200	334400	F	II
6.	Chandur	Udatalapally	1257	1622	2190	2986	190840	161480	F	II
7.	Kangal	Regatta	3848	4964	6701	8985	584025	494175	F	II
8.	Chandur	Idikuda	1541	1988	2684	3598	233870	197890	F	II
9.	Chandur	Pallemla	2034	2624	3542	4749	308685	251195	F	II
10.	Chandur	Bodangiparty	992	1280	1720	2317	150605	127435	F	II
11.	Chandur	Siridepally	962	1241	1675	2246	145990	123530	F	II
12.	Munugode	Munugode	5970	7701	10398	13939	906035	766645	F	II
13.	Munugode	Cholled	972	1254	1693	2270	147550	124850	F	II
14.	Munugode	Chikatimamidi	1887	2434	3286	4406	287390	243330	F	II
15.	Munugode	Kompally	2179	2811	3795	5088	330720	279840	F	II
16.	Munugode	Kalvakunta	875	1129	1524	2043	132795	112265	F	II
17.	Chandur	Kondapur	1329	1713	2313	3100	201500	170500	F	II
18.	Munugode	Velamakanne	1962	2531	3417	4581	297765	251955	F	II

1	2	3	4	5	6	7	8	9	10	11
19.	Narayanpur	Puttapaka	2412	3111	4200	5630	365950	309650	F	II
20.	Narayanapur	Kottaguda	1127	1454	1963	2631	171015	144705	F	II
21.	Narayanapur	Sarwel	6325	8159	11015	14867	959855	812185	F	II
22.	Narayanpur	Narayanpur	6383	8224	11116	14904	969760	819720	F	II
23.	Munugode	Chalmeda	809	1044	1409	1890	122850	103950	F	II
24.	Narayanpur	Gujja	2238	2887	3890	5225	339625	287375	F	II
25.	Munugode	Kothlaram	861	1111	1500	2011	130715	110605	F	II
26.	Narayanpur	Chimiryala	926	1195	1613	2163	140595	118965	F	II
27.	Narayanpur	K.K.Guda	1089	1405	1897	2543	165295	139255	F	II
28.	Narayanpur	Mohammadabad	743	958	1293	1734	112710	95370	SFD	V
29.	Narayanpur	Kothlapur	490	632	853	1144	74360	62920	SFD	V
30.	Narayanpur	G.Malkapur	665	858	1158	1553	100945	85415	F	II
31.	Coutuppal	Choutuppal	5117	6600	8910	11946	776490	657030	F	II
32.	Choutuppal	Tangadapally	2142	2762	3730	5001	325065	275055	F	II
33.	Choutuppal	Lakkaram	4360	5624	7592	10179	661635	559845	F	II
34.	Choutuppal	T.Singaram	1020	1316	1778	2381	154765	130955	F	II
35.	Choutuppal	Lingogiguda	2602	3354	4531	6076	394940	334180	F	II
36.	Choutuppal	Panthangi	4041	5213	7038	9436	613340	518920	F	II
37.	Chityala	Gundrampally	2754	3566	4814	6455	419575	355025	F	II

1	2	3	4	5	6	7	8	9	10	11
38.	Chityala	Yepur	1952	2518	3399	4558	296270	250690	SFD	V
39.	Chityala	Peddakaparthy	4323	5577	7529	10095	656175	555225	F	II
40.	Chityala	Pittampally	1056	1363	1841	2468	160420	135740	F	II
41.	Chityala	Bongonicheruvu	400	516	697	934	60710	51370	F	II
42.	Chityala	Perepally	1048	1352	1826	2448	159120	134640	F	II
43.	Munugode	Kachlapur	305	393	531	711	46215	39105	F	II
44.	Munugode	Palevella	1912	2466	3329	4463	290095	245665	F	II
45.	Munugode	Ukondi	1534	1979	2673	3582	232830	197010	F	II
46.	Munugode	Singaram	937	1210	1633	2190	142350	120450	F	II
47.	Chityala	T. Vellemla	2115	2728	3683	4938	320970	271590	F	II
48.	Munugode	Ipparty	971	1253	1692	2268	147420	122740	F	II
49.	Chityala	Chinnakaparthy	4373	5642	7617	10213	663845	561715	F	II
50.	Munugode	Kistapaur	1221	1575	2126	2850	185250	156750	F	II
51.	Munugode	Gudapur	1306	1685	2275	3050	198250	167750	F	II
52.	Narayanpur	Jamishanpally	345	445	601	805	52325	44275	F	II
53.	Munugode	Pulipalpula	2112	2724	3677	4930	320450	271 150	F	II
54.	Munugode	Kalwalpally	1627	2099	2834	3799	246935	208945	F	II
55.	Nalgonda	Kanchanpally	1927	2486	3356	4500	292500	247500	F	II

1	2	3	4	5	6	7	8	9	10	11
56.	Nalgonda	Kakulakondaram	1165	1503	2029	2720	176800	148600	F	II
57.	Nalgonda	Donkal	694	895	1208	1620	105300	89100	SFD	V
58.	Munugode	Koratikal	2690	3470	4687	6281	408265	345455	F	II
59.	Nalgonda	P.Domalpally	2365	3051	4119	5522	358930	303710	F	II
60.	Munugode	Polipur	330	426	575	772	50115	42405	F	II
			123683	159551	215427	288971	13783115	15893405		

P H A S E - I

STATEMENT SHOWING THE DEMOGRAPHIC DATA OF VILLAGES IN NALGONDA DISTRICT . Z O N E - I

Sl. No.	Name of the Mandal.	Name of Village.	Population SC	Population ST	Cattle population	Live stock sheep	Flouride content in PPM	Ex. San. Fec.	No.of Schools Ele.	No.of Schools H.S	Hospitals	Dairy act.	Health Edu.	Ele. Fec.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	Nalgonda	Narriguda	425	16	2000	500	1.5	CD	1	-	-	-	-	Yes
2.	Nalgonda	Buddaram	438	-	1800	200	1.8	OD	1	-	-	-	-	Yes
3.	"	Appajipet	598	41	2300	300	2.4	CD	1	-	-	-	-	yes
4.	Narketpally	Aouravani	242	-	975	250	3.4	OD	1	-	-	-	-	yes
5.	"	B. Vellemla	423	61	1120	400	2.4	OD	1	1	-	-	-	yes
6.	"	Chandrampally	215	-	100	75	1.6	CD	1	-	-	-	-	yes
7.	Chityala	Elikatta	177	-	900	150	1.8	OD	1	-	-	-	-	yes
8.	Munugode	Rathipally	69	2	100	125	0-8	OD	1	-	-	-	-	yes
9.	Narkatpally	Neereda	259	81	500	250	2.6	OD	1	1	-	-	-	yes
10.	Chityala	Urumadla	343	90	500	250	2.0	OD	1	-	-	-	-	yes
11.	"	Chityala	867	32	1400	850	3.2	OD	1	1	-	-	-	yes
12.	"	Shivaneniguda	168	-	400	250	2.4	OD	1	-	-	-	-	yes
13.	"	Vanipakala	628	41	900	400	1.8	OD	1	-	-	-	-	yes
14.	Narketpally	Mandra	143	-	600	300	3.4	OD	1	-	-	-	-	yes
15.	Chityala	Wattimarthy	203	-	850	400	2.0	OD	1	-	-	-	-	yes

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16.	Nalgonda	Anaparthy	332	-	2000	300	3.2	OD	1	-	-	-	-	yes
17.	Narkātpally	Cheruvugattu	718	-	2500	1200	6.4	OD	1	-	-	-	-	yes
18.	"	Yellareddyguda	726	-	3000	1000	6.8	OD	1	1	-	-	-	yes
19.	"	Narkatpally	557	-	2500	1200	3.2	PF	1	1	-	-	-	yes
20.	"	M.Yedavalli	86	-	1000	500	5.2	OD	1	-	-	-	-	yes
21.	"	Nimmani	346	-	600	350	2.0	OD	1	-	-	-	-	yes
22.	Nalgonda	Cherlapally	679	-	1350	1000	1.5	OD	1	-	-	-	-	yes
		TOTAL	8642	364	27595	9750	-	-	22	3	-	-	-	-

OD - Outdoor

PF - Public Fecility

ELE- Elementary School

HS - High School

ELE
FEC- Electric Fecility

PHASE - I. Z O N E - II

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	Chandur	Bangarugadda	350	44	1250	200	1.2	OD	1	-	-	-	-	yes
2.	Chandur	Angadipet	224	-	360	150	2.4	OD	1	-	-	-	-	yes
3.	"	Chandur	222	17	1100	200	1.8	PF	1	1	1	-	-	yes
4.	"	Kastala	476	-	1210	150	2.6	OD	1	-	-	-	-	yes
5.	Kangal	Ponugode	358	6	400	300	3-0	OD	1	-	-	-	-	yes
6.	Chandur	Uthathalapally	30	200	50	50	1.8	OD	1	-	-	-	-	yes
7.	Kangala	Regatta	594	-	450	250	3.8	OD	1	1	-	-	-	yes
8.	Chandur	Idikuda	332	-	501	200	2.8	CD	1	-	-	-	-	yes
9.	Mungode	Pullemla	215	21	600	200	3.2	OD	1	1	-	-	-	yes
10.	Chandur	Bodangiparthy	199	15	405	150	2.0	OD	1	-	-	-	-	yes
11.	Chandur	Sirdepally	130	-	50	50	2.0	OD	1	-	-	-	-	yes
12.	Mungode	Mungode	1023	14	1000	150	3.4	PF	1	1	1	-	-	yes
13.	"	Chellede	90	-	245	200	2.9	OD	1	-	-	-	-	yes
14.	"	Chikatimamidi	227	9	609	200	2.4	OD	1	-	-	-	-	yes
15.	"	Kompally	435	27	750	200	3.6	OD	1	1	-	-	-	yes
16.	"	Kalwakunta	94	-	25	25	2.4	CD	-	-	-	-	-	yes
17.	Gurrampode	Kondapur	2	-	10	10	SFD	OD	1	-	-	-	-	yes
18.	Mungode	Velmakenne	236	5	1260	200	4.4	OD	1	1	-	-	-	yes

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
19.	Narayanpur	Puttapaka	435	-	800	200	2.2	OD	1	1	-	-	-	yes
20.	"	Kothaguda	111	-	245	150	2.5	OD	1	-	-	-	-	yes
21.	"	Narayanpur	711	75	1109	250	2.5	PF	1	1	1	-	-	yes
22.	"	Sarvel	1295	44	1200	350	3.0	PF	1	1	-	-	-	yes
23.	Mungode	Chalmeda	129	4	409	200	3.5	OD	1	-	-	-	-	yes
24.	Narayanpur	Gujja	401	15	1100	300	4.9	OD	1	-	-	-	-	yes
25.	Mungode	Kothlaram	52	1	50	50	6.8	OD	1	-	-	-	-	yes
26.	Narayanpur	Chimmeriyal	78	-	300	200	2.5	OD	1	-	-	-	-	yes
27.	"	K.K.Guda	229	30	205	200	3.0	OD	1	-	-	-	-	yes
28.	"	Mohammadabad	152	300	100	100	SFD	OD	1	-	-	-	-	yes
29.	"	Kothlapaur	300	-	50	50	SFD	OD	1	-	-	-	-	yes
30.	"	G.Mallkapur	72	-	450	200	6.8	OD	1	-	-	-	-	yes
31.	Choutuppal	Thangadapally	405	16	2000	200	2.0	OD	1	1	-	-	-	yes
32.	Choutuppal	Choutuppal	291	5	227	150	2.4	PF	1	1	1	-	-	yes
33.	"	Lakkaram	300	-	50	50	2.0	OD	1	-	-	-	-	yes
34.	"	Thalasingaram	225	-	507	150	3.1	OD	1	-	-	-	-	yes
35.	"	Lingogiguda	475	2	653	200	2.4	OD	1	-	-	-	-	yes
36.	"	Panthangi	769	13	1236	200	2.4	OD	1	1	-	-	-	yes

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
37.	Chityal	Gundrampally	589	15	500	300	1.6	OD	1	-	-	-	-	yes
38.	"	Aipur	263	12	50	50	SFD	CD	-	-	-	-	-	yes
39.	"	Peddakaparthy	435	10	1000	400	3.4	OD	1	-	-	-	-	yes
40.	"	Pittampally	313	-	450	300	1.8	OD	1	-	-	-	-	yes
41.	"	Bongonicheruvu	313	-	50	50	1.6	OD	1	-	-	-	-	yes
42.	"	Perepalli	63	-	25	25	1.6	OD	1	-	-	-	-	yes
43.	Nungode	Kachlapuram	43	1	20	20	1.6	CD	1	-	-	-	-	yes
44.	"	Palvela	215	21	600	200	3.2	CD	1	1	-	-	-	yes
45.	"	Ukondi	242	9	350	100	1.6	CD	1	-	-	-	-	yes
46.	"	Singaram	289	7	500	150	1.3	OD	1	-	-	-	-	yes
47.	Chityala	T. Vellamla	361	-	1000	100	2.5	OD	1	-	-	-	-	yes
48.	Nungode	Ipparthy	222	2	600	200	2.5	CD	1	--	-	-	-	yes
49.	Chityala	Chinnakaparthy	369	10	25	25	2.4	OD	1	-	-	-	-	yes
50.	Nungode	Kistapur	286	13	700	250	10.0	CD	1	-	-	-	-	yes
51.	"	Gudapur	394	-	350	150	2.1	OD	-	-	-	-	-	yes
52.	"	Jamistanpally	69	-	20	20	SFD	CD	1	-	-	-	-	yes
53.	"	Pulipalpula	519	6	710	300	1.6	CD	1	-	-	-	-	yes
54.	"	Kalwapally	458	-	719	250	1.8	OD	1	-	-	-	-	yes
55.	Nalgonda	Kanchanpally	474	-	3600	250	2.6	OD	1	-	-	-	-	yes

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
56.	Nalgonda	Kakulakondaram	260	-	700	200	2.6	OD	1	-	-	-	-	yes
57.	"	Donekal	84	-	50	50	SFD	OD	1	-	-	-	-	yes
58.	Nungode	Koratikal	491	27	450	200	2.4	OD	1	-	-	-	-	yes
59.	Nungode	Domalapally	253	10	1200	200	2.4	OD	1	1	-	-	-	yes
60.	Nungode	Solipur	33	-	110	100	3.0	OD	1	-	-	-	-	yes
		TOTAL	18360	1004	31745	9975	-	-	57	14	3	-	-	-

PHASE - I ZONE - I

LIST OF VILLAGES FOR WHICH O.H.S.Rs./G.L.S.Rs. ARE TO BE CONSTRUCTED WITH DETAILS

Sl. No.	Name of the village	Ultimate popula-tion.	Ultimate Demand in Ltrs.	Capacity O.H.S.R/ Cistern.	Staging	Ground level	Low water level	Maximum water level	Remarks
1	2	3	4	5	6	7	8	9	10
1.	Marriguda		P.W.S.Scheme existing						
2.	Buddaram		P.W.S. Scheme sanctioned.						
3.	Appapipet	6914	380270	1,50,000	9.85	262	271.95	274.55	
4.	Avanivani		M.P.W.S.Scheme sanctioned.						
5.	B. Vellemla		P.W.S.Scheme existing.						
6.	Choudampally		M.P.W.S.Scheme existing.						
7.	Elikatta		P.W.S. Scheme existing.						
8.	Nathipalli	1320	72600	20,000	-	272	275.0	276.50	
9.	Neereda		P.W.S. Scheme existing.						
10.	Urumadla		P.W.S. Scheme existing.						
11.	Chityala		P.W.S. Scheme existing.						
12.	Shivaneniguda		M.P.W.S. Scheme existing.						
13.	Vanipakala		M.P.W.S. Scheme existing.						
14.	Mandra		M.P.W.S.Scheme existing.						
15.	Wattimarthi		M.P.W.S.Scheme existing.						

1	2	3	4	5	6	7	8	9	10
16.	Anaparthy		P.W.S. Scheme existing.						
17.	Yellareddyguda		P.W.S. Scheme existing.						
18.	Cheruvugattu		P.W.S.Scheme existing.						
19.	Narketpally		P.W.S.Scheme existing.						
20.	N. Yedavalli		P.W.S.Scheme existing.						
21.	Nimmani		P.W.S.Scheme existing.						
22.	Cherlapally		P.W.S. Scheme existint.						

PHASE - I Z O N E - II

1	2	3	4	5	6	7	8	9	10
1.	Bangarugadda	P.W.S.Scheme existing.							
2.	Angadipet	M.P.W.S. Scheme existing.							
3.	Chandur	P.W.S. Scheme existing.							
4.	Kastala	P.W.S.Scheme existing.							
5.	Ponugode	6080	334400	100000	9.85	240	249.85	252.55	
6.	Udathalapally	2926	164230	60000	9.75	250	259.75	261.95	
7.	Regatta	P.W.S.Scheme existing.							
8.	Idikuda	M.P.W.S.Scheme							
9.	Pullemla	P.W.S.Scheme existing.							
10.	Bodangipathy	P.W.S.Scheme exisint.							
11.	Sirdepally	M.P.W.S.Scheme sanctioned.							
12.	Mungode	P.W.S.Scheme existing.							
13.	Chollede	P.W.S.Scheme existing.							
14.	Chikatimamidi	P.W.S.Scheme exising.							
15.	Kompally	P.W.S.Sbneme existing.							
16.	Kalwakunta	M.P.W.S.Scheme sanctioned.							
17.	Kondapur	P.W.S.Scheme existing.							
18.	Velmakanne	P.W.S.Scheme existing.							

1	2	3	4	5	6	7	8	9	10
19.	Puttapakala	P.W.S. Scheme existing.							
20.	Kothaguda	2631	144705	40000	9.65	343	352.65	345.00	
21.	Narayanapur	P.W.S.Scheme existing.							
22.	Sarvel	P.W.S.Scheme existing.							
23.	Chelmeda	1890	103950	40000	-	312	315.00	316.50	
24.	Gujja	P.W.S. Scheme existing.							
25.	Kothlaram	M.P.W.S.Scheme sanctioned.							
26.	Chimiryal	M.P.S.Scheme sanction.							
27.	K.K. Guda	2543	139865	40000	9.65	360	369.65	371.75	
28.	Mohammadabad	P.W.S.Scheme existing.							
29.	Kothulapur	M.P.W.S.Scheme sanctioned.							
30.	G.Malkapur	P.W.S.Scheme existing.							
31.	Thangedapally	M.P.W.S.Scheme sanctioned.							
32.	Choutuppal	P.W.S.Scheme existing.							
33.	Lakkaram	M.P.W.Scheme sanctioned.							
34.	Tallasingaram	M.P.W.S.Schem sanctioned.							
35.	Lingodiguda	M.P.W.S.Scheme sanctioned.							
36.	Panthangi	M.P.S.Scheme sanctioned.							
37.	Gundrampalli	M.P.W.S.Scheme exisint.							

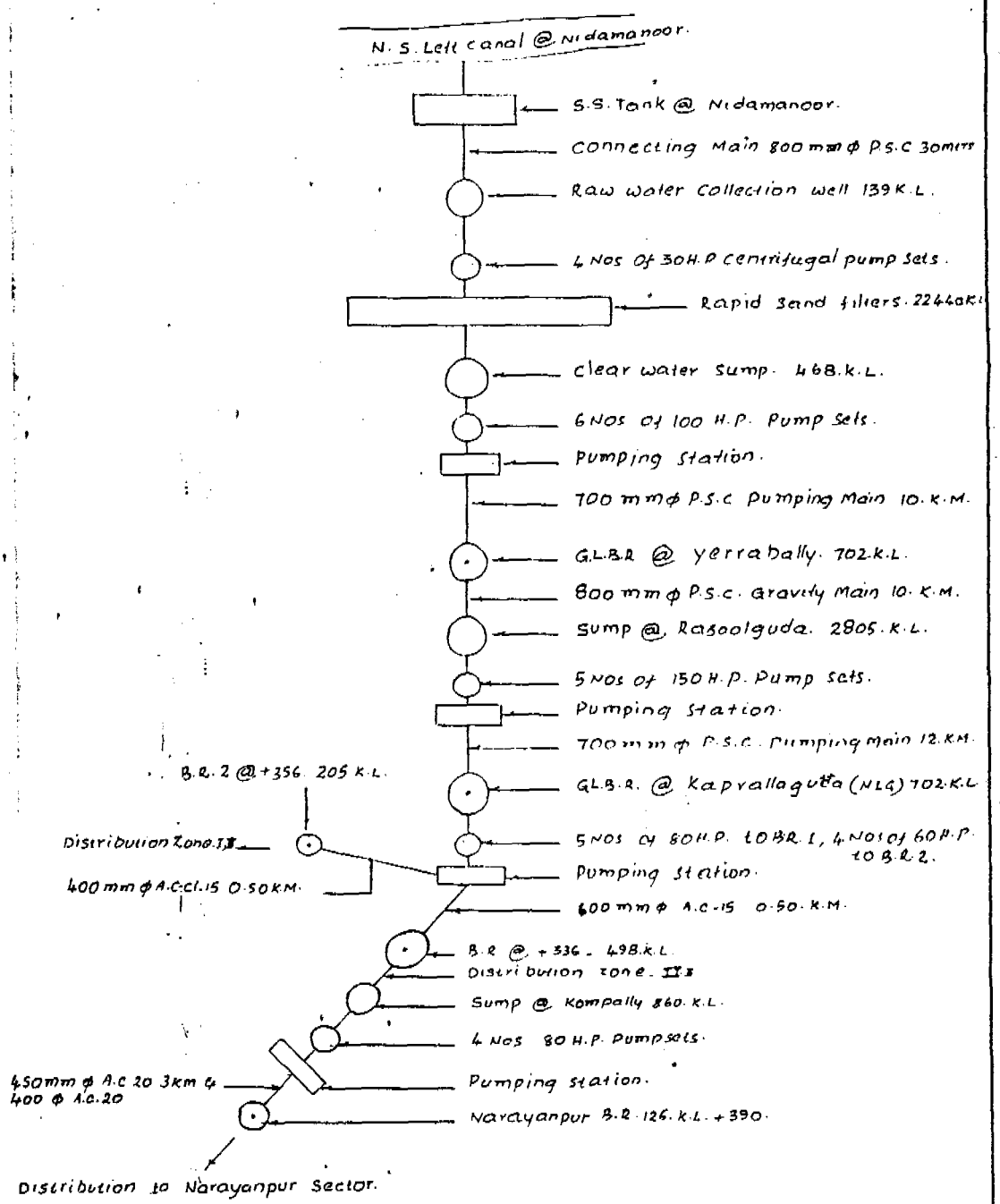
1	2	3	4	5	6	7	8	9	10
38.	Aipur	M.P.W.S.Scheme existing.							
39.	Peddakapartni	M.P.W.S.Scheme existing.							
40.	Pitlampalli	M.P.W.S.Scheme existing.							
41.	Bongonicheruvu	M.P.W.S.Scheme sanctioned.							
42.	Perepalli	P.W.S.Scheme existing.							
43.	Kachlapuram	712	39160	20000	-	258	261	262.50	
44.	Palvela	M.P.W.S.Scheme existing.							
45.	Ukondi	3582	197010	60000	9.75	265	274.75	276.95	
46.	Singaram	2190	120450	40000	9.65	260	269.65	271.75	
47.	T.Velmala	M.P.W.S.Scheme sanctioned.							
48.	Ipparthy	P.W.S.Scheme existing.							
49.	Chinnakuparthy	P.W.S.Scheme existing.							
50.	Kistapur	2851	156805	60000	9.80	290	299.80	302.00	
51.	Gudepur	P.W.S.Scheme existing.							
52.	Jamistanpalli	806	44330	20000	-	255	258.00	259.50	
53.	Pulipalpula	P.W.S.Scheme existing.							
54.	Kalwapalli	P.W.S.Scheme existing.							
55.	Kanchanpalli	P.W.S.Scheme existing.							

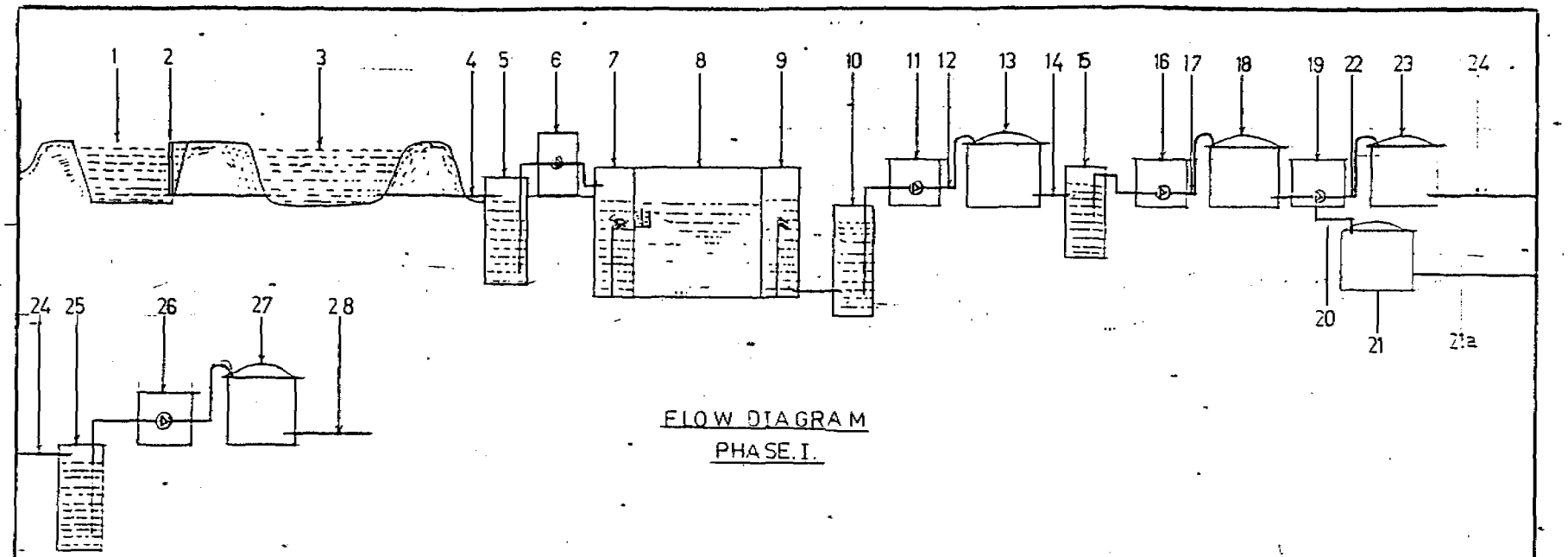
1	2	3	4	5	6	7	8	9	10
56.	Donekal	P.W.S.Scheme existing.							
57.	Kakulakondaram	P.W.S.Scheme existing.							
58.	Koratikal	P.W.S.Scheme existing.							
59.	P.Domalapally	5522	303710	100000	9.85	237	246.85	249.55	
60.	Solipur	772	42460	20000	-	244	247.00	249.50	

Lay Out Plan N.A.D A.P. III

Phase. I.

C.P.W.S schemes to B2(vgr) in Nalgonda District.





FLOW DIAGRAM
PHASE.I.

1. Nagarjuna Sagar Left Canal at Nidamanuru.
2. Sluice (offtake point) with screen mesh.
3. S.S. Tank.
4. Connecting Main - 800 mm dia PSC Pipes - 30 m
5. Raw Water Collection Well - 139 KL.
6. Raw Water Low Lifting Pump Sets - 4 Nos -30 HP
7. Inlet weir box.
8. Rapid Sand Filters.
9. Outlet weir box.
10. Clear Water Sump - 468 KL.
11. Clear Water Pump Sets (Centrifugal)- 6 Nos - 100 HP.
12. Clear Pumping Main - 700 mm dia PSC Pipes - 10 KMs.
13. G.L.B.R. @ Yerraballi - 702 KL.
14. Clear Water Gravity Main - 800 mm dia PSC Pipes - 10 KMs.
15. Sump at Rasulguda. - 2805 KL.
16. Clear Water Pump Sets (Centrifugal) - 5 Nos - 150 HP
17. Clear Water Pumping Main - 700 mm dia - PSC Pipes - 12 KMs.
18. G.L.B.R. @ Kapraillagutta (Nalgonda) - 702 KL.
19. Clear Water Pump Sets (Centrifugal) - 5 Nos - 80 HP. to B.R.1, 4 Nos of 60 HP to B.R.2.
20. Clear Water Pumping Main 400 mm dia - Ac.Cl.15 pipes - 500 m.
21. Balancing Reservoir on the Hillock (+356.00) - 205 KL.
21.a. Distribution to ZONE.I.
22. Clear Water Pumping Main - 600 mm dia - Ac.Cl.15 pipes - 500 m.
23. Balancing Reservoir on the Hillock (+336.00) - 498 KL.
24. Distribution to ZONE.II.
25. Sump at Kompally - 860 KL.
26. Clear Water Pump Sets (Centrifugal) - 4 Nos - 80 HP.
27. Balancing Reservoir at Narayanpur - 126 KL.
28. Distribution to Narayanpur Sector.

TECHNICAL DESIGN (PHASE.I)

No.of villages	:	82
Prospective population	:	304200
Ultimate population	:	408000
Source of Raw Water	:	Nagarjuna Sagar Left Canal near Nidamanuru village @ 31/3 KM and Summer Storage Tank - capacity 110 mcft. - sill level:+132.53 M

1. Gravity main pipe = From Nagarjuna Sagar Left Canal to filters.

   i) Rate of Supply = $\frac{408000 \times 65}{16 \times 60}$ = 27625 LPM.

   ii) Dia of pipe = $0.76 \times (27625)^{0.46}$ = 839 mm.

   Provide 800 mm dia RCC P2 Class pipe - 15 mtrs.length

2. Raw Water Collection Well to draw water from S.S.Tank

   i) capacity (5 minutes) = 5 x 27625 = 138125 litres.

   Say = 139000 litres.

   or 139 KL.

3.a. 800 mm dia RCC P2 pipe - 15 mtrs.length is provided

3.b. Pumping station = 8 x 4 mtrs.

4. Pump Set (to pump from Raw Water Well to Filter Unit)

   Prospective population = 304200

   Rate of Supply = $\frac{304200 \times 65}{16 \times 60}$ = 20597 LPM

   Head = 12 mtrs.

   H.P. = $\frac{20597 \times 12}{4500 \times 0.6}$ = 91.54 HP

   Provide 4 Nos. of 30 HP including Stand-by.

5. Rapid Sand filters:

i. Daily demand of clear water = 408000x55 = 2244000

say = 22440 K.L.

ii. Area of filter = $\frac{22440}{(16x2.5)+5}$ = 498.67 Sq.mtrs.

iii. No.of units = $0.50\sqrt[3]{498.67}$ = 3.96 say 4 Units.

Provide 4 Nos. of 125 Sq.mtrs. each

6. Clear water sump at filter unit:

capaicty (½ hour) = $\frac{22440000}{24 \times 2}$ = 467500 litres.

Say = 468 K.L.

7. Pumping station: = 12 x 6 mt.

8. Pump Set (to pump from C.W.Sump to Yerrabally B.R.)

Rate of supply = $\frac{304200 \times 55}{15x60}$ = 17428.12 LPM

Say = 17,500 LPM.

Head - Static = 63.00 mt. (203 - 140)

Friction Losses = 15.00 mt. (pipe-line; 10 Kms)

Other losses. = 2.00 mt.

80.00 mt.

H.P. = $\frac{17500 \times 80}{4500x0.6}$ = 518.52 H.P.

Provide 6 Nos. of 100 H.P. including Stand-by.

9. Pumping main = C.W.Sump to Yerraballi

Rate of supply = $\frac{408000 \times 55}{60 \times 15}$ = 23375 LPM.

Dia = $0.76\ (23375)^{0.46}$ = 777 mm dia.

Provide 700 mm dia PSC 18 Kg/cm^2 - length -10 KM.

10. G.L.B.R. at Yerraballi hillock:

capacity (½ hour) = 23375 x 30 = 701250

Say = 702 KL

11. Gravity main pipe (Erraballi hillock to Pasulguda)

Rate of supply = 23375 LPM

Dia = $0.76\ (23375)^{0.46}$ = 777 mm

Provide 800 mm dia PSC 18 Kg/cm^2 a length - 10 KM.

12. Sump at Pasulguda.

capacity (2 hours) - 23375 x 2 x 60 = 2805000 litres.

or say = 2805 K.L.

13. Pumping station 15x6 mt.

14. Pump set (pumping from Pasulguda to Middle of Kaprallagutta).

Rate of supply = 17500 LPM.

Head - Static(275-180) = 96

Other Friction = 4

---

90 mt.

$$H.P. = \frac{17500 \times 90}{4500 \times 0.6} = 583.33\ H.P.$$

Provide 5 Nos. of 150 H.P. including Stand-by.

15. Pumping main (Pasulguda to Middle of Kaprallagutta)

Provide 700 mm dia PSC 18 Kg/cm^2 a length - 12 KM.

as per item (9).

16. Sump — at Middle of hillock (Kaprallagutta):

capacity (½ hour) = 702 K.L. as per item (10).

17. Pumping station = 15x6 mt.

18.A. Pump set (pumping to S.R.1 + 336.00)

Head - (340 - 272) = 68 + 2 = 70 mt.

Rate of supply(to 60 villages - Nungode & Narayanpur side)

Ultimate population = 288971

prospective population. = 215427

$= \frac{215427 \times 55}{960} =$ 12342.17 LPM.

Say 12350.

$H.P. = \frac{12350 \times 70}{4500 \times 0.60} =$ 320.18

Provide 5 Nos of 80 H.P. including Stand-by.

B. Pump set (pumping to S.R.2 + 356.00).

Head = 360 - 272 = 88+2 = 90 mt.

Rate of supply (22 villages - Chityal & Narkatpally)

Prospective population = 88784

Ultimate population = 119029

$= \frac{88784 \times 55}{960} =$ 5086.50; Say 5090 LPM.

$H.P. = \frac{5090 \times 90}{4500 \times 0.6} =$ 169.66 H.P.

Provide 4 Nos of 60 H.P. including Stand-by.

19. Pumping main:

A. From Middle of hillock to S.R.1 (+336.00) ie., 60 villages;Nunugode.

Rate of supply $= \frac{228971 \times 55}{960} =$ 16555.62 LPM.

Say 16,600 LPM

$= 0.76(16,600)^{0.46} =$ 663 mm

Provide 600 mm dia Ac.Cl.15 - 0.5 KM.

19.

B. From Middle Hillock to S.R.2(+356.00) towards Qhityal ie., 22 villages.:

Rate of supply = $\frac{119029 \times 55}{960}$ = 6819.36

Say 6820 LPM.

Dia = $0.76\ (6820)^{0.46}$ = 410 mm

Provide 400 mm dia Ac.Cl.15 - 0.5 MU.

20. B.R.1 on Kapallagutta for 60 villages towards Munugode, Narayanpur villages.

Capacity (½ hour) = 16600 x 30 = 498000 litres.

or 498 K.L.

21. B.R.2 (+350.00) on Kapallagutta for 22 villages towards for 22 villages towards Qhityal and Narkatpally villages.

Capacity (½ hour) = 6820 x 30 = 204600 litres.

or = 205 K.L.

22. Sump at Kompally:

Ultimate population(22 villages.) = 124913

Prospective population = 93167

Rate of supply = $\frac{124913 \times 55}{960}$ = 7156.47

Say 7160 LPM.

Capacity (2 hours) = 7160 x 120 = 859200 litres.

Say = 860 K.L.

23. Pumping station = 8 x 6 mt.

24. Pump Set: (pumping from Kompally junction to Narayanpur)

Rate of supply = $\frac{93167 \times 55}{960}$ = 5337.69

Say 5340 LPM

24. Head (390 - 278) = 112

Losses = 8

120

H.P. $\frac{5340 \times 120}{4500 \times 0.6}$ = 237.33; Say 240 H.P.

Provide 4 Nos. of 80 H.P. including Stand-by.

25. Pumping main:

A. From Kompally junction to Chalamed junction - 3 KM

Rate of supply = 7160 LPM.

Dia = $0.76\ (7160)^{0.46}$ = 450 mm dia Ac.Cl.20.

B. Chalmada junction to Puttapaka - 2 K.M.

Rate of supply = $\frac{111206 \times 55}{960}$ = 6372

Dia = $0.76\ (6372)^{0.46}$ = 427.30 mm.

Provide 400 mm dia Ac.Cl.20.

C. Puttapaka to Kothaguda = 5.5 KM.

Rate of supply = $\frac{105576 \times 55}{960}$ = 6048.62

Dia = $0.76(6048)^{0.46}$ = 117.20 mm.

Provide 400 mm dia Ac.Cl.20.

D. Kothaguda to Narayanapur - 2 K.M.

Rate of supply = $\frac{102945 \times 55}{960}$ = 5097

Dia = $0.76\ (5098)^{0.46}$ = 412.40 mt.

Provide 400 mm dia - Ac.Cl.20

26. S.R. at Narayanpur (R390):

Rate of supply = $\frac{73174 \times 55}{960}$ = 4192.26

Say 4200 LPM.

Capacity (½ hour) = 4200 x 30 = 126000 litres.

or say 126 K.L.

PHASE.I - ABSTRACT ESTIMATE

NAME OF WORK: C.P.W.S. Scheme to 82 villages including 99 Hamlets of Nalgonda District considering Nidamanuru Tank as Source:

Sl No.	Description	Qty.	Rate	Per	Amount in lakhs
1	2	3	4	5	6
1.	Construction of Raw Water Collection well of capacity 139 K.L.	139 KL	750	KL	1.04
2.	Construction of 8x4 m pumping station at Raw Water Collection well.	32 Sqm	2000	Sqm.	0.64
3.	4 Nos. of 30 H.P. Low Lifting Pump Set to pump water from Raw Water Collection Well to Filter Units.	120 HP	3000	HP	3.60
4.	Construction of Rapid Sand Filters including inlet and outlet arrangements, necessary filter media, underdrainage system etc., complete.	22440 KL	560	KL	125.67
5.	Construction clear water sump of capacity 468 KL at filter units.	468 KL	750	KL	3.51
6.	Construction of12x6 m pumping station at clear water sump.	72 Sqm	2000	Sqm.	1.44
7.	6 Nos. 100 HP High lifting pump set to pump water from clear water sump to GLBR at Yerrabally.	600 HP	3000	HP	18.00
8.	Supply,delivery of 700 mm dia PSC pipes with all taxes, including (a) earth work excavation of trenches of required size in all soils except rock which requires blasting (b) lowering, laying of the pipes to true to alignment and gradient in the trenches(c) jointing the pipes as per standard specifications using C.I.Specials valves wherever necessary (d) Testing the pipe line to the reqiired pressure (e) refilling the trench with excavated soils with watering and tamping etc., complete				

1	2	3	4	5	6
8.	from clear water sump to Yerrabally, G.L.B.R.	10 KM	18.29 lakhs	KM	182.90
9.	Construction of GLBR at Yerrabally of capacity 702 KL including necessary pipe connections etc.complete.	702 KL	750	KL	5.27
10.	Supply,delivery of 800 mm dia PSC pipes of 18 Kg/cm^2 pressure with all taxes including (a) earth work excavation of trenches of requiredssize in all soils excpet rock which requires blasting (b) lowering,laying of the pipes to true to alignment and gradient in the trenches(c) jointing the pipes as per standard specifications using C.I.Specials, valves wherever necessary (d) testing the pipe line to the required excavated soils with watering and tamping etc., complete. for gravity main from Yerrabally to Rasulguda.	10 KM	21.39 lakhs	KM	213.90
11.	Construction of sump well of capacity 2805 KL at Rasulguda.	2805 KL	750	KL	21.04
12.	Construction of 12x6 m pumping station at Rasulguda	72 Sqm.	2000	Sqm.	1.44
13.	Supply,delivery and errection of 5 Nos. of 150 HP centrifugal pump sets at Rasulguda including necessary panel boards, controling devises,earth connections etc., complete. to pump water from Rasulguda sump to sump at Middle of Kaprallagutta.	750 HP	3000	HP	22.50
14.	Supply,delivery of 700 mm dia PSC pipes of 18 Kg/cm^2 pressure including all taxes and (a) earth work excavation of trenches of required size in all soils excpet rock which requires blasting (b) lowering, laying of the pipes to true to alignment and gradient in the trenches (c) jointing the pipes as per standard specifications using C.I.Specials, valves where				

1	2	3	4	5	6
14.	wherever necessary (d) testing the pipe line to the required pressure (e) refilling the trench with excavated soils with watering and tamping etc., complete., for pumping main from Rasulguda to middle of Kaprallaguta.	12 KM	18.29 lakhs	KM	219.48
15.	Construction of GLSR at Middle of Kaprallagutta of capacity 702 KL including necessary pipe connections etc., complete.	702 KL	750	KL	5.27
16.	Construction of 15x6 m pumping station at middle of Kaprallagutta.	90 Sqm.	2000	Sqm.	1.80
17.	Supply,delivery and errection of 5 Nos. of 80 HP cetrifugal pump sets to pump water to BR.1 (+336.00) including necessary panel boards,controlling devices, earth connections,etc., complete.	400 HP	3000	HP	12.00
18.	Supply,delivery and errection of 4 Nos. of 60 HP centrifugal pump sets to pump water to BR.2 (+356.00) including necessary panel boards, controlling devices, earth connections etc., complete.	240 HP	3000	HP	7.20
19.	Supply,delivery of 600 mm dia AC:Cl.15 pipes with all taxes, including earth work excavation of trenches of required size in all soils except rock which requires blasting (b)lowering,laying of the pipes to true to alignment and gradient in the trenches(c) jointing the pipes as per standard specifications using C.I.Specials valves wherever necessary (d)testing the pipe line to the required pressure (e)refilling the trench with excavated soils with watering and tamping etc., complete. to BR.1 (+336.00).	500 RM	21.79 lakhs	KM	10.90

1	2	3	4	5	6
20.	Supply,delivery of 400 mm dia Ac.Cl.15 pipes with,all taxes including earth work excavation of trenches of required size in all soils except rock which requires blasting(b) lowering,laying of the pipes to true to alignment and gradient in the trenches (c) jointing the pipes as per standard specifications using C.I.Specials valves wherever necessary (d) testing the pipe line to the required pressure (e) refilling the trench with excavated soils with watering and tamping etc.,complete to B.R.2 at (+356.00).	0.50 KM	11.96 lakhs	KM	5.98
21.	Construdtion of 498 KL capacity B.R.1 at (+336.00) including necessary pipe connections etc.,complete to supply water to 60 villages towards Munugode, Narayanpur.	498 KL	750	KL	3.74
22.	Construction of 205 KL capacity B.R.2 at (356.00) including necessary pipe connections etc., complete to supply water to 22 villages towards Chityal, Narkatpally.	205 KL	750	KL	1.54
23.	Construction of 860 KL capacity sump at Kompally with all necessary necessary arrangements etc.,complete.	860 KL	750	KL	6.45
24.	Construction of 8x6 m pumping station at Kompally sump.	48 Sqm.	2000	Sqm.	0.96
25.	Supply,delivery and errection of 4 Nos of 80 HP centrifugal pump set to pump water from Kompally sump to B.R. at Naryanpur including necessary panel boards,contolling devices,earth connection etc., complete.	320 HP.	3000	HP	9.60

1	2	3	4	5	6
26.	Supply,delivery of Ac;Cl.20 pipes with all taxes including earth work excavation of trenches of required size in all soils excpet rock which requires blasting (b) lowering,laying of the pipes to true to alignment and gradient in the trenches (c) jointing the pipes as per standard specifications using C.I.Specials, valves wherever necessary (d) testing the pipe line to the required pressure (e) refilling the trench with excavated soils with watering and tamping etc., complete for pumping main from Komaplly to Narayanpur.				
	450 mm dia Ac.Cl.20	3.00 KM	16.13 lakhs	KM	48.39
	400 mm dia Ac.Cl.20	9.50 KM	13.48 lakhs	KM	128.06
27.	Construction of 126 KL capacity balancing reservoir (+390.00) at Narayanpur including necessary pipe connections etc., complete.	126 KL	750	KL	0.95
28.	Laying of gravity lines connecting various villages including cost of valves,chambers, OHSR, GLSR, Internal Distribution P.S.P. & Boosters, etc., complete.				
	Zone.I	As per Sub-Estimate. I			358.81
	Zone.II	As per Sub-Estimate. II			1088.66
29.	Construction of offfice building, officers quarters,staff quarters, guest house and water quality laboratory & connecting pipes, etc.,				39.26
				TOTAL:	2550.00
	Add 15% for tender premium.				383.00
					2933.00

FINANCIAL PLAN:	RS.IN LAKHS
1st year 1992-93	1800.00
2nd year 1993-94	600.00
10% price escalation 1993-94	60.00
3rd year 1994-95	400.00
21% price escalation 1994-95	84.00
4th year 1995-96	133.00
33.1% price escalation 1995-96	44.02
	3121.02
Add 10% for Contingencies.	312.10
	3433.12
Add 12½% for establishement charges. (7½% MS charges, 4% PS charges, 1% T&P charges)	429.88
TOTAL:	3863.00

PHASE - I : ZONE - I

ABSTRACT SUB-ESTIMATE NO.I FOR DISTRIBUTION SYSTEM

Sl. No.	Description		Qty.	Rate	Per	Amount Rs. in Lakhs.
1	2		3	4	5	6
1.	Supply, delivery of Ac.cl 10/cl15/ cl 20 pipes with all taxes and (a) Earth work excavation of trenches of required size in all soils except hard rock which requires blasting (b) Lowering laying of the pipes true to alignment and gradient in the standard specifications (c) Refilling the trenches with excavated soils including watering and tamping and testing the pipe lines to the required pressure etc., complete.					
	Ac Cl 15	80 mm dia	3000 m	119.00	1 Rmt.	3.57
		125 mmdia	2000 m	180.25	"	3.60
		150 mm dia	2000 m	226.25	"	4.52
		200 mm dia	8000 m	344.00	"	27.52
		300 mm dia	23000 m	571.35	"	131.33
	Ac Cl 20	200 mm dia	1000 m	429.00	"	4.29
		250 mm dia	4500 m	549.00	"	24.71
		300 mm dia	4500 m	745.00	"	33.53
		350 mm dia	7000 m	1035.20	"	72.45
		400 mm dia	1000 m	1348.00	"	13.48
		450 mm dia	2000 m	1613.00	"	32.26
2.	Amount for internal distribution system including S.C. localities and S.T. localities and main village hamlets etc., complete using AC/RCC/HDPE/PVC pipes with necessary public stand posts,					

1	2	3	4	5	6
	valves, valve chambers including necessary G.I.Pipes and specials wherever required.				
	Villages with O.H.S.Rs.	1 No.	2.00 lakhs	1 No.	2.00
	Villages with cisterns	1 No.	0.50	1 No.	0.50
3.	Construction of R.C.C. over head service reservoir of the following capacities with required stagings to the villages where there are no existing OHSRs/Cisterns.				
	O.H.S.Rs.				
	1,50,000 litres capacity	1 No.	3.00	1 lit.	4.50
	Cisterns				
	20,000 litres capacity	1 No.	2.75	1 lit.	0.55
					358.81

PHASE - I : ZONE - II

ABSTRACT SUB-ESTIMATE NO.II FOR DISTRIBUTION SYSTEM

Sl No.	Description		Qty.	Rate	Per	Amount in lakhs
1.	2.		3.	4.	5.	6.
1.	Supply, delivery of Ac.Cl.10/15/20 Pipes with all taxes and (a) Earth work excavation of trenches of required size in all soils except hard rock which requires blasting (b) lowering, laying of the pipes true to alignment and gradient in the trenches and jointing the pipes as per standard specification (c) Refilling the trenches with excavated soils including watering and tamping and testing the pipe lines to the required pressure etc., complete.					
	Ac.Cl.10	250 mm dia	11500 m	360.00	Rmt.	41.40
		350 mm dia	12000 m	617.00	Rmt.	74.04
	Ac.Cl. 15	80 mm dia	6000 m	119.00	Rmt.	7.14
		100 mm dia	2500 m	142.00	Rmt.	3.55
		125 mm dia	11000 m	180.00	Rmt.	19.80
		150 mm dia	4500 m	226.00	Rmt.	10.17
		200 mm dia	12000 m	344.00	Rmt.	41.28
		250 mm dia	3000 m	427.00	Rmt.	12.81
		300 mm dia	8500 m	571.00	Rmt.	48.57
		350 mm dia	15000 m	778.00	Rmt.	116.70
		450 mm dia	8500 m	1196.00	Rmt.	101.66
		600 mm dia	18000 m	2178.00	Rmt.	392.04
	Ac.Cl.20	700 mm dia	5000 m	3590.00	Rmt.	179.50

1	2	3	4	5	6
2.	Construction of VRCC Over Head Service Reservoir of the following capacities with required stagings to the villages where there are no existing OHSRs/ Cisterns.				
	OHSRs: 40,000 litres capacity	3 Nos	4.50	1 Lit	5.40
	60,000 -do-	3 Nos	3.50	"	6.30
	1,00,000 -do-	2 Nos	4.00	"	8.00
	Cisterns: 20,000 litres capacity	3 Nos	2.70	"	1.65
	40,000 -do-	1 No.	1.70	"	0.68
3.	Amount for Internal Distribution system indluding S.CLocalities and S.T.Localities and Main villages Hamlets etc., complete using AC/RCC/HDPE/PVC pipes with necessary Public Stand Posts, valves, valve chambers including necessary G.I.Pipes and Specials whereever required.				
	Villages with OHSRs	8 Nos	2.00	1 No.	16.00
	Villages with Cisterns.	4 Nos	0.50	1 No.	2.00
				Total:	1088.66

PHASE I
ZONE - I
HYDRAULIC REPORT

$B.R_2$ +356.0' M.W.L. +360.00
L.W.L. +356.00

Sl. No.	Designation Pipe-line	Ultimate population to be served.	Ultimate daily demand @ 55 LPCD.	L.P.M. considering 16 Hours.	Dia of pipe proposed.	Loss of Head in 1000 mtrs.	Lenght of pipe line in mtrs.	Total loss in mtrs.	H.G.L. at Start of line	H.G.L. End of line.	G.L.	Residual head in mtrs.	Static head in mtrs.	Class of pipes.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	BR_2 to Marriguda J.N.	119029	6546595	6820	450	1.30	2000	2.86	356.00	353.14	244.00	109.14	116.00	Ac.Cl.20
2.	Marriguda J.N. Cherlapally.	47647	2620585	2730	350	0.80	2000	1.76	353.14	351.38	244.00	107.38	116.00	-do-
3.	Cherlapally to Anapartny J.N.	39236	2157980	2248	300	1.25	4500	6.18	351.38	345.20	245.00	100.20	115.00	-do-
4.	Anaparthy J.N. to Yellareddyguda	36148	1988030	2071	250	2.75	4500	13.61	345.20	331.59	245.00	86.59	115.00	-do-
5.	Yellareddyguda to Cheruvugattu J.N.	26159	1438745	1498	200	4.00	1000	4.40	331.59	327.19	253.00	74.19	107.00	-do-
6.	Cheruvugattu J.N. to Narkatpally.	17972	988460	1029	200	2.00	4000	8.80	327.19	318.39	273.00	45.39	87.00	Ac.Cl.15
7.	Narkatpally to M.Yedavalli	9152	503360	524	150	2.50	2000	5.50	318.39	312.89	280.00	32.89	80.00	-do-
8.	M.Yedavalli to Nimmani.	3862	212410	221	125	1.25	2000	2.75	312.89	310.14	280.00	30.14	80.00	-do-
9.	Marriguda J.N.to Marriguda.	71382	3926010	4089	400	0.90	1000	0.99	353.14	352.15	244.00	108.15	116.00	Ac.Cl.20
10.	Marriguda to Budaram.	67352	3704310	3858	350	1.55	5000	8.52	352.15	343.63	250.00	93.63	110.00	-do-

Contd...2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11.	Buddaram to Appajipet.	62933	3461315	3605	300	3.00	3000	9.90	343.63	333.73	262.00	71.73	98.00	Ac.Cl.15
12.	Appajipet to Auravani	56019	3081045	3209	300	2.50	4000	11.00	333.73	322.73	260.00	62.73	100.00	-do-
13.	Auravani to B.Vellamla.	53458	2940190	3062	300	2.05	3000	6.76	322.73	315.97	290.00	25.97	70.00	-do-
14.	B.Vellamla to Chandampalli	47728	2625040	2734	300	1.75	4000	7.70	315.97	308.27	295.00	13.27	65.00	-do-
15.	Chandampalli to Ellikatta	10951	602305	627	200	1.00	4000	4.40	308.27	303.87	290.00	13.87	70.00	-do-
16.	Ellikatta to Ratipally	1320	72600	75	80	1.50	3000	4.95	303.87	298.92	272.00	26.92	88.00	-do-
17.	Chandampalli to Neerada	35428	198540	2030	300	0.50	3000	1.65	308.27	306.62	287.00	19.62	73.00	-do-
18.	Neerada to Chityal	28709	I578995	1645	300	0.40	6000	2.64	306.62	303.98	295.00	8.98	65.00	-do-

PHASE - I
ZONE - II
HYDRAULIC REPORT

L.W.L. +336m.- M.W.L.+340m.

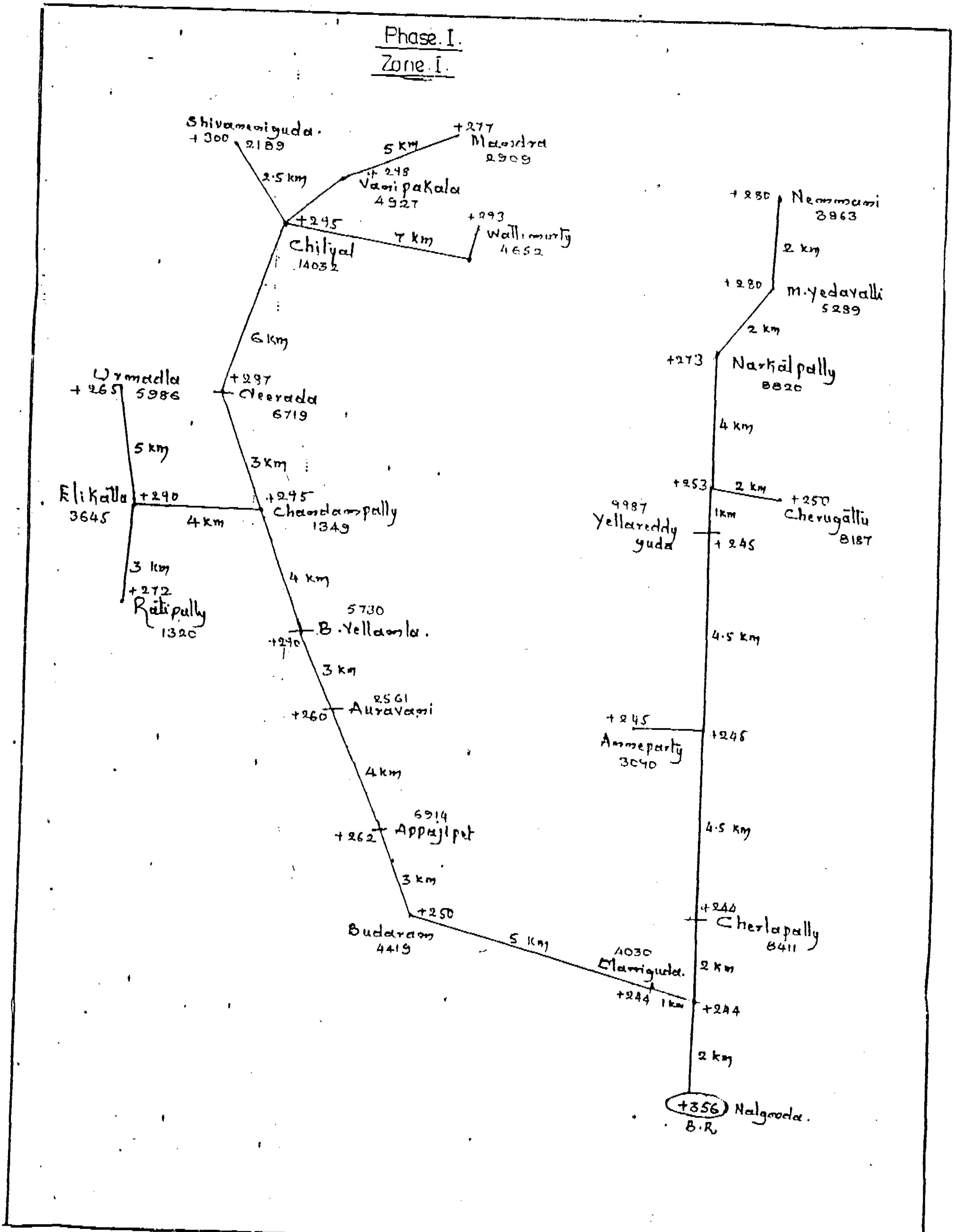
Sl. No.	Designation pipe-line	Ultimate population to be served.	Ultimate daily demand @ 55 LPCD.	L.P.M. considering 16 Hours.	Dia of pipe proposed.	Loss of Head in 1000 mtrs.	Lengnt of pipe line in mtrs.	Total loss in mtrs.	H.G.L. at Start of line	H.G.L. End of line.	G.L.	Residual head in mtrs.	Static head in mtrs.	Class of pipes.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	BR_2 (+336) at Nalgonda to Kanchanpalli	288971	15893405	16556	700	0.80	5000	4.40	336.00	331.60	230.00	101.60	110.00	Ac.Cl.20
2.	Kanchanpalli to Junction(KK)	284471	15645905	16298	600	1.60	5000	8.80	331.60	322.80	244.00	78.80	96.00	Ac.Cl.15
3.	Junction(KK) to P.Domalapally.	280131	15407205	16049	600	1.55	4000	6.82	322.80	315.98	257.00	58.98	83.00	-do-
4.	P.Domalapally to Gudapur	274609	15103495	15733	600	1.50	4000	6.60	315.98	309.38	240.00	69.38	100.00	-do-
5.	Gudapur to Junction(Jamistanpally.)	267760	14726800	15340	600	1.45	2000	3.19	309.38	306.19	255.00	51.19	85.00	-do-
6.	Junction(Jamistanpally) to Mungode.	262024	14411320	15012	600	1.40	3000	4.62	306.19	301.57	252.00	49.57	98.00	-do-
7.	Mungode to Kachalapur	39157	2153635	2244	300	1.25	2500	3.44	301.57	298.13	258.00	40.13	82.00	-do-
8.	Kachalapur to Palvella	38445	2114475	2203	300	1.20	4000	5.28	298.13	292.85	280.00	12.85	60.00	-do-
9.	Palvella to Junction (T.Velemla).	10710	589050	614	200	0.80	2000	1.76	292.85	291.09	269.00	22.09	71.00	-do-
10.	Junction(T.Velemla) to Ukondi.	5772	317460	331	125	2.50	2000	5.61	291.09	285.48	265.00	20.48	75.00	-do-

Contd-2.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11.	Ukondi to Singaram.	2190	120450	126	100	1.25	2500	3.44	285.48	282.84	260.00	22.04	80.00	Ac.Cl.15
12.	Palvella to Ipparthy	23271	1279905	1334	250	1.10	3000	2.63	292.85	289.28	279.00	10.22	61.00	-do-
13.	Ipparthy to Krishnapuram	10791	593505	618	200	0.80	4000	3.52	289.22	285.70	265.00	20.70	75.00	-do-
14.	Krishnapuram to Yepur.	5492	302060	315	125	2.50	5000	13.75	-	-	295.00		45.00	BOOSTER
15.	Yepur to Bongonicheru	934	51370	54	80	0.80	5000	4.40	-	-	345.00		5.00	
16.	Mungode to Junction Solipur.	67108	3690940	3845	350	1.60	2000	3.52	301.57	298.05	244.00	54.05	96.00	Ac.Cl.15
17.	Junction(Solipur) to Solipur.	772	42460	44	80	0.50	1000	0.65	298.05	297.50	244.00	53.50	96.00	-do-
18.	Junction(Solipur) to Bodangiparthy	66336	3648480	3801	350	1.55	4000	6.82	297.50	290.68	250.00	40.68	90.00	-do-
19.	Bodangiparthy to Junction(Sirdepally.)	64019	3521045	3668	350	1.45	3000	4.79	290.68	285.89	253.00	35.89	87.00	-do-
20.	Junction(Sirdepally to Sirdepally).	8527	468985	489	150	2.10	500	1.16	285.89	284.73	253.80	31.73	87.00	-do-
21.	Sirdepally to Koratikal.	6281	345455	360	150	1.25	4000	5.50	284.73	279.23	244.00	35.23	96.00	-do-
22.	Junction(Sirdepally to Junction Udathalapally.	55492	3052060	3180	350	1.15	6000	7.59	285.89	278.30	250.00	28.30	90.00	-do-
23.	Junction(U.P.)to Udathalapally.	11971	658405	686	200	1.00	3000	2.30	278.30	275.00	250.00	25.00	90.00	-do-
24.	Junction (U.P.) to Chandur.	43521	2393655	2494	300	1.45	2000	8.19	278.30	275.11	255.00	20.11	85.00	-do-

Contd.3.

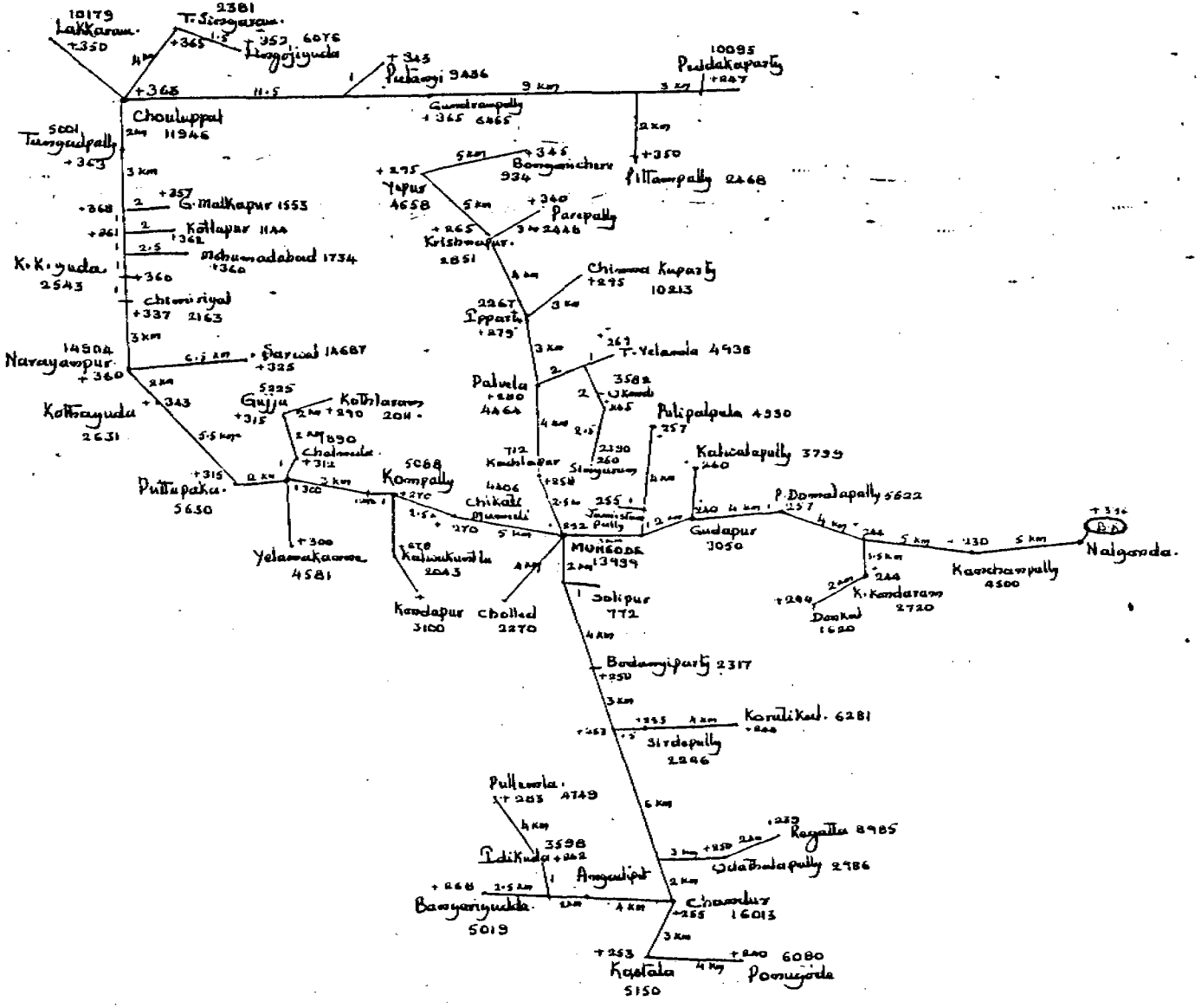
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
25.	Chandur to Kastala	11230	617650	644	200	1.00	3000	3.30	275.11	271.81	253.00	18.81	87.00	Ac.Cl.15
26.	Kastala to Ponugode	6080	334400	348	125	2.50	4000	11.00	271.81	260.81	240.00	20.81	100.00	-do-
27.	Nunugode to Chikatimamidi.	139550	7675250	7995	450	1.75	5000	9.63	-301.57	291.94	270.00	11.94	70.00	
28.	Chikatimamidi to Kompally.	135144	7432920	7743	450	1.65	2580	4.53	291.94	287.41	270.00	17.41	70.00	PUMPING
29.	Kompally to Junction Kompally	124913	6870215	7157	450	1.40	1000	1.54	-	285.87	278.00	7.87	40.00	UPTO NARAYANPUR
30.	Junction(Chalmeda) to Puttapaka.	111206	6116330	6371	400	2.00	2000	4.40	-	-	315.00	-	-	
31.	Puttapaka to Kothaguda.	105576	5806680	6049	400	1.90	5580	11.50	-	-	343.00	-	-	
32.	Kothaguda to Narayanpur.	102945	5661975	5898	400	1.85	2000	4.07	-	-	360.00	-	-	
33.	Narayanpur to Chimiriyal	73174	4024570	4192	350	1.80	3000	5.94	+ 390.00	384.06	337.00	47.06	55.00	
34.	Chimiriyal to K.K.Guda.	71011	3905605	4068	350	1.70	1000	1.87	384.06	382.19	360.00	22.19	32.00	
35.	K.K.Guda to Mahamadabad Junction	68468	3765740	3923	350	1.65	1000	1.82	382.19	380.37	365.00	15.37	27.00	AC.CL.10/ FROM
36.	Mahamadabad Junction to KothlapurJunction	66734	3670370	3823	350	1.50	1000	1.65	380.37	378.72	361.00	17.72	31.00	NARAYANPUR B.R.
37.	Kothlapur Junction to G.Malkapur(JN)	65590	3607450	3758	350	1.50	1000	1.65	378.72	377.07	368.00	9.07	24.00	M.W.L. 392.
38.	G.Malkapur(J.N.) to Tungadpalli.	64037	3522035	3669	350	1.40	3000	4.62	377.07	372.45	363.00	9.45	29.00	
39.	Tungadpally to Choutuppal.	59036	3246980	3383	350	1.25	2000	2.75	372.45	369.70	363.00	6.70	29.00	
40.	Choutuppal to Patangi.	28454	1564970	1630	250	1.60	11500	20.24	369.70	349.46	343.00	6.46	49.00	



Phase. I.
Zone. I.
Shivannigudа. +300 2189
+277 Maradra 2909
5 km
2.5 km
+248 Vanipakala 4927
+295 Chityal 14032
7 km
+293 Wallimunty 4652
6 km
Urmadla +265 5986
+297 Neerada 6719
5 km
3 km
Elikatta 3645 +290
4 km
+295 Chandampally 1349
3 km
+272 Ratipally 1320
4 km
5730 B. Vellamla. +290
3 km
2561 Auravani +260
4 km
6914 Appajipet +262
3 km
+250 Budaram 4419
5 km
4030 Marriguda. +244
1 km
+280 Nemmani 3963
2 km
+280 M.yedavalli 5289
2 km
+273 Narkalpally 8820
4 km
+253 2 km +250 Cherugattu 8187
1 km
4987 Yellareddy guda +245
4.5 km
+245 Ammeparty 3040 +248
4.5 km
+244 Cherlapally 8411
2 km
+244
2 km
+356 B.R. Nalgonda.

Zone. II.

Phase. I.



P H A S E - II

1. POPULATION
2. Demographic Data of Villages
3. Villages provided with GLSR/ OHSR/and Existing PWS Schemes.
4. Lay-out Diagrams
5. Flow Diagrams
6. Technical Designs
7. Abstract Estimates
8. Sub-Estimates
9. Hydraulic Statements
10. Key Maps.

PHASE . II

A B S T R A C T

STATEMENT SHWOING THE POPULATION PARTICULARS OF 144 VILLAGES AND 238 HAMLETS

Sl. No.	Name of the Zone	No.of villages (V)	(H)	POPULATION(NEAREST ROUNDED As per 1981 Census (X)	Present population (1.29 x x)= Y.	Prospective population (1.35 x Y)	Ultimate population (1.81 x Y)	ULTIMATE DEMAND Raw Water at 65 LPCD.	Clear @ 55 LPCD.	PROBLEM CATEGORY Fluoride	S.F. D. (Enroute)	REMARKS.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1.	I	16	19	22305	28774	38846	52082	3385330	2864510	6	10	
2.	II	20	27	23936	30879	41687	55891	3632915	3074005	3	17	
3.	III	48	81	52726	68018	91840	123265	8012225	6779575	25	23	
4.	IV	15	26	27100	34859	47193	63277	4113005	3480235	15	-	
5.	V	29	35	42583	53440	75058	100634	6541210	5534870	29	-	
6.	VI	16	50	31790	41008	55363	74221	4824365	4082155	16	-	
	TOTAL:	144	238	200440	256978	349987	469370	30509050	25815350	94	50	

PHASE II - ZONE I.

STATEMENT SHOWING VILLAGE WISE POPULATION PARTICULARS OF ZON-I - 16 VILLAGES.

Sl. No.	Name of the Mandal	Name of the Village	POPULATION				ULTIMATE DEMAND		Problem category	Mini-Sub-mission	
			As per 1981 census (X)	Present population (1.29 x X) = Y	Prospective population (1.35 x Y)	Ultimate population 1.81xY	@ 65 LPCD	@55 LPCD			
1	2	3	4	5	6	7	8	9	10	11	
1.	Amanula	Alwal	1079	1392	1879	2520	163800	138600	SFD	V	
2.	Padavoora	Chintapalli	744	960	1296	1738	112970	95590	SFD	V	
3.	Padavoora	Peddavoora	2913	3758	5072	6802	442130	374110	SFD	V	
4.	Gurrampode	Nosangi	1182	1525	2059	2760	119400	151800	SFD	II	
5.	-do-	Chepur	3132	4040	5454	7312	475280	402160	F	II	
6.	-do-	Bellaram	610	787	1062	1424	92560	78320	F	II	
7.	-do-	Madikuda	1185	1529	2064	2767	179855	152185	F	II	
8.	Amanula	Mukkamala	392	506	683	916	59540	50380	F	II	
9.	-do-	Venkatadripalem	1158	1493	2016	2703	175695	148665	SFD	V	
10.	-do-	Kosalmarri	1139	1470	1985	2661	172965	146355	SFD	V	
11.	-do-	Yacharam	1357	1789	2415	3238	210480	178090	SFD	V	
12.	Gurrampode	Koppole	4255	5489	7410	9935	645775	546425	F	II	
13.	-do-	Gouraram	573	739	998	1338	86970	73590	SFD	V	
14.	Kangal	Turkapalli	834	1076	1453	1948	126620	107140	SFD	V	
15.	Amanula	Narrapalli	1355	1748	2360	3164	205660	174020	SFD	V	
16.	Gurrampode	Kothulapur	367	473	639	856	55640	47080	F	II	
			22305	28774	38846	52082	3385330	2864150			

ZONE - II PHASE II

No.of Villages...20
No.of Hamlets ...27

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1.	Gurrampadu	Pallepabad	341	440	594	796	51740	43780	F	II
2.	-do-	Kacharam	323	417	563	755	49075	41525	F	II
3.	P.A.Pally	Bhimanpalli	1622	2092	2824	3787	246155	208285	SFD	V
4.	-do-	Keshannapipalli	688	888	1199	1607	104455	88385	SFD	V
5.	-do-	Ghanpalli	392	506	683	916	59540	50380	SFD	V
6.	-do-	Polkampalli	724	934	1261	1691	109915	93005	SFD	V
7.	-do-	Gudipalli	2631	3344	4582	6143	399295	337865	F	II
8.	-do-	Ghanpur	1560	2012	2716	3642	236730	200310	SFD	V
9.	-do-	G.Nemdipur	266	343	463	621	40365	34155	SFD	V
10.	-do-	Madhapur	549	708	956	1281	83265	70455	SFD	V
11.	Peddavoora	Pinnavura	321	414	559	750	48750	41250	SFD	V
12.	P.A. Pally	Medaram	1851	2388	3224	4322	280930	237710	SFD	V
13.	-do-	Tirmalgiri	1051	1356	1831	2454	159510	134970	SFD	V
14.	-do-	Dugyal	1231	1588	2144	2874	186810	158070	SFD	V
15.	Peddavoora	Pothnur	1292	1667	2250	3017	196105	165935	SFD	V
16.	-do-	Singaram	1037	1338	1806	2422	157430	133210	SFD	V
17.	-do-	Pulicherla	2398	3094	4177	5600	364000	308000	SFD	V
18.	P.A.Pally	Waddipatla	2280	2941	3970	5323	345995	292765	SFD	V
19.	Peddavoor	Utlapalli	1291	1665	2248	3014	195910	165770	SFD	V
20.	-do-	Parvetla	2088	2694	3637	4876	316940	268180	SFD	V
		Total	23936	30879	41687	55891	3632915	3074005	F 5 SFD 17	

ZONE - III PHASE II

No.of Villages....48.

No.of Hamlets ....81.

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1.	Gurrampodu	Gurrampodu	1419	1831	2472	3314	215410	182270	F	II
2.	-do-	Chamled	2090	2696	3639	4880	317200	268400	F	II
3.	-do-	Tenapalli	1130	1458	1968	2639	171535	145145	HFD	V
4.	-do-	Mulkalpalli	313	404	545	731	47515	40205	SFD	V
5.	Nampally	Mallepally	1131	1451	1970	2641	171600	145200	F	II
6.	Gurrampodu	Ootlapally	523	675	911	1222	79430	67210	SFD	V
7.	-do-	Sultanpur	602	777	1049	1406	91390	77330	SFD	V
8.	-do-	Juvviguda	1606	2072	2797	3750	243750	206250	F	II
9.	-do-	Junuthala	1086	1401	1891	2536	164840	139480	F	II
10.	-do-	Makkapalli	929	1198	1617	2168	141050	119350	SFD	V
11.	-do-	Mylapur	482	622	840	1126	73190	61930	SFD	V
12.	Nampally@	Thummalapally	683	881	1189	1595	103675	87725	F	II
13.	Gurrampodu	Kondapur	48	62	84	112	7280	6160	SFD	V
14.	-do-	Shakajipur	418	540	729	977	63505	53735	SFD	V
15.	-do-	Parlapally	111	143	193	260	16900	14300	F	II
16.	-do-	Palwai	2383	3074	4150	5564	361660	306020	F	II
17.	P.A.Pally	Surepally	271	350	473	674	41210	34870	SFD	V
18.	Devarakonda	Gummadivally	1124	1450	1971	2643	170625	144375	F	II
19.	Gurrampode	Kalvapally	635	819	1106	1483	96330	81510	F	II

ZONE - III

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
20.	Gurrampode	Chintaguda	561	724	977	1310	85150	72050	SFD	V
21.	Nampally	Reballi	708	913	1233	1653	107445	90915	F	II
22.	-do-	Mellavai	1148	1487	2000	2682	104200	147400	F	II
23.	-do-	Fakirpur	299	386	521	700	45500	38500	F	II
24.	-do-	Sunkisala	388	500	675	905	58825	49775	F	II
25.	-do-	B.Timmapur	465	600	810	1086	70590	59788	F	II
26.	-do-	Pagidipally	326	421	568	762	49530	41910	F	II
27.	-do-	Mustipally	1959	2527	3411	4573	297245	251515	F	II
28.	Deverakonda	K.Mallepally	1556	2007	2710	3634	236080	199760	F	II
29.	-do-	Kollumuthalapadu	1718	2216	2992	4012	260715	220605	SFD	V
30.	-do-	Donial	511	659	89C	1193	77545	65615	SFD	V
31.	-do-	Chintaguntala	2160	2786	3761	5043	327795	277365	SFD	V
32.	-do-	Fakirpur	212	274	370	496	32240	27280	SFD	V
33.	P.A.Pally	Mallapur	1183	1526	2060	2762	179530	151910	SFD	V
34.	Devarakonda	Pendlipakala	1655	2135	2882	3864	251160	212520	SFD	V
35.	-do-	C.A.Pally	800	1032	1393	1868	121420	102740	SFD	V
36.	P.A. Pally	Chilakamarri	805	1038	1401	1879	122135	103345	SFD	V
37.	-do-	Rolekal	430	556	749	1005	65325	55275	SFD	V
38.	-do-	P.A.Pally	6758	8718	11769	15780	1025700	867900	SFD	V

ZONE - III

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
39.	Deverakonda	Chennaram	1264	1631	2202	2952	191880	162360	SFD	V
40.	-do-	Seripally	2251	2904	3920	5256	341640	289080	SFD	V
41.	Nampally	Devathapally	1124	1450	1958	2625	170625	144375	F	II
42.	-do-	Sharbapur	214	276	373	500	32500	27500	F	II
43.	Chintapally	Venkatampet	1503	1939	2618	3598	228150	193050	F	II
44.	-do-	Neivalapally	1094	1411	1905	2554	166010	140470	F	II
45.	Nampally	Pasunur	2811	3626	4895	6563	426595	360965	F	II
46.	-do-	Tirumalagiri	766	988	1334	1789	116220	98340	F	II
47.	-do-	Kethapally	548	707	955	1280	83200	70400	F	II
48.	Gurramkode	Amloor	525	677	914	1225	79625	67375	SFD	V
			52726	68018	91840	123261	8012225	6779575	25 (F) 23 (SFD)	

ZONE - IV PHASE II

No.of Villages 1

No.of Hamlets..... 1

1	2	3	4	5	6	7	8	9	10	11
1.	Marriguda	Marriguda	2614	3372	4552	6103	396695	335658	F	II
2.	Marriguda	Kondur	853	1100	1485	1991	129415	109505	F	II
3.	Marriguda	Maruqandlapalli	2932	3784	5108	6849	445185	376695	F	II
4.	Marriguda	Tiruqandlapalli	1339	1727	2331	3126	203190	171930	F	II
5.	Marriguda	Thammadapalli	778	1004	1355	1817	118105	99935	F	II
6.	Chintapalli	Godukondla	2407	3105	4193	5620	365300	309100	F	II
7.	Chintapalli	Polepalliramnagar	1808	2332	3148	4221	274365	232155	F	II
8.	Chintapalli	Ma[illegible]unapur	686	885	1195	1602	104130	88110	F	II
9.	Chintapalli	Takkadapalli	1172	1512	2041	2737	177905	150535	F	II
10.	-do-	Chakalisherpalli	614	792	1069	1434	93210	78870	F	II
11.	-do-	Umapur	401	517	698	936	60840	51480	F	II
12.	-do-	Kurmad	2673	3348	4655	6241	405665	342255	F	II
13.	-do-	Kurmapalli	3697	4769	6438	8632	561080	474760	F	II
14.	-do-	Vinjamur	4414	5694	7687	10306	669890	566830	F	II
15.	-do-	P.K.Mallepalli	712	918	1239	1662	108030	91410	F	II
		TOTAL	27100	34859	47193	63277	4113005	3480235	15 (F)	

ZONE - V PHASE II.

No.of Villages 29

No.of Hamlets...35

1	2	3	4	5	6	7	8	9	10	11
1.	Nampalli	Ammanpur	1250	1612	2176	2917	189670	160490	F	II
2.	-do-	Nampalli	2889	3727	5031	6745	438490	371030	F	II
3.	-do-	Chittempad	756	975	1316	1764	114725	97075	F	II
4.	Marriguda	Vaddepalli	501	205	1777	2382	242255	204985	F	II
5.	Nampalli	S.Lingatam	1504	1980	2619	3511	228215	193105	F	II
6.	Marriguda	Wattipalli	1596	2059	2780	3727	242255	204985	F	II
7.	Nampalli	Damera	1366	1762	2379	3190	207205	175395	F	II
8.	Marriguda	Bhimanpalli	3570	4605	6217	8335	541775	458425	F	II
9.	-do-	Batlapalli	396	511	690	925	60125	50875	F	II
10.	-do-	Lankalapalli	1197	1544	2084	2794	181675	153725	F	II
11.	-do-	Sarampet	1104	1424	1922	2577	167505	141735	F	II
12.	-do-	Indurthi	5429	7003	9454	12675	823875	697125	F	II
13.	-do-	Medichandapur	1109	1431	1932	2590	163735	135545	F	II
14.	-do-	Namapur	1185	1529	2064	2767	179855	152185	F	II
15.	-do-	Antampet	935	1206	1628	2183	141895	120065	F	II
16.	-do-	Somarajugudem	946	1220	1647	2208	14352	121420	F	II
17.	-do-	K.B.Palli	3306	4265	5758	7720	501800	428800	F	II
18.	-do-	Venkepalli	834	1076	1453	1948	126620	107140	F	II
19.	Nampalli	Hydalapur	127	164	221	297	19305	16335	F	II
20.	-do-	T.P.Gourarām	1236	1594	2152	2885	187525	158675	F	II
21.	-do-	Mallepurajupalli	944	1218	1644	2205	143325	121275	F	II

1	2	3	4	5	6	7	8	9	10	11
22.	Chintapalli	Gnadugouraram	1910	2464	3326	4460	289900	245300	F	II
23.	-do-	Varkala	812	1047	1412	1895	123175	104225	F	II
24.	-do-	Chintapalli	2957	2815	5150	6905	448825	379775	F	II
25.	-do-	Nasarlapalli	1521	1962	2648	3551	230815	195305	F	II
26.	-do-	Mallaredúypalli	1193	1530	2078	2786	181090	153230	F	II
27.	-do-	Hanumanthulapalli	1174	1514	2044	2740	178100	150700	F	II
28.	-do-	Tirumalapur	222	286	386	518	33617	28490	F	II
29.	-do-	K.Gouraram	614	792	1069	1434	93210	78870	F	II
		TOTAL	42583	53440	75858	100634	6541210	5534870	29 (F)	

ZONE - VI ~ PHASE II

No.of villages 16
No. of Hamlets 19

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1.	Nampally	Peddapur	2928	3777	5099	6836	444340	375900	F	II	
2.	-do-	Nerellapalli	1249	1611	2175	2916	189540	160380	F	II	
3.	-do-	K.Tirumalagiri	105	135	182	242	15866	13420	F	II	
4.	-do-	Somalapalli	1286	1659	2240	3003	195195	165165	F	II	
5.	-do-	Ganugupalli	613	791	1068	1432	93000	78760	F	II	
6.	Chendur	Gundrepally	1557	2009	2712	3636	236340	199980	F	II	
7.	Gurrampode	Pochampally	1348	1610	2174	2914	189410	160270	F	II	
8.	Chandur	Thummanpalli	1286	1659	2240	3003	195195	165165	F	II	
9.	-do-	Donepamula	1656	2136	2884	3866	251290	212630	F	II	
10.	-do-	Nerememetta	1636	2110	2849	3819	248235	210045	F	II	
11.	Gurrampode	Vattikode	1903	2455	3314	4444	288860	244420	F	II	
12.	Chandur	Gattupal	4252	5485	7405	9928	645320	546040	F	II	
13.	-do-	Teredpalli	2717	3504	4730	6342	442230	348810	F	II	
14.	Narayanpur	Wayalapalli	3087	3982	5376	7207	468455	396385	F	II	
15.	-do-	Chillapur	2520	3251	4389	5884	382460	323620	F	II	
16.	-do-	Janagam	3747	4834	6526	8749	568695	481194	F	II	
		TOTAL :	31790	41008	55363	74221	4824365	4082155	16(F)		

PHASE-II

STATEMENT SHOWING THE DEMOGRAPHIC DATA OF VILLAGES IN NALGONDA DISTRICT

CONT - I

Sl. No.	Name of the Mandal.	Name of the Village.	Population SC	Population ST	Cattle Population.	Live stock sheep	Flouride content in ppm.	Existing Sanitary facilities.	No.of school: Elementary.	No.of school: High Schools.	Hospitals.	Dairy Activity	Health Education Activity.	Electr facil.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1.	Anumala	Alwal	291	-	25	25	SFD	OD	2	-	-	-	-	YES
2.	Peddavoora	Chithapalli	146	198	25	25	SFD	OD	1	-	-	-	-	YES
3.	-do-	Peddavoora	699	50	750	150	SFD	PF	1	1	1	-	-	YES
4.	Gurrampode	Mosangi	380	4	900	200	1.80	OD	1	-	-	-	-	YES
5.	-do-	Chepur	507	12	925	250	SFD	OD	1	1	-	+	-	YES
6.	-do-	Bollaram	121	36	512	50	4.00	OD	1	-	-	-	-	YES
7.	-do-	Nadikuda	250	-	975	150	1.90	OD	1	-	-	-	-	YES
8.	Anumala	Mukkamala	122	-	400	100	1.90	OD	1	-	-	-	-	YES
9.	-do-	Venkatadripalem	56	-	15	15	SFD	OD	-	-	-	-	-	YES
10.	-do-	Kosalamarri	37	-	15	15	SFD	OD	-	-	-	-	-	YES
11.	-do-	Yacharam	281	-	200	100	SFD	OD	1	1	-	-	-	YES
12.	Gurrampode	Koppole	980	18	950	150	1.70	OD	1	1	-	-	-	YES
13.	Kangal	Gouraram	118	-	1300	150	SFD	OD	1	-	-	-	-	YES
14.	-do-	Thurkapalli	193	-	400	100	SFD	OD	1	-	-	-	-	YES
15.	Anumala	Marepalli	263	29	1450	150	SFD	OD	1	-	-	-	-	YES
16.	Gurrampode	Kothulapur	73	-	200	100	1.80	OD	1	-	-	-	-	YES
		TOTAL:	4517	347	9042	1730	10(SFD) 6(F)	-	15	4	1	-	-	

PHASE II

ZONE - II

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1.	Gurrampode	Pallepahad	98	-	141	50	2.50	OD	1	-	-	-	-	YES
2.	-do-	Kacharam	69	-	570	50	2.00	OD	1	-	-	-	-	YES
3.	P.A. Pally	G. Enimanpalli	234	-	200	150	SFD	OD	1	—	-	-	-	YES
4.	-do-	Kesahnnenipalli	-	575	100	150	SFD	OD	1	-	-	-	-	YES
5.	-do-	Ghanpalli	129	-	400	100	SFD	OD	1	-	-	-	-	YES
6.	-do-	Polkampalli	191	-	200	120	SFD	OD	1	-	-	-	-	YES
7.	-do-	Gudipalli	568	16	500	100	1.90	PF	1	1	1	-	-	YES
8.	-do-	Ghanpur	356	7	400	100	SFD	OD	1	-	-	-	-	YES
9.	-do-	G.Nemalipur	120	100	25	25	SFD	OD	-	-	-	-	-	YES
10.	-do-	Madhapur	58	414	100	150	SFD	OD	1	-	-	-	-	YES
11.	Pedavoora	Pinnavura	76	-	500	150	SFD	OD	1	-	-	-	-	YES
12.	P.A.Palli	Medaram	313	-	50	150	SFD	OD	1	-	-	-	-	YES
13.	-do-	Tirmalgiri	136	-	50	100	SFD	OD	1	-	-	-	-	YES
14.	-do-	Duggal	294	-	200	200	SFD	OD	1	-	-	-	-	YES
15.	Pedavoora	Pothunur	354	-	800	750	SFD	OD	1	-	-	-	-	YES
16.	-do-	Singaram	400	2	215	100	SFD	OD	1	-	-	-	-	YES
17.	-do-	Pulicherla	161	374	1500	600	SFD	OD	1	1	-	-	-	YES
18.	P.A.Palli	Maddipatla	184	1467	80	250	SFD	OD	1	-	-	-	-	YES
19.	Pedavoora	Utlapalli	77	575	100	200	SFD	OD	1	-	1	-	-	YES
20.	-do-	Parvella	242	1063	2218	500	SFD	OD	1	-	-	-	-	YES
		TOTAL:	4060	4593	8349	3995	17 (SFD) 3 (F)	-	19	2	2	-	-	

PHASE-II

ZONE - III

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1.	Gurrampode	Gurrampode	160	-	950	150	SFD	OD	1	1	1	-	-	YES
2.	-do-	Chamled	440	22	350	150	SFD	OD	1	-	-	-	-	YES
3.	-do-	Tenepalli	211	276	50	50	SFD	OD	1	-	-	-	-	YES
4.	-do-	Mulkalpalli	15	-	200	50	SFD	OD	1	-	-	-	-	YES
5.	Nampalli	G.Mallepalli	2450	-	800	150	2.70	OD	1	-	-	-	-	YES
6.	Peddavoora	Uvtlapalli	77	575	100	200	SFD	OD	1	-	-	-	-	YES
7.	Gurrampode	Sultanpur	137	-	50	50	SFD	OD	1	-	1	-	-	YES
8.	-do-	Juviguda	261	55	120	100	1.90	OD	1	-	-	-	-	YES
9.	-do-	Junutala	112	293	220	50	1.90	OD	1	-	-	-	-	YES
10.	Gurramp	Makkapalli	193	-	375	50	SFD	OD	1	-	-	-	-	YES
11.	-do-	Mylapur	81	-	280	50	SFD	OD	1	-	-	-	-	YES
12.	Nampalli	Thummalapalli	240	-	350	100	1.90	OD	1	-	-	-	-	YES
13.	Gurrampode	Kondapur	2	-	10	10	SFD	OD	1	-	-	-	-	YES
14.	-do-	Shakajipur	156	-	50	50	SFD	OD	1	-	-	-	-	YES
15.	-do-	Parlapalli	58	-	463	50	SFD	OD	1	-	-	-	-	YES
16.	-do-	Palwai	382	9	250	200	1.60	OD	1	-	-	-	-	YES
17.	P.A.Palli	Surepalli	80	-	25	25	SFD	OD	1	-	-	-	-	YES
18.	Chandur	Gummadavalli	464	-	100	150	2.20	OD	1	-	-	-	-	YES
19.	Gurrampode	Kalvapalli	86	6	350	150	1.60	OD	1	-	-	-	-	YES
20.	-do-	Cintaguda	72	-	20	20	SFD	OD	1	-	-	-	-	YES
21.	Nampally	Reballi	101	-	500	100	1.80	OD	1	-	-	-	-	YES
22.	-do-	Medlavai	305	-	800	150	1.80	OD	1	-	-	-	-	YES
23.	-do-	Fakirpur	87	-	120	50	1.70	OD	1	-	-	-	-	YES
24.	-do-	Sunkisala	95	-	150	100	4.00	OD	1	-	-	-	-	YES

ZONE - III

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
25.	Nampally	B.Tummapur	99	30	300	100	1.60	OD	1	-	-	-	-	YES
26.	-do-	Pagidipalli	38	582	150	150	2.80	OD	1	-	-	-	-	YES
27.	-do-	Mustipalli	180	225	500	150	2.20	OD	1	-	-	-	-	YES
28.	Devarakonda	K.Mallepalli	215	363	75	50	3.60	PF	1	1	-	1	-	YES
29.	-do-	Kolumunthalapad	148	975	150	100	SFD	OD	1	-	-	-	-	YES
30.	-do-	Donial	145	-	50	50	SFD	OD	1	-	-	-	-	YES
31.	-do-	Chinthakuntla	534	968	120	150	SFD	OD	1	-	-	-	-	YES
32.	-do-	Fakirpur	21	-	100	150	SFD	OD	1	-	-	-	-	YES
33.	P.A.Pally	Mallapur	110	584	100	200	SFD	OD	1	-	-	-	-	YES
34.	Deverakonda	Pendlipnkala	189	700	100	150	SFD	OD	1	-	-	-	-	YES
35.	-do-	C.A.Palli	171	151	100	100	SFD	OD	1	-	-	-	-	YES
36.	P.A.Pally	Chilkamarri	197	46	200	150	SFD	OD	1	-	-	-	-	YES
37.	-do-	Rolekal	102	-	200	150	SFD	OD	1	-	-	-	-	YES
38.	-do-	P.A.Palli	576	1770	500	1000	SFD	OD	1	-	-	-	-	YES
39.	Deverakonda	Chennaram	7	591	-	-	SFD	OD	1	-	-	-	-	YES
40.	P.A.Pally	Seripalli	80	-	25	25	SFD	OD	1	-	-	-	-	YES
41.	Nampally	Devatpalli	239	-	800	100	3.40	OD	1	-	-	-	-	YES
42.	-do-	Sherbapur	115	-	150	100	1.90	OD	1	-	-	-	-	YES
43.	Chintapally	Venkatampet	376	403	1200	150	2.80	OD	1	-	-	-	-	YES
44.	-do-	Nelvalpalli	336	26	350	100	1.80	OD	1	-	-	-	-	YES
45.	Nampally	Tirumulagiri	-	-	50	15	1.90	OD	1	-	-	-	-	YES
46.	-do-	Pasnur	556	523	600	150	1.80	OD	1	-	-	-	-	YES
47.	-do-	Ketepalli	228	-	400	100	2.50	OD	1	-	-	-	-	YES
48.	Gurrampode	Amloor	64	-	372	50	SFD	OD	1	-	-	-	-	YES
		TOTAL:	10991	9173	13275	5645	26 (SFD) 22 (F)	-	48	1	2	1	-	

PHASE II

ANNEXURE - IV

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1.	Marriguda	Marriguda	325	113	900	250	5.70	OD	1	1	1	-	-	YES
2.	-do-	Kondur	73	65	450	500	7.20	OD	1	-	-	-	-	YES
3.	-do-	Yeregandlapalli	390	138	950	400	4.90	OD	1	-	-	-	-	YES
4.	-do-	Tirugandlapalli	245	21	800	400	4.50	OD	1	-	-	-	-	YES
5.	-do-	Thammadapalli	139	-	500	400	4.60	OD	1	-	-	-	-	YES
6.	Chintapally	Godukondla	277	1	750	250	2.50	OD	1	-	-	-	-	YES
7.	-do-	Polepalli Ramnagar	184	528	950	150	2.50	OD	1	-	-	-	-	YES
8.	-do-	Madunapur	108	-	427	450	10.00	OD	1	-	-	-	-	YES
9.	-do-	Takkallapalli	136	144	925	400	2.30	OD	1	-	-	-	-	YES
10.	-do-	Chakalisherpalli	89	-	325	250	1.70	OD	1	-	-	-	-	YES
11.	-do-	Umapur	25	-	25	25	5.60	OD	1	-	-	-	-	YES
12.	-do-	Kormed	631	253	953	400	2.60	OD	1	1	-	-	-	YES
13.	-do-	Kurmapalli	325	5	927	450	8.00	OD	1	-	-	-	-	YES
14.	-do-	Vinjamur	775	228	955	400	3.00	OD	1	-	-	-	-	YES
15.	-do-	P.K.Mallepalli	202	-	525	150	6.00	OD	1	-	-	-	-	YES
		TOTAL:	3916	1496	10362	4875	15 (F)	-	15	2	1	-	-	

ZONE - V PHASE II

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1.	Nampally	Mahammadapur	280	-	700	50	1.90	OD	1	-	-	-	-	YES
2.	-do-	Nampalli	490	23	1800	200	1.80	OD	1	1	1	-	-	YES
3.	-do-	Chittempad	269	-	500	50	2.50	OD	1	-	-	-	-	YES
4.	-do-	Veddepalli	288	-	400	500	2.40	OD	1	-	-	-	-	YES
5.	-do-	S.Lingolam	201	60	20	400	2.40	OD	1	-	-	-	-	YES
6.	Marriguda	Mattipalli	212	119	900	200	7.20	OD	1	-	-	-	-	YES
7.	Nampally	Damera	413	38	500	350	6.00	OD	1	-	-	-	-	YES
8.	Marriguda	D. Bhimanpalli	494	238	2450	600	6.00	OD	1	1	-	-	-	YES
9.	-do-	Lankalapalli	279	19	1150	250	1.80	OD	1	-	-	-	-	YES
10.	-do-	Batlapapli	94	-	250	200	9.20	OD	1	-	-	-	-	YES
11.	-do-	Sarampet	334	167	530	250	10.00	OD	1	-	-	-	-	YES
12.	-do-	Indurthy	1007	46	2500	600	10.70	OD	1	-	-	-	-	YES
13.	-do-	Medichandapur	349	-	640	200	6.00	OD	1	-	-	-	-	YES
14.	-do-	Namapur	230	-	1005	200	5.00	OD	1	-	-	-	-	YES
15.	-do-	Anthampet	260	65	1409	200	7.40	OD	1	-	-	-	-	YES
16.	-do-	Somarajugudem	158	291	590	200	5.00	OD	1	-	-	-	-	YES

ZONE - V

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
17.	Marriguda	K.B.Palli	287	363	1560	400	10.00	OD	1	-	-	-	-	YES
18.	-do-	Venkepalli	81	105	620	300	6.40	OD	1	-	-	-	-	YES
19.	Nampally	Hydalapur	17	-	100	50	2.60	OD	1	-	-	-	-	YES
20.	-do-	T.P.Gouraram	225	-	450	150	1.80	OD	1	-	-	-	-	YES
21.	-do-	Mallapurajupalli	261	-	650	200	2.30	OD	1	-	-	-	-	YES
22.	Chintapally	Ghadegouraram	676	9	800	400	3.00	OD	1	1		-	-	YES
23.	-do-	Varkala	284	-	325	150	1.80	OD	1	-	-	-	-	YES
24.	-do-	Chintapalli	587	7	850	250	4.00	PF	1	1	1	-	-	YES
25.	-do-	Nasarlapalli	308	114	700	200	1.70	OD	1	-	-	-	-	YES
26.	-do-	Gouraram	-	597	400	100	2.50	OD	1	-	-	-	-	YES
27.	Chintapally	Hanumanthalapalli	350	230	450	150	1.80	OD	1	-	-	-	-	YES
28.	-do-	Tirumalapur	132	-	150	100	2.50	OD	1	-	-	-	-	YES
29.	-do-	Mallareddypalli	400	-	500	150	1.80	OD	1	-	-	-	-	YES
		TOTAL:	8958	2491	22899	7050	29(F)	-	29	4	2	-	-	

PHASE . II

ZONE - VI

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	Nampally	Peddapur	325	699	560	200	1.90	OD	1	-	-	-	-	YES
2.	Chintapally	Nerallapalli	336	26	350	100	1.80	OD	1	-	-	-	-	YES
3.	Nampally	K.Tirumalagiri	-	-	50	15	1.90	OD	1	-	-	-	-	YES
4.	Nampally	Somalapalli	202	-	1000	150	2.00	OD	1	-	-	-	-	YES
5.	Nampally	Ganugupalli	173	57	402	100	2.20	OD	1	-	-	-	-	YES
6.	Chandur	Gundrapalli	464	-	100	150	2.20	OD	1	-	-	-	-	YES
7.	Gurrampode	Pochampalli	128	-	950	100	2.10	OD	1	-	-	-	-	YES
8.	Nampally	Thummalapalli	240	-	350	100	1.90	OD	1	-	-	-	-	YES
9.	Chandur	Donipamula	419	-	210	200	6.40	OD	1	-	-	-	-	YES
10.	Chandur	Nermetta	249	-	1150	300	5.00	OD	1	-	-	-	-	YES
11.	Gurrampode	Vattikode	294	-	200	100	2.50	OD	1	-	-	-	-	YES
12.	Chandur	Gattuppal	319	189	1600	200	2.40	OD	1	1	-	-	-	YES
13.	Chandur	Teredpalli	301	26	1200	200	2.40	OD	1	-	-	-	-	YES
14.	Narayanpur	Wailapalli	166	1690	1616	200	10.60	OD	1	-	-	-	-	YES
15.	Narayanpur	Chillapur	187	973	670	200	9.40	OD	1	-	-	-	-	YES
16.	Narayanpur	Jangoan	612	1107	1305	300	8.00	OD	1	-	-	-	-	YES
		TOTAL:	4415	4767	11713	2615	16(F)	-	16	1	-	-	-	

LIST OF VILLAGES FOR WHICH OHSR/GLSRs. ARE TO BE CONSTRUCTED WITH DETAILS

Z O N E - I

Sl No.	Name of the Village.	Ultimate population.	Ultimate demand in ltrs.	Capacity OHSR/ Cistern	Staging	Ground level	Low Water Level.	Maximum water level.	REMARKS
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1.	Alwal	2520	138600	60000	9.65	153	162.65	164.72	
2.	Chintapalli	1738	95590	40000(C)	-	165	168.00	169.50	
3.	Peddavoora	P.W.S. SCHEME EXISTING							
4.	Mosangi	P.W.S. SCHEME EXISTING							
5.	Chepur	P.W.S. SCHEME EXISTING							
6.	Bollaram	1424	78320	40000(C)	-	200	203.00	204.50	
7.	Nadikuda	P.W.S. SCHEME EXISTING.							
8.	Mukkamula	916	50380	20000(C)	-	178	181.00	182.50	
9.	Venkatadripalem	2703	148665	60000	9.65	185	197.65	199.75	
10.	Kosalamarri	2661	146355	60000	9.65	186	195.65	197.75	
11.	Yacharam	3238	178090	60000	9.75	190	199.75	201.95	
12.	Koppole	P.W.S. SCHEME SANCTIONED.							
13.	Bowraram	1338	73590	40000(C)	-	180	183.00	184.50	
14.	Thurkapalli	9048	107140	40000(C)	-	187	190.00	191.50	
15.	Marepalli	3164	174020	60000	9.75	195	204.75	206.95	
16.	Kothlapur	856	47080	20000(C)	-	208	211.00	212.50	

PHASE.II

Z O N E - II

1	2	3	4	5	6	7	8	9	10
1.	Pallepahad	796	43780	20000(C)	-	222	225.00	226.50	
2.	Kacharam	P.W.S. SCHEME EXISTING.							
3.	Bhimanpalli	P.W.S. SCHEME EXISTING.							
4.	Kesamanenipalli	1607	88385	40000(C)	-	238	241.00	242.50	
5.	Ghanpalli	916	50380	20000(C)	-	236	239.00	240.50	
6.	Polkampalli	1691	93005	40000(C)	-	235	238.00	239.90	
7.	Gudipalli	P.W.S. SCHEME SANCTIONED.							
8.	Ghanpur	P.W.S. SCHEME EXISTING.							
9.	G.Nemalipur	621	34155	20000(C)	-	250	253.00	254.50	
10.	Madapur	P.W.S. SCHEME EXISTING.							
11.	Pinnavoora	P.W.S. SCHEME EXISTING.							
12.	Medaram	P.W.S. SCHEME EXISTING.							
13.	Tirumalagiri	P.W.S. SCHEME EXISTING.							
14.	Dugyal	2874	158070	60000	9.75	244	253.75	255.95	

Z O N E - II

1	2	3	4	5	6	7	8	9	10
15.	Pothunur	3017	165935	60000	9.75	213	222.75	224.95	
16.	Singaram	2422	133210	60000	9.75	205	214.75	216.85	
17.	Pulicherla	P.W.S. SCHEME EXISTING.							
18.	Waddipatla	5323	242765	100000	9.85	228	237.85	239.95	
19.	Utlapalli	3014	165770	60000	9.75	220	229.75	231.95	
20.	Parvedla	4878	268180	100000	9.85	220	229.85	232.05	

PHASE.II

Z O N E - III

1	2	3	4	5	6	7	8	9	10
1.	Gurrampode	P.W.S. SCHEME SANCTIONED.							
2.	Chamled	4880	268400	100000	9.80	220	229.80	232.00	
3.	Tenepalli	P.W.S. SCHEME EXISTING.							
4.	Mulkalpalli	731	40205	20000(C)	-	245	248.00	249.50	
5.	G.Mallepalli	P.W.S. SCHEME EXISTING.							
6.	Uvtlapalli	1222	67210	20000(C)	-	260	263.00	264.50	
7.	Sultanpur	1406	77330	40000(C)	-	270	273.00	274.50	
8.	Juviguda	3750	206250	80000	9.75	215	224.75	226.95	
9.	Junutala	P.W.S. SCHEME EXISTING.							
10.	Makkapalli	2168	119350	40000	9.65	260	269.65	271.75	
11.	Mylapur	1126	61930	20000(C)	-	238	241.00	242.50	
12.	Tummalapalli	1595	87725	40000(C)	-	290	293.00	294.50	
13.	Kondapur	P.W.S. SCHEME EXISTING.							
14.	Shakajipur	P.W.S. SCHEME EXISTING.							
15.	Parlapalli	260	14300	5000(C)	-	258	261.00	262.50	
16.	Palwai	P.W.S. SCHEME EXISTING.							

Z O N E - III

1	2	3	4	5	6	7	8	9	10
17.	Surepalli	674	34870	10000(C)	-	270	273.00	274.50	
18.	Gummadavalli	2643	145365	60000(	9.65	271	280.65	282.75	
19.	Kalvapalli	1483	81510	40000(C)	-	260	263.00	264.50	
20.	Chintaguda	1310	72050	40000(C)	-	272	275.00	276.50	
21.	Kepalli	P.W.S. SCHEME EXISTING.							
22.	Medlavai	P.W.S. SCHEME EXISTING.							
23.	Fakirpur	700	38500	20000(C)	-	295	298.00	299.50	
24.	Sunkisala	905	49775	20000(C)	-	295	298.00	299.50	
25.	B.Timmapur	P.W.S. SCHEME SANCTIONED.							
26.	Pagidipalli	162	41910	20000(C)	-	290	293.00	294.50	
27.	Mustipalli	P.W.S. SCHEME EXISTING.							
28.	K.Mallepalli	P.W.S. SCHEME EXISTING.							
29.	Kolumunthal-pad.	4012	220605	80000	9.75	276	285.75	287.95	
30.	Donial	1193	65615	40000(C)	-	244	247.00	248.50	
31.	Chinthakuntla	P.W.S. SCHEME EXISTING.							
32.	Fakirpur	P.W.S. SCHEME EXISTING							

PHASE.II

Z O N E - III

1	2	3	4	5	6	7	8	9	10
33.	Mallapur	2762	151910	60000	9.75	223	232.75	234.95	
34.	Pendlipakala	P.W.S. SCHEME SANCTIONED.							
35.	C.A. Palli	1868	102740	40000(C)	-	277	280.00	281.50	
36.	Chilkamarro	1879	103345	40000(C)	-	260	263.00	264.50	
37.	Rolekal	1005	55225	40000(C)	-	242	245.00	246.50	
38.	P.A. Palli	P.W.S. SCHEME EXISTING.							
39.	Chennaram	2952	162360	60000	9.75	300	309.75	311.95	
40.	Seripalli	5256	289080	100000	9.85	300	309.85	312.85	
41.	Devatpalli	P.W.S. SCHEME EXISTING.							
42.	Sherbapur	500	27500	10000(C)	-	270	273.00	274.50	
43.	Venkatampet	3593	193050	80000	9.75	304	313.75	315.95	
44.	Nelvalpalli	P.W.S. SCHEME EXISTING							
45.	Pasunur	P.W.S. SCHEME EXISTING							
46.	Tirumalgiri	1789	98340	40000(C)	-	291	294.00	295.50	
47.	Ketepalli	1280	70400	40000(C)	-	300	303.00	304.50	
48.	Amloor	1225	67571	20000(C)	-	210	213.00	214.50	

PHASE.II Z O N E - IV

1	2	3	4	5	6	7	8	9	10
1.	Marriguda	P.W.S.Scheme existing.							
2.	Kondur	P.W.S.Scheme existing.							
3.	Yerragandlapalli	P.W.S.SCheme existing.							
4.	Tirugallapalli	P.W.S.Scheme existing.							
5.	Tammadapalli	P.W.S.Scheme existing.							
6.	Godukandla	P.W.S.Scheme existing.							
7.	Polepalli Ramnagar	P.W.S.Scheme existing.							
8.	Madunapur	1195	88110	40000 (C)	-	457.00	460.00	461.50	
9.	Takkallapalli	P.W.S.Scheme exisitng.							
10.	Chakalisharpalli	1434	78810	20000 (c)	-	445.00	448.00	449.50	
11.	Umapur	936	51480	20000 (C)	-	440.00	443.00	444.50	
12.	Kormad	P.W.S.Scheme existing.							
13.	Kurmapalli	P.W.S.Scheme existing.							
14.	Vinjamur	P.W.S.Scheme existing.							
15.	P.K.Mallepalli	1662	91440	40000 (C)	-	381.00	384.00	385.50	

PHASE.II **Z O N E - V**

1	2	3	4	5	6	7	8	9	10
1.	Mohammadapur	P.W.S.Scheme existing.							
2.	Nampalli	P.W.S.Scheme existing.							
3.	Chittampad	P.W.S.Scheme existing.							
4.	Vaddepalli	P.W.S.Scheme existing.							
5.	S.Lingolam	P.W.S.Scheme sanctioned.							
6.	Mettipalli	P.W.S.Scheme sanctioned.							
7.	Damera	P.W.S.Scheme existing.							
8.	D.Bhimanpalli	P.W.S.Scheme existing.							
9.	Bestlapalli	p.W.S.Scheme existing.							
10.	Lakalapalli	P.W.S.Scheme sanctioned.							
11.	Serampet	P.W.S.Scheme sanctioned.							
12.	Indurthy	P.W.S.Scheme existing.							
13.	Medichandapur	2590	129500	40000	9.65	335.00	345.65	346.75	
14.	Nemapur	P.W.S.Scheme existing.							
15.	Anthampet	P.W.S.Scheme existing.							
16.	Somarajugudem	2208	110400	40000	9.65	340.00	349.65	351.75	
17.	K.B.Palli	P.W.S.Scheme existing.							
18.	Venkatapalli	1988	97400	40000(C)	-	340.00	343.00	344.50	

1	2	3	4	5	6	7	8	9	10
19.	Hydalapur	297	16335	5000(C)	-	361	361.00	365.50	
20.	T.P.Gouraram	2085	158675	60000	9.75	340	349.75	351.95	
21.	Mallapurajupalli	P.W.S.Scheme existing.							
22.	Chadegouraram	P.W.S.Scheme existing.							
23.	Varkala	1895	104225	40000(C)	-	360	363.00	364.50	
24.	Chintalpalli	P.W.S.Scheme existing.							
25.	Nagarapalli	3551	195305	60000(	9.75	362	371.75	373.95	
26.	Gouraram	1434	78870	20000(C)	-	365	368.00	369.50	
27.	Hanumanthalapalli	P.W.S.Scheme existing.							
28.	Tirumalapalli	518	28490	10000(C)	-	354	357.00	358.50	

PHASE.II

ZONE -VI

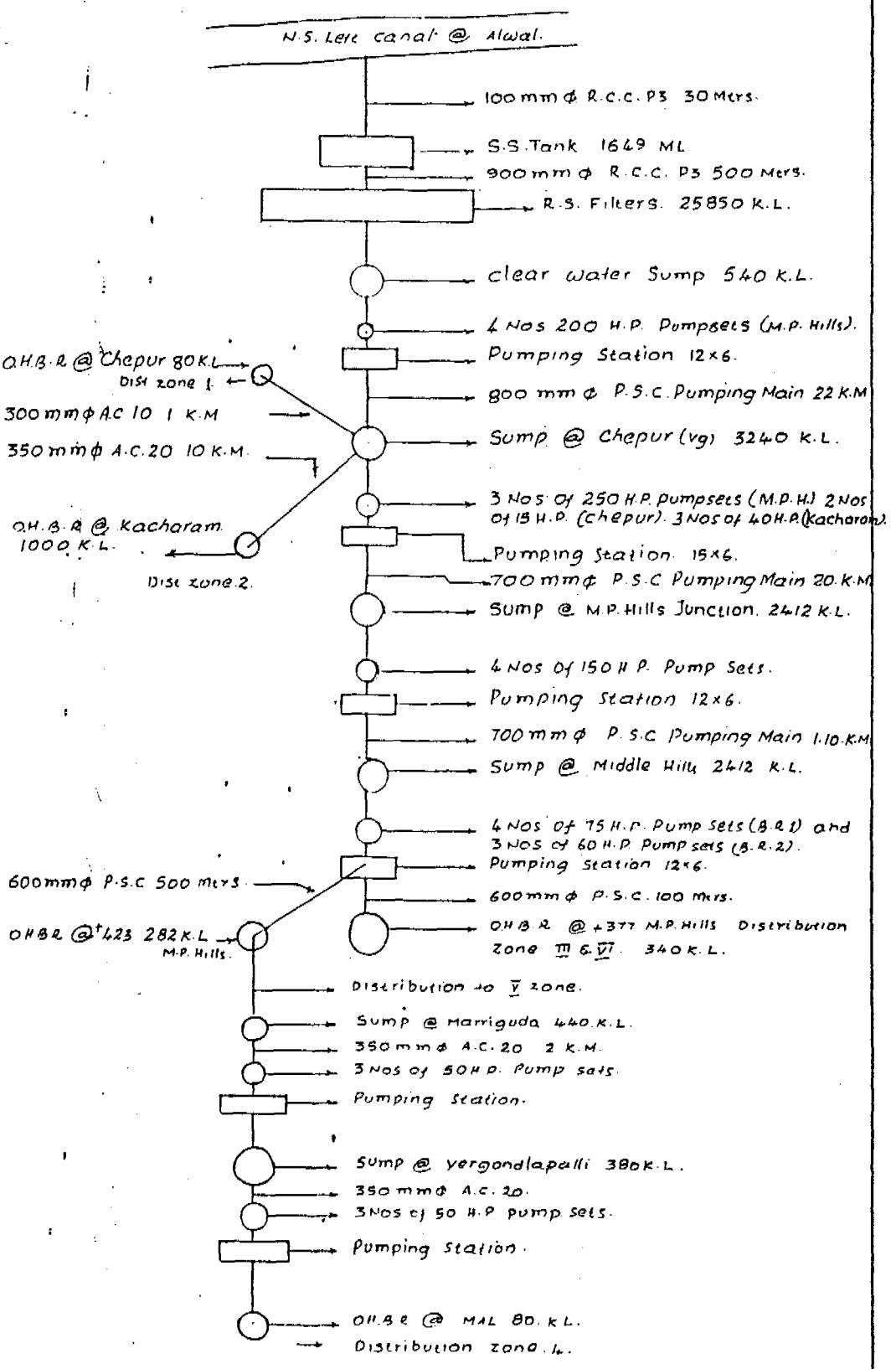
1	2	3	4	5	6	7	8	9	10
1.	Peddapur	6836	275980	150000 (C)	9.85	290	299.85	302.55	
2.	Nerellapalli	2946	160380	60000 (C)	9.75	290	299.75	301.95	
3.	K.Tirumalgiri	242	13420	5000 (C)	-	305	308.00	309.50.	
4.	Somalapalli	3003	165165	60000 (C)	9.75	245	254.75	256.95	
5.	Ganugapalli	P.W.S. Scheme existing.							
6.	Gundrepalli	3636	199980	80000 (C)	9.75	250	259.75	261.95	
7.	Pochampalli	2914	160270	60000 (C)	9.75	244	254.75	256.95	
8.	Tummalapalli	3003	165165	60000 (C)	9.75	290	299.75	301.95	
9.	Donipamula	P.W.S. Scheme existing.							
10.	Nermetta	P.W.S.Scheme existing.							
11.	Vattigode-	4444	244420	80000 (C)	9.75	255	264.75	266.95	
12.	Gattuppal	P.W.S. Scheme existing.							
13.	Teredpalli	6343	348810	100000 (C)	9.85	315	324.85	327.50	
14.	Wailapalli	P.W.S. Scheme existing.							
15.	Chillapur	5884	323620	100000 (C)	9.85	330	339.85	342.55	
16.	Janagam	P.W.S. Scheme existing.							

Lay Out Plan

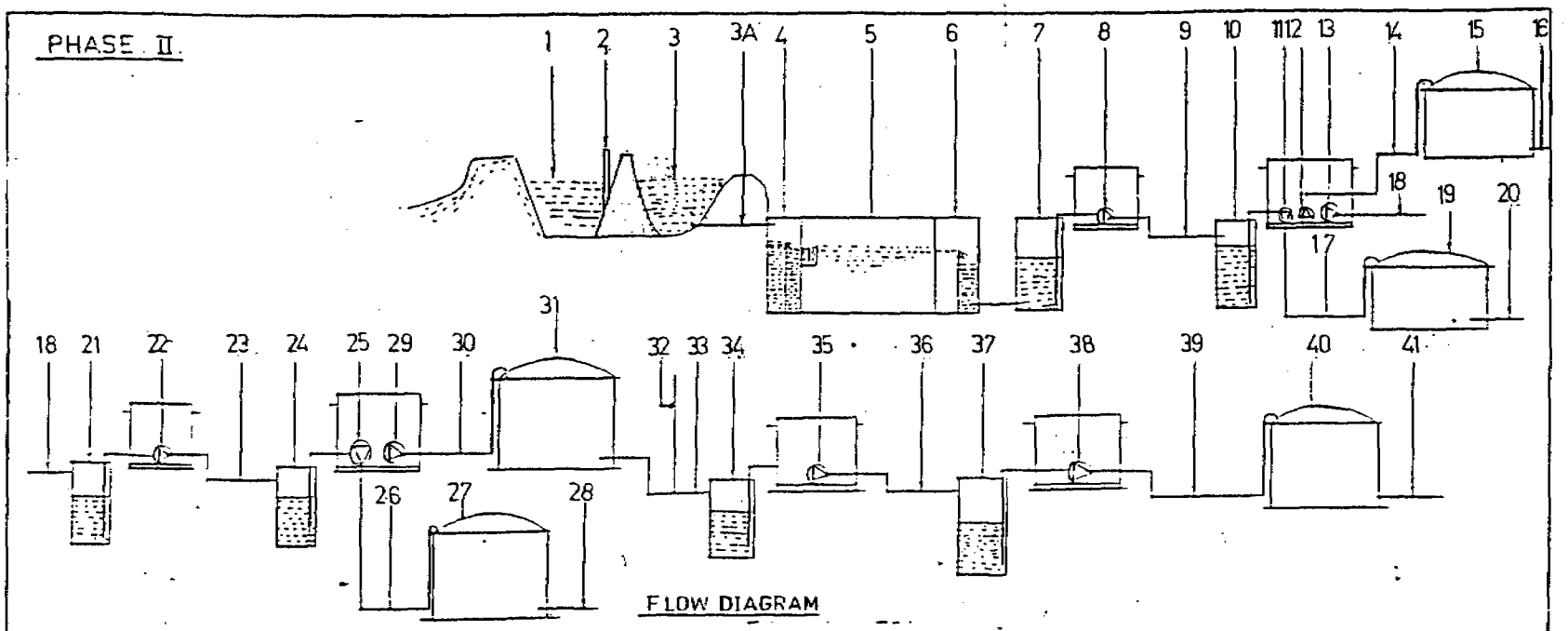
MAP. A.P. III.

C.P.W.S. Schemes to 144 (vgs) in Nalgonda District.

Phase II.



PHASE II



FLOW DIAGRAM

1. Nagarjuna Sagar Left Canal at Alwal
2. Sluice (offtake point) with screen mesh
3. S.S.Tank - capacity - 1649000 M³
3.a. Connecting main - 900 mm dia - 500 Rmt.
4. Inlet weir box
5. Rapid Sand Filters
6. Outlet weir box
7. Clear Water Sump - 540 KL
8. Clear Water Pump Sets(Centrifugal) 4 Nos 200 HP
9. Clear Water Pumping Main - 800 mm dia PSC Pipes - 22 Kms.
10. Sump at Chepur - 3240 KL
11. Clear Water Pump Sets - (Centrifugal) 2 Nos - 15 HP
12. Clear Water Pump Sets -(Centrifugal) 3 Nos - 40 HP
13. Clear Water Pump Sets -(Centrifugal) 4 Nos -150 HP
14. Clear Water Pumping main 350 mm dia Ac.Cl.20 pipes - 10 Kms.
15. OHBR @ Kacharam - 1.00 lakh ltrs.
16. Distribution to Zone.II
17. Clear Water Pumping main - 300 mm dia Ac.Cl.10 pipes - 1 KM.
18. Clear Water Pumping Main 700 mm dia PSC Pipes - 20 KMs.
19. OHBR @ Chepur - 80000 litres.
20. Distribution to ZONE.I.
21. Sump at Mahammadapur Hill Junction - capacity - 2412 KL.
22. Clear Water Pump Sets (Centrifugal) 4 Nos - 150 HP.
23. Clear Water Pumping Main - 700 mm dia PSC Pipes - 1.10 KM.
24. Sump at Middle of the Hillock-2412 KL
25. Clear Water Pump Sets(Centrifugal) 3 Nos - 65 HP.
26. Clear Water Pumping Main - 600 mm dia PSC Pipes - 100 mtrs.
27. Balancing Reservoir on the Hillock (+377.00) - 340 KL
28. Distribution to ZONE.III & VI.
29. Clear Water Pump Sets -(Centrifugal) 4 Nos - 75 HP.
30. Clear Water Pumping Main - 600 mm dia PSC Pipes - 500 mtrs.
31. Balancing Reservoir on the Hillock (+423.00) - 282 KL.
32. Distribution to ZONE.V
33. Clear Water Gravity Main.
34. Sump at Marrigude - 440 KL
35. Clear Water Pump Sets (Centrifugal) 3 Nos - 50 HP
36. Clear Water Pumping Main - 350 mm dia Ac.Cl.20 - 2 KMs.
37. Sump at Yerragandlapalli - 380 KL.
38. Clear Water Pump Sets (Centrifugal)- 3 Nos - 50 HP
39. Clear Water Pumping Main - 350 mm dia - Ac.Cl.20- 8 KM.
40. Balancing Reservoir at Mal - 80000 litres.
41. Distribution to ZONE.IV.

TECHNICAL DESIGNS - PHASE - II

No. of villages : 144

Prospective population : 349987 Say 3,50,000

Ultimate population : 469370 Say 4,70,000

I.a Connecting pipe from Canal to Filters(Raw Water):

Raw Water Supply = 65 litre/head/day

Daily demand = $\frac{470000 \times 65}{16 \times 60}$ = 31823 LPM

Dia pipe = $0.76\ (31823)^{0.46}$ = 895 mm

Provide 900 mm dia RCC P2 Class pipe for a length of 30 metres.

b Connecting pipe from Canal to S.S.Tank(Tank to be filled in 30 days)

Demand = $\frac{470000 \times 65 \times 45 \times 1.2}{30 \times 16.60}$ = 57281.25 LPM

Dia of pipe = $0.76(57281)^{0.46}$ = 1173 mm

Provide 1200 mm RCC P2 pipe for 30 mtrs. length.

II. S.S.Tank:

Ultimate daily demand = 470000x65 = 30550000 litres.

Water requirement for 45 days = 30550000x45=1374750000

Add 20% losses for evaporation & obsorption for 45 days = = 274950000

Total: = 1649700000 litres.

or 1649 M.L. or (58.26 mcft.)

Adopting size of Tank as = 900 x 750 mt.

Depth required $= \frac{1649700}{900 \times 750} = 2.44 + 0.16$ dead storage.

$= 2.60$ mtrs.

Existing average depth is $= \frac{2.1 + 0 + 1.0 + 0}{4}$

$= 0.8$ mtrs.

Hence 1.8 mtrs. to be deepened on average.

III. Raw Water Gravity Main to Filter Beds from S.S.Tank:

1. Ultimate daily demand = 30550000 litres.

2. L.B.M. $= \frac{30550000}{16 \times 60} = 31,823$

Dia $= 0.76\ (31823)^{0.46} = 895.50$ mm

Provide 900 mm dia RCC P3 Class Pipe for a length of 500 Rmt.

IV. Rapid Sand Filters:

1. Daily demand = Ultimate population x L.P.C.D.

= 470000 x 55 = 25850000 litres.

= or 25850 cumt. or 25850 K.L.

2. Area $= \frac{25850}{5 + (16 \times 2.5)} = 574.44$ Sq.mt.

Say = 575 Sq.mtrs.

3. No.of Units $= 0.5 \sqrt[3]{575} = 4.15$ Nos.

Provide 5 Nos of 120 Sq.mtrs. each.

Total Area (600 Sq.mtrs.)

V. Clear Water Sump:

1. Daily demand = 25850000 litres.

2. Capacity(½ hr.) = $\frac{25850000}{24 \times 2}$ = 538541.60 litres.
or 540 K.L.

VI. Pumping Station = 12 x 6 mt

VII. Pump Sets: Pump water from Filter to Chepur Sump.

1. Prospective daily demand = 350000 x 55 litres.

2. Rate of Supply = $\frac{350000 \times 55}{16 \times 60}$ = 20052.08
say = 20100 LPM.

3. Head - Static 57 + 3 = 60.00
Loss for 22 KM = 13.64
Other = 6.36
80.00 mt.

H.P. = $\frac{20100 \times 80}{4500 \times 0.6}$ = 595.55 Say 600 H.P.

Provide 4 Nos of 200 H.P. included One Standby

VIII. Pumping Main: Pumping Main from Filter Unit to Chepur Sump

Rate of Supply = $\frac{470000 \times 55}{960}$ = 26927.08
say 27,000 LPM

Dia = $0.76 (27000)^{0.46}$ = 830.30 mm

Provide 800 mm dia PSC 16 Kg/cm^2 pipes - 22 KM

IX. Sump at Chepur:

Capacity (2 Hours) = 27000x120 = 3240000 litres.
or 3240 K.L.

X. Pumping Station: 15 x 6 mt.

XI. Pump Set: Chepur Sump to Mahamadapur Hill Junction.

Prospective population (Total-Zone.I+II) = 350000 - 80500 = 269500

Rate of Supply = $\frac{269500 \times 55}{960}$ = 15440.10 LPM.

Say 15500 LPM

Head - Static = 69.03

Pipe Line = 12.40

Others = 8.57

90.00 mtrs.

H.P. $\frac{15500 \times 90}{4500 \times 0.6}$ = 516.66

Provide 3 Nos of 250 H.P. included One Stand-by

XII. Pumping Main: Chepur to M.P.Junction

Population excluding Zone.I +II = 470000 - 107900

= 362100

Demand = $\frac{362100 \times 55}{960}$ = 20745.31

Say 20,800 LPM.

Dia = $0.76 (20800)^{0.46}$ = 736.40 mm.

Provide 700 mm dia PSC 18 Kg/cm^2 - 20 KM.

XIII. Sub Pumping Main: Chepur Sump to Chepur OHBR to Supply Zone I villages excluding Enroute villages.

1. Prospective population = 28600
2. Ultimate = 38300

Ultimate demand = $\frac{38300 \times 55}{960}$ = 2194.27

Say 2200 LPM.

Dia = $0.76 \phi 2200^{0.46}$ = 262 mm

Provide 300 mm dia Ac.Class.10 - 1 KM

XIV. O.H.B.R. At Chepur:

Capacity (1|2 Hour) = 2200 x 30 = 66000 litres.

Say = 80000 litres.

XV. Low Lift Pump Set: Chepur Sump to Chepur O HBR

1. Prospective demand = $\frac{28600 \times 55}{960}$ = 1638.54

Say = 1640 LPM

2. Head = 22.2 Static

= 1.40 Friction

= 1.40 Other

25.00 mtrs.

H.P. = $\frac{1640 \times 25}{4500 \times 0.6}$ = 15.19

Provide 2 Nos of 15 H.P. including standby

XVI. O.H.B.R. at Kacharam: Excluding one enroute village.

Ultimate population (Zone.II) = 55891

Prospective = 41687

Ultimate demand = 55891 x 55 = 3074005 litres.

Period of pumping = 16 Hours

Rate of Pumping = $\frac{3074005}{16 \times 60}$ = 3205 LPM

Capacity(1/2 Hr.) = 3205x30 = 96150 litres.

Provide 1,00,000 litres.

XVII. Sub Main from Chepur Sump to Kacharam OHBR:

Length = 10 K.M.

Dia = $0.76\ (3205)^{0.46}$ = 31.15 Cm.

Provide 350 mm dia Ac.Cl.20 - 10 K.M.

XVIII. Pump Set: Lift water from Chepur Sump to Kacharam OHBR.

Prospective demand = $\frac{41687 \times 55}{960}$ = 2390 LPM

Head = Static = 77.7

= Friction = 7.3

= Other = 5.0

90.0 mtrs.

H.P. = $\frac{2390 \times 90}{4500 \times 0.6}$ = 80 H.P.

Provide 3 Nos of 40 H.P. including Stand-by.

XIX. Sump at Mahammadapur Hillock Junction:

Ultimate population = 362100 - 11500

excluding enroute villages= 3,50,600

Demand = $\frac{350600 \times 55}{960}$ = 20086.50 LPM.

Say = 20,100 LPM.

Capacity (2 Hours) = 20100x120 = 2412000 litres.

or = 2412 K.L.

XX. Pumping Main from Junction to Middle of Mahammadapur:

Distance = 1.10 K.M.

Demand = 20100 LPM

Dia = $0.76(20100)^{0.46}$ = 72.49 cm.

Provide 700 mm dia PSC 18 Kg/cm^2

Pumping Station 12 x 6 mt.

XXI. High Lift Pump Set: From Junction to Middle Hill of Mahamadapur:

Prospective population = 269500 - 8600 = 260900

Demand = $\frac{260900 \times 55}{960}$ = 14947.39 Say 15000 LPM.

Head = Static = 80.73

Frinction = 0.67

Other = 3.60

85.00 mt.

H.P. = $\frac{15000 \times 85}{4500 \times 0.6}$ = 472.22

Provide 4 Nos of 150 H.P. including Stand-by.

XXII. Sump at Middle: Hill of Mahamadapur:

Same as Junction = 2412 K.L.

Pumping Station -12 x 6 mt.

XXIII. Pumping Main: - From Middle Hill to B.R.(+423)

Length = 0.50 KM.

Population Zone.V&IV - 163911 Say 164000 litres.

Ultimate demand = $\frac{164000 \times 55}{960}$ = 9395.80

Say = 9400 LPM.

Dia = $0.76(9400)^{0.46}$ = 51.10 cm.

Provice 600 mm dia PSC 18 Kg/cm^2

XXIV. B.R. at (+423.00):

Capacity (½ Hour) = 9400 x 30 = 282000 litres.

= 282 K.L.

XXV. Pump Set : Middle to B.R1.

Prospective = 122251

Demand = $\frac{122251 \times 55}{960}$ = 7004 LPM.

Head - Static = 81.80
Friction = 4.50
Other = 0.70
87.00 mt.

H.P. = $\frac{7004 \times 87}{4500 \times 0.6}$ = 225 H.P.

Provide 4 Nos of 75 H.P. including Stand-by.

XXVI. Pumping Main - :from Middle to BR2 (+377)

Length.. = 0.10 K.M.

Ultimate Population = 123265
Zone VI+III 16 villages) = 74221
197486 Say 197500

Demand. = $\frac{197500 \times 55}{960}$ = 11315 Say 11320 LPM.

Dai = 076 $(11320)^{0.46}$ = 55.66 cm.

Provide 600 mm dia - 18 Kg/cm^2

XXVII. B.R.2 (+337):

Capacity (½ Hour) = 11320 x 30 = 339600 litres.
Say = 340 K.L.

XXVIII. Pump Set: Middle to B.R.2:

Prospective III & VI = 91840 + 55865 = 147203
Say = 147300

Demand = $\frac{147300 \times 55}{960}$ = 8439 LPM

Head - Static = 35.64
Friction = 0.06
Other = 2.30
38.00

H.P. = $\frac{8439 \times 38}{4500 \times 0.6}$ = 118.77

Provide 3 Nos of 60 H.P. including Stand-by.

XXIX. Sump at Marriguda (For IV Zone);

Ultimate population = 63277

Ultimate demand = $\frac{63277 \times 55}{960}$ = 3625.25

or = 3626 LPM.

Capacity (2 Hours) = 3626 x 120 = 435.12 K.L.

or = 440 K.L.

XXX. Pumping Main from Marriguda to Yeragandlapally

Distance = 2 K.M.

Ultimate Demand = 3626 LPM

Dia(= $(3626)^{0.46} \times 0.76$ = 32.97 cm.

Provide 350 mm dia Ac.Cl.20.

XXXI. Pump Set at Marriguda:

Prospective population = 47193

Demand = $\frac{47193 \times 55}{960}$ = 2704 LPM.

Head - Static = 88.00

Friction = 3.30

Other = 3.70

95.00 mtrs.

H.P. = $\frac{2704 \times 95}{4500 \times 0.6}$ = 95.14

Provede 3 Nos. of 50 H.P.

XXXII. Sump at Yeragandla pally:

Ultimate demand (excluding Marriguda) = $\frac{55183 \times 55}{960}$ = 3162 LPM.

Capacity(2 Hours) = 3162 x 120 = 37944 LPM.

or = 380 K.L.

XXXIII. Pumping Main from Yeragandlapally to Mal B.R.

Dia = $0.76(3162)^{0.46}$ = 309.59 cm.

Provide 350 mm dia Ac.Cl.20 - 8 K.M.

XXXIV. Pump Set at Yeragandlapally:

Demand = 2360 LPM.

Static Head = 82.50

Friction = 13.20

Other Losses = 4.30

100.00 mtrs.

H.P. = $\frac{2360 \times 100}{4500 \times 0.6}$ = 87.50

Provide 3 Nos. of 50 H.P.

XXXV. B.R. at Mal:

Ultimate population = 55183 - 11792

(excluding Yeragandlapally) = 43391

Demand = $\frac{43391 \times 55}{960}$ = 2490 LPM.

Capacity (½ Hour) = 2490 x 30 74700 litres.

Say = 80,000 litres.

P H A S E - II

ABSTRACT ESTIMATES FOR TECHNICAL COMPONENTS

Name of works: Providing C.P.W.S.Scheme to 144 Revenue villages including 238 Hamlets in Nalgonda District.

(Taking Nagarjuna Sagar Left Canal water at Alwal as Source of Supply)

Estimated Cost:Rs. Lakhs.

Sl No.	Description	No.	Rate	Per	Amount Rs.in lakhs
1	2	3	4	5	6
	HEAD WORKS AT ALWAL:				
1.	(Construction of sluice,connecting main, collection well low lifting pumps, low lifting pumping station, construction of S.S. Tank, R.S. filter,clear water sump, high lifting pumps, pumping station, internal connections etc.)		AS PER SUB-ESTIMATE.I.		268.24
2.	CHEPUR SECTOR WORKS:				
	(Pumping main from Alwal to Chepur, low lifting pump sets to pump water from Chepur sump to Chepur Balanceing Reservoir, and Kacharam B.R., high lifting pump sets to pump water from Chepur sump to Mahammadapur Hill junction sump including c/o. sump, B.R. & Pumping station at Chepur.		AS PER SUB-ESTIMATE-II.		531.90
3.	KACHARAM SECTOR WORKS:				
	(Pumping main from Chepur Sump to Kacharam BR C/o. B.R. at Kacharam)		AS PER SUB-ESTIMATE.III		108.00
4.	MAHAMMADAPUR HILL JUNCTION WORKS:				
	(Pumping main from Chepur sump to Mahammadapur Hill Junction sump construction of sump, high lifting pump sets and pumping stations at Mahammadapur Hill Junction.)		AS PER SUB-ESTIMATE.IV		385.54

1	2	3	4	5	6
5.	MAHAMMADAPUR HILL SECTOR WORKS:				
	(Pumping main from Mahammadapur hill junction sump to sump at Middle hill, high lifting pump sets, sub-mains from Middle hill sump to BR1&BR2 constructions of Middle hill sump, pumping station at Middle hill construction of BR1 & BR2 on top of Mahammadapur Hills.	AS PER SUB-ESTIMATE.V.			84.68
6.	MARRIGUDA SECTOR WORKS:				
	(Pumping main from Marriguda to Yerragandla pally sump low lift pump sets, C/o. Sump, pumping station at Marriguda.)	AS PER SUB-ESTIMATE.VI.			29.46
7.	YERRAGANDLAPALLI & MAL SECTOR WORKS:				
	(Pumping main from Yerragandlapalli sump to BR at Mal low lift pump sets, construction of sump, pump station at Yerragandlapalli and construction of BR at Mal.	AS PER SUB-ESTIMATE.VII			94.51
8.	Laying of gravity lines connecting varous villages including cost of valves, chambers, OHSRs.,GLSRs., Internal Distribution P.S.P. & Boosters, etc., complete.				
	ZONE. 1	AS PER SUB-ESTIMATE. VIII			120.37
	ZONE. 2	AS PER SUB-ESTIMATE. IX			196.15
	ZONE. 3	AS PER SUB-ESTIMATE. X			447.39
	ZONE. 4	AS PER SUB-ESTIMATE. XI			90.32
	ZONE. 5	AS PER SUB-ESTIMATE. XII			450.76
	ZONE. 6	AS PER SUB-ESTIMATE. XIII			403.83
9.	Construction of Office Building , Officers quarters, Staff quarters, Guest House, water quality laboratory.				38.85
					3250.00
10.	Add 15% for Tender premia.				488.00
					3738.00

1	2	3	4	5	6

FINANCIAL PLAN:	RS. IN LAKHS
1st year 1994-95	2500.00
Add 21% for escalation from 92-93 to 94-95.	525.00
2nd year 1995-96	800.00
33.1% price escalation 95-96	264.80
3rd year 1996-97	300.00
46.41% price escalation 96-97.	139.23
4th year 1997-98	138.00
61.05% price escalation 97-98.	84.25
	4750.48
Add 10% for Contingencies.	475.05
	5225.53
Add 12.5% for establishment charges (7.5% for MS charges 4% for PS charges 1% for T&P charges	653.47
TOTAL:	5879.00

ABSTRACT ESTIMATE

SUB - ESTIMATE.I

Name of work: Head works at Alwal, (Construction of sluice connecting main, collection well low lifting pumps, low lifting pumping station, construction of S.S.Tank, R.S.Filter clear water sump high lifting pumps, pumping station, internal connections etc.,)

Sl. No.	Description	Qty	Rate	per	Amount in Lakhs.
1	2	3	4	5	6
1.	Construction of R.C.C.Pipes sluice (Canal sluice) with necessary wire mesh, MS rods, shutters etc., complete at OH N.S. Left canal near Alwal Village.	1 No.	3.00	Each	3.00
2.	Construction of Summer Storage tank of about 3833 million litres capacity for a canal closure period of 45 days storage capacity including formation of tank, inlet outlet arrangements etc., complete.	1 No.	85.00	Each	85.00
3.	Raw Water connection main from S.S.Tank to filter units 900 mm dia P.S.C.Pipes.	500 m	1140/-	Rmt.	5.70
4.	Construction of Rapid Sand filters including inlet and outlet arrangements, necessary filter media, under drainage system (25850 Kilo litres).	25850 K.L	0.56	Litre	145.00
5.	Construction of clear water sump (540 Kilo litres)	540 K.L	0.75		4.10
6.	4 Nos of 200 HP pumpsets to pump water from clear water sump to Ceper sump.	800	3000 HP		24.00
7.	Construction of 12 x 6' pumping station at clear water sump.	72 Sqm.	2000/-	Sqm.	1.44
			Total Rs. in Lakhs.		268.24

ABSTRACT ESTIMATE

SUB - ESTIMATE - II

Name of work: Chepur sector works (pumping main from Alwal to Chepur, low lifting pump sets to pump water from Chepur sump to Chepur BR and Kacharam BR, high lifting pump sets to pump water from Chepur sump to Mohammadapur Hill JN sump including c/o sump, pump station at Chepur).

Sl. No.	Description	Qty	Rate	per	Amount Rs. in Lakhs.
1	2	3	4	5	6
1.	Supply, delivery of P.S.C. 800 mmØ pipes with all taxes including (a) earth work excavation of trenches of required size in all soils except rock which requires balasting (b) Lowering, laying of the pipes to ture to alignment and gradient in the trenches (c) Jointing the pipes as per standard specifications using C.I.specials, valves wherever necessary (d) Testing the pipe line to the required pressure (e) Refilling the trenche with excavated soils with watering and tamping etc., complete for 800 mm Ø P.S.C. pipes of 18 Kg/Cm^2 pumping main No.I.	22000 Rmt	2139.40	Rmt.	471.00
2.	Construction of sump well at Chepur of capacity 3240 K. litres.	3240000	0.75	Lit.	24.30
3.	Construction of over head Balancing Reservoir at Chepur village of 80,000 litres capacity including necessary pipe connections.	80000 litres	4.00	Lit.	3.20
4.	Supply, delivery and errection of centrifugal pump wets of 15 HP capable of discharging 1640 lpm to a head of 25 m imcluding necessary panel boards with all accessaries controling devices, earth connection etc., complete.	2 Nos. 30 HP	3000/-	HP	0.90
5.	Supply, delivery of 300 mm Ø Ac cl.10 pipes with all taxes including (a) Earth work excavation of trenches of required size in all soils except rock which requires blasting (b) lowering, laying of the pipes to true to alignment and gradient in the trenches (c) Jointing the pipes as per standard specification using C.I.specials,	1000 mts	458.70	Rmt.	4.60

1	2	3	4	5	6
	valves wherever necessary (d) Testing the pipe line to the required pressure (e) Refilling the trench with excavated soils with watering and tamping etc., complete.				
6.	Construction of pumping station at Chepur of size 15 x 6m including all arrangements etc., complete to pump water from Chepur sump to (a) Chepur OHBR (b) Kacharam BR (c) Mohammadapur hill junction sump.	1 No. 90 Sqm.	2000/-	Sqmt.	1.80
7.	Supply, delivery and errection of centrifugal pump sets of 40 HP capable of discharging 2390 lpm. to a maximum head of 90m including necessary panel boards with all accessaries. Controlling devices, earth connections etc., complete.	3 Nos. 120 HP	3000/-	HP	3.60
8.	Supply, delivery and errection of centrifugal pump sets of 250 HP including necessary panel boards with all accessaries controlling devices, earth connections etc., complete.	3 Nos. 750 HP	3000/-	HP	22.50
				Total Rs.	531.90

ABSTRACT ESTIMATE

SUB-ESTIMATE - III

NAME OF WORK: Kacharam Sector works(Pumping main from Chepur Sump to Kacharam BR Construction of Balancing Reservoir at Kacharam).

Sl No.	Description	Qty.	Rate	Per	Amount
1.	2.	3.	4.	5.	6.
1.	Supply,delivery of 350 mm dia Ac.Cl.20 pipes with all taxes including (a) earth work excavation of trenches of required size in all soils except rock which requires blasting(b) lowering,laying of the pipes to true to alignment and gradient in the trenches (c)jointing the pipes as per standard specifications using C.I.Specials, valves wherever necessary(d)testing the pipe line to the required pressure (e) refilling the trench with excavated soils with watering and tamping etc.,complete pumping main II(Chepur to Kacharam.	10000 M	1035.20	Rmt.	104.00
2.	Construction of 100000 litres capacity OHBR at Kacharam including necessary pipe connection.	100000 litres.	4.00	Lit.	4.00
					108.00

ABSTRACT ESTIMATE

SUB-ESTIMATE - IV

NAME OF WORK: Mahammadapur Hill Junction works(pumping main from Chepur sump to Mahammadapur Hill Junction sump construction of Sump, high lifting pump sets and pumping stations at Mahammadapur Hill Junction).

Sl No.	Description	Qty.	Rate	Per	Amount Rs. in lakhs
1	2	3	4	5	6
1.	Supply,deli very of PSC 700 mm dia pipes with 18 Kg/cm^2 with all taxes including required size in all soils except rock which req ires blasting (b) lowering,laying of the pipes to true to alignment and gradient in the trenches (c) jointing the pipes as per standard specifications using C.I.Specials,valves wherever necessary (d) testing the pipe lines to the requires pressure (e) refilling the trench with excavated soils with watering and tamping etc., complete from Chepur Sump to Mahammadapur Hill junction sump. (Pumping main.III).	2000 mtrs.	1829.10	Rmt.	366.00
2.	Construction of 2412 KL capacity sump at Hill Junction with all arrangements etc., complete.	2412000 litres.	0.75	Lit.	18.10
3.	Construction of 12 x 6 m pumping station at Hill Junction including all arrangements etc., complete.	72 Sqm.	2000/-	Sqm.	1.44
					385.54

ABSTRACT ESTIMATE

SUB-ESTIMATE - V

NAME OF WORK: Mahammadapur Hill Sector works(Pumping main from Mahammadapur Hill Junction sump to Sump at Middle Hill, high lifting pump sets, sub-mains from Middle Hill sump to BR.1 & BR.2 construction of Middle Hill sump, pumping station a t Middle Hill construction of BR.1 to BR2 on top of Mahammadapur Hills.

Sl No.	Description	Qty.	Rate	Per	Amount Rs. in lakhs
1	2	3	4	5	6
1.	Supply,delivery of PSC 700 mm dia pipes of 18 Kg/cm^2 including all taxes and (a) earth work excavation of trenches of required size in all soils except rock which requires blasting(b) lowering, laying of the pipes to true to alignment and gradient in the trenches (c) jointing the pipes as per standard specification using C.I.specials, valves wherever necessary (d) testing the pipe line to the required pressure (e) refilling the trench with excavated soils with watering and tamping etc., complete.	1100 Rmt.	1829.10 Rmt.		20.12
2.	Supply,delivery and errection of 150 HP centrifugal pump sets at hill junction sump including necessary panel boards,contolling divices, earth connections etc., complete.	6 Nos 600 HP	3000/-	HP	18.00
3.	Construction of 2412 KL sump at Middle of the Hill with all arrangements etc., complete.	2412000	0.75	Lit.	18.10
4.	Supply, delivery of PSC 600 mm dia pipes with 18 Kg/cm^2 to pump water from Middle Hill sump to B R .1 (422.915) with taxes and				

1	2	3	4	5	6
	(a) earth work excavation of trenches of required size in all soils except rock which requires blasting (b) lowering, laying of the pipes to true to alignment and gradient in the trenches (c) jointing the pipes as per standard specification using C.I.Specials,valves, wherever necessary (d) testing the pipe line to the required pressure (e) refilling the trench with excavated soils with watering and tamping etc.,complete.	0.50 mtrs.	1518.80	Rmt.	7.60
5.	Supply,delivery and errection of 75 HP centrifugal pump sets to pump water from Middle Hill sump to B.R.1 including necessary panel boards,controlling devices, earth connections etc., complete.	300 HP	3000/-	HP	9.00
6.	Construction of 282 KL capacity B.R.1 at 422.915 level including necessary pipe connections etc., complete.	282000	0.56	Lit.	1.60
7.	Supply,delivery of PSC 600 mm dia of 18Kg/cm^2 Middle Hill sump to B.R.2 at 377.00 m level with all taxes including (a) earth work excavation of trenches of required size in laying of the pipes to true to alignment and gradient in the trenches (c) jointing the pipes as per standard specification using C.I.Specials valves wherever necessary (d) testing the pipe line to the required pressure (e) refilling the trench with excavated soils with water and tamping etc.,complete.	100 mtrs.	1518.80	Rmt.	1.52
8.	Supply,delivery and errection of 60 HP centrifugal pump sets to pump water from Middle hill sump to B.R.2 at 377.00 level including necessary panel towards, controlling devices, earth connections etc., complete.	3 Nos 180 HP	3000/-	HP	5.40

1	2	3	4	5	6
9.	Construction of 12 x 6 m size pumping station at Middle Hill sump including all arrangements etc., complete.	72 Sqmt.	2000/-	Sq/mt.	1.44
10.	Construction of 340 KL capacity B.R.2 at 377.00 lelvel including necessary pipes connections etc., complete.	340000 litres.	0.56	Lit.	1.90
					84.68

ABSTRACT ESTIMATE

SUB - ESTIMATE - VI

Name of work: Marriguda Sector works. Pumping main from Marriguda to Yerragandlapalli sump low lift pumpsets, c/o sump, pumping station at Marriguda.

Sl. No.	Description	Qty	Rate	Per	Amount Rs. in Lakhs.
1	2	3	4	5	6
1.	Construction of 440 Kilo litres capacity sump at Marriguda with all necessary arrangements complete.	440000 litres	0.75	lit.	3.30
2.	Supply,, delivery and errection of 50 Hp centrifugal pump sets to pump water from Marriguda sump to Erragandlapalli sump including necessary panel boards, controlling divices, earth connections etc., complte.	3 Nos. 150 HP	3000/-	HP	4.50
3.	Construction of 8 x 6m size pumping station at Marriguda sump including all arrangements etc., complete.	48 Sqm.	2000/-	Sqmt.	0.96
4.	Supply, delivery of 350 mmØ Ac Cl.20 pipes to pump water from Marriguda sump to Erragandlapalli sump.	2000 Rmt	1035.20	Rmt	20.70
					29.46

ABSTRACT ESTIMATE

SUB - ESTIMATE.VII

Name of work: Yerragandlapalli & Mal sector works (Pumping main from Yerragandlapalli sump to BR at Mal low lift pump sets, construction sump, pumping station at Yerragandlapalli and construction of BR at Mal.

Sl. No.	Description	Qty	Rate	per	Amount Rs. in Lakhs.
1	2	3	4	5	6
1.	Construction of 380 Kilo litres capacity sump at Yerragandlapalli	380000	0.75	Lit	2.85
2.	Supply, delivery and errection of 50 HP centrifugal pump sets to pump water from Yerragandlapalli sump to BR at Mal.	3 Nos. 150 HP	3000/-	HP	4.50
3.	Construction of pumping station of size 8 x 6m at Yerragandlapalli sump including all arrangements etc., complete.	48 Sqm.	2000/-	Sqm.	0.96
4.	Supply, delivery of 350 mm ø Ac Cl.20 pipes to pump water from Yerragandlapalli sump to BR at Mal (527.54)	8000 Rmt.	1035.20	Rmt.	83.00
5.	Construction of 80 Kilo litres capacity BR at Mal.	80000	4.00	Lit.	3.20
					94.51

PHASE.II - ZONE - I

SUB-ESTIMATE NO.VIII FOR DISTRIBUTIO SYSTEM

Sl No.	Description		Qty.	Rate	Per	Amount in lakhs
1	2		3	4	5	6
1.	Supply, delivery of Ac.Cl.10/15/20 pipes with all taxes and (a) earth work excavation of trenches of required size in all soils except hard rock which requires blasting (b) lowering, laying of the pipes true to alignment and gradient in the trenches and jointing the pipes as per standard specifications (c) refilling the trenches with excavated soils including watering and tamping and testing the pipe lines to the required pressure etc., complete.					
a)	Ac.Cl.10	80 mm dia	2000 M	118.10	Rmt.	2.36
		150 mm dia	6000 M	201.65	"	12.06
		200 mm dia	2000 M	292.30	"	5.84
		250 mm dia	5000 M	359.95	"	18.00
2.	Supply, delivery of RCC P2/P3 class pipes with all taxes and (a) earth work excavation of trenches of required size in all soils except hard rock which requires blasting (b) lowering, laying of the pipes true to alignment and gradient in the trenches and jointing the pipes as per standard specifications (c) refilling the trenches with excavated soils including watering and tamping and testing the pipe lines to the required pressure etc., complete.					
	R.C.C. - P2	125 mm dia	1000 M	186.30	Rmt.	1.87
		200 mm dia	2000 M	237.70	"	4.75
		300 mm dia	5000 M	237.70	"	11.90
	R.C.C. - P3	80 mm dia	8000 M	129.20	"	10.32
		100 mm dia	2000 M	153.05	"	3.06
		125 mm dia	4000 M	214.00	"	8.56
		200 mm dia	5000 M	286.70	"	14.35

1	2	3	4	5	6
3.	Construction of V.R.C.C. over head service Reservoir of the following capacities with required stagings to the villages where there are no existing OHSRs/Cisterns.				
	OHSRs:- 60,000 litres capacity				
		5 Nos	3.50 lakhs	1 Lit.	10.50
	Cisterns:-				
	20,000 litres capacity				
		2 Nos	2.75 lakhs	-do-	1.10
	40,000 litres capacity				
		4 Nos	1.70 lakhs	-do-	2.70
4.	Amount for internal distribution system including S.C. Localities and S.T.Localities and Main village Hamlets, etc., complete using AC/RCC/HDPE/PVC Pipes with necessary public stand posts, valves valve chambers including necessary G.I.Pipes and Specials wherever requires.				
	Village with OHSRs.	5 Nos	2.00 lakhs	1 No	10.00
	Villages with Cisterns	6 Nos	0.50 lakhs	1 No	3.00

				Total:	Rs,120.37 lakhs

PHASE -II - ZONE - II

SUB-ESTIMATE NO.IX FOR DISTRIBUTION SYSTEM

Sl No.	Discription		Quantity	Rate	Per	Amount in lakhs
1.	2.		3.	4.	5.	6.
1.	Supply,delivery of AC.Cl.10/15/20 pipes with all taxes and (a) Earth work excavation of trenches of required size in all soils except hard rock which requires blasting (b) Lowering, laying of the pipes true to alignment and gradient in the trenches and joinfing the pipes as per standard specifications (c) Refilling the trenches with excavated soils including watering and tamping and testing the pipe lines to the required pressure etc., complete.					
	Ac.Cl.10	100 mm dia	2000 m	136.85	Rmt.	2.74
		125 mm dia	7500 m	169.05	"	12.68
		150 mm dia	10200 m	201.65	"	20.56
		200 mm dia	8000 m	292.30	"	23.40
		250 mm dia	2800 m	359.95	"	10.00
		300 mm dia	13800 m	458.70	"	63.35
		350 mm dia	2500 m	616.60	"	15.40
	Ac,Cl.15:-	80 mm dia	5500 m	119.00	"	6.50
		100 mm dia	5400 m	141.80	"	7.61
2.	Construction of V.R.C.C. Over Head Service Reservoir of the following capacities with required stagings to the villages where there are no existing OHSRs/Cisterns.					
	OHSRs:-	60,000 litres capacity	4 Nos	3.50	Lit	8.40
		100,000 -do-	2 Nos	4.00	"	8.00

1	2	3	4	5	6
2.	Cisterns:- 20,000 litres capacity.	3 Nos	2.75	Lit.	1.65
	40,000 litres capacity.	2 Nos	1.70	"	1.36
3.	Amount for internal distribution system including S.C.localities and S.T.localities and main village Hamlets etc., complete using AC/RCC/ HDPE/PVC pipes with necessary public stand posts, valves, valve chambers including necessary G.I.pipes and Specials wherever required.				
	Villages with OHSRs+-	6 Nos	2.00 lakhs	1 No	12.00
	Villages with Cisterns	5 Nos	0.50 lakhs	1 No	2.50
				Total Rs.:	196.50 lakhs

PHASE - II - ZONE - III

SUB-ESTIMATE NO.X FOR DISTRIBUTION SYSTEM

Sl No.	Description		Qty.	Rate	Per	Amount in lakhs
1.	Supply,delivery of Ac.Cl.10/15/20 Pipes with all taxes and (a) Earth work excavation of trenches of required size in all soils except hard rock which requires blasting (b) lowering, laying of the pipes true to alingment and gradient in the trenches and jointing the pipes as per standard specifications (c) refilling the trenches with excavated soils including watering and tamping and testing the pipe-lines to the required pressure etc., complete.					
	Ac.Cl.10	100 mm dia	1000 m	136.85	Rmt.	1.37
	Ac.Cl.15	80 mm dia	10500m	119.00	Rmt.	12.50
		100 mm dia	7500 m	141.80	Rmt.	10.64
		125 mm dia	1000 m	180.25	Rmt.	1.80
		150 mm dia	13000m	226.25	Rmt.	29.41
		200 mm dia	12000m	344.90	Rmt.	41.39
		250 mm dia	2500 m	427.35	Rmt.	10.69
		300 mm dia	4000 m	571.35	Rmt.	22.85
		350 mm dia	9000 m	1022.00	Rmt.	92.02
	Ac.Cl.20	80 mm dia	14800 m	124.05	Rmt.	18.35
		100 mm dia	5000 m	165.50	Rmt.	8.30
		125. mm dia	13000 m	200.80	Rmt.	26.00
		150 mm dia	2000 m	263.85	Rmt.	5.28
		200 mm dia	9500 m	429.45	Rmt.	52.21

1	2	3	4	5	6
2.	Construction of V.R.C.C. Over Head Service Reservoir of the following capacities with required stagings to the villages where there are no existing OHSRs/Cisterns.				
	OHSRs: 40,000 litres capacity	1 No	4.50	1 Litre	1.80
	60,000 litres capacity	3 Nos	3.50	"	6.30
	80,000 litres capacity	3 Nos	4.00	"	9.60
	1,00,000 litres capacity	2 Nos	4.00	"	8.00
	Cisterns:				
	5,000 litres capacity	1 No	3.50	1 Litre	0.18
	10,000 litres capacity	2 Nos	3.50	1 Litre	0.70
	20,000 litres capacity	7 Nos	2.75	1 Litre	3.85
	40,000 litres capacity	10 Nos	1.70	1 Litre	6.80
3.	Amount for internal distribution system including S.C.Localities and S.T.Localities and main village Hamlets etc. complete using AC/RCC/HDPE/ PVC pipes with necessary Public stand posts, valves, valve chambers including necessary G.I.Pipes and Specials wherever required.				
	Villages with OHSRs.	9 Nos	2.00	1 No	18.00
	Villages with Cisterns	20 Nos	0.50	1 No	10.00
				Total:	Rs.447.39 lakhs

PHASE.II - ZONE - IV

SUB-ESTIMATE NO.XI FOR DISTRIBUTION SYSTEM

Sl No.	Description		Qty.	Rate	Per	Amount in lakhs
1	2		3	4	5	6
1.	Supply, delivery of Ac.Cl.10/15/20 pipes with all taxes and (a) earth work excavation of trenches of required size in all soils except hard rock which required blasting (b) lowering, laying of the pipes true to alignment and gradient in the trenches and jointing the pipes as per standard specifications (c) refilling the trenches with excavated soils including watering and tamping and testing the pipe lines to the required pressure etc.,complete.					
	Ac.Cl.10	100 mm dia	1000 M	136.85	Rmt.	1.37
		300 mm dia	2000 M	458.70	Rmt.	9.17
	Ac.Cl.15	80 mm dia	6000 M	119.00	Rmt.	7.14
		100 mm dia	3000 M	141.80	Rmt.	4.26
		250 mm dia	3500 M	427.35	Rmt.	19.21
	Ac.Cl.20	80 mm dia	4000 M	124.05	Rmt.	4.96
		125 mm dia	1000 M	165.50	Rmt.	1.66
		150 mm dia	4000 M	200.80	Rmt.	8.03
		200 mm dia	4000 M	263.85	Rmt.	10.52
		250 mm dia	4000 M	429.45	Rmt.	17.16
2.	Supply, delivery of RCC P2/P3 class pipes with all taxes and (a) earth work excavation of trenches of required size in all soils except hard rock which requires blasting (b) lowering, laying of the pipes true to alignment and gradient in the trenches and jointing the pipes as per standard specifications (c) refilling the trenches with excavated soils including watering and tamping and testing the pipe lines to the required pressure etc., complete.					
	R.C.C. P-2	300 mm dia	1000 M	237.70	Rmt.	2.38

1	2	3	4	5	6
3.	Construction of VRCC over head service reservoir of the following capacities with required stageings to the villages where there are not existing OHSRs/ Cisterns.				
	Cisterns: 20,000 litres capacity	2 Nos.	2.75	1 litre	1.10
	40,000 litres capacity	2 Nos.	1.70	1 litre	1.36
4.	Amount for internal distribution system including S.C. localities and S.T. localities and main village hamlets etc. complete using AC/RCC/HDPE/PVC pipes with necessary publish standposts, valves, valve chambers including necessary G.I.Pipes and specials where ever required.				
	Villages with Cisterns.	4 Nos.	0.50	1 No.	2.00
					90.32

PHASE - II - ZONE - V

SUB-ESTIMATE NO.XII FOR DISTRUBITION SYSTEM

Sl. No.	Discription		Qty.	Rate	Per	Amount in lakhs
1	2		3	4	5	6
1.	Supply,delivery of Ac.Cl.10/15/ 20 Pipes with all taxes and (a) Earth work excavation of trenches of required size in all soils except hard rock which required blasting (b) lowering laying of the pipes true to alignment and gradient in the trenches and jointing the pipes as per standard specifications (c) refilling the trenches with excavated soils including watering and tamping and testing the pipe lines to the required pressure etc., complete.					
	Ac.Cl.10.	80 mm dia	4500 m	118.10	Rmt.	5.32
		125 mm dia	2500 m	169.05	"	4.23
		300 mm dia	2000 m	458.70	"	9.17
	Ac.Cl.15.	80 mm dia	14500 m	119.00	"	17.26
		100 mm dia	3000 m	141.80	"	4.25
		150mm dia	500 m	226.25	"	1.13
		200 mm dia	14000 m	344.90	"	48.28
		250 mm dia	7000 m	427.35	"	29.92
		300mm dia	21000 m	571.35	"	119.98
	Ac.Cl.20	300 mm dia	3500 m	745.25	"	26.08
		350 mm dia	4500 m	1035.20	"	46.58
		500 mm dia	6000 m	1963.65	"	117.82

1	2	3	4	5	6
2.	Construction of V.R.C.C. Over Head Service Reservoir of the following capacities with required stagings to the villages where there are no existing OHSRs/Cisterns.				
	OHSRs: 40,000 litres capacity	2 Nos	4.50	1 Lite	3.60
	60,000 litres capacity	2 Nos	3.50	"	4.20
	Cinsterns:				
	5,000 litres capacity	1 No	3.50	1 Litre	0.18
	10,000 litres capacity	1 No	3.50	"	0.35
	20,000 litres capacity	1 No	2.75	"	0.55
	40,000 litres capacity	2 Nos	1.70	"	1.36
3.	Amount for Internal Distribution system including S.C.Localities and S.T.Localities and Main village Hamlets etc. complete using AC/RCC/HDPE/ PVC Pipes with necessary Public Stand Posts, Valves, Valve Chambers including necessary G.I.Pipes and Specials wherever required.				
	Villages with OHSRs.	4 Nos	2.00	1 No.	8.00
	Villages with Cisterns	5 Nos	0.50	1 No.	2.50
				Total:	Rs. 450.76 lakhs

PHASE.II - ZONE - VI

SUB-ESTIMATE NO.XIII FOR DISTRIBUTION SYSTEM

Sl. No.	Discription		Qty.	Rate	Per	Amount Rs. in Lakhs.
1	2		3	4	5	6
I.	Supply, delivery of Ac.cl.10/Cl15/ Cl.20 pipes with all taxes and (a) Earthwork excavation of trenches of required size in all soils except hard rock which required blasting (b) Lowering, laying of the pipes true to alignment and gradient in the trenches and jointing the pipes as per standard specifications (c) Refilling the trenches with excavated soils including watering and tamping and testing the pipe lines to the required pressure etc., complete.					
	Ac. Cl.10:	350 mm dia	8500 m	617.00	Rmt.	52.44
		300 mm dia	13000 m	459.00	Rmt.	59.67
		250 mm dia	1500 m	360.00	Rmt.	5.40
	Ac. Cl.15:	400 mm dia	14000 m	1022.00	Rmt.	143.08
		250 mm dia	6500 m	427.00	Rmt.	27.76
		150 mm dia	3000 m	226.00	Rmt.	6.78
		100 mm dia	3000 m	142.00	Rmt.	4.26
	Ac. Cl.20:	350 mm dia	2000 m	1035.00	Rmt.	20.70
		250 mm dia	1500 m	550.00	Rmt.	8.25
		200 mm dia	3500 m	430.00	Rmt.	15.05
		150 mm dia	4000 m	260.00	Rmt.	1056.00
II.	Supply and delivery of P.S.C., 10 Kg/cm^2 pressure pipes will all taxes and (a) Earth work excavation of trenches of require size in all soils except hard rock which requires blasting (b) Lowering, laying of the pipes true to alignment and gradient in					

1	2	3	4	5	6
	the trenches and jointing the pipes as per standard specifications. (c) Refilling the trenches with excavated soils including watering and tamping and testing the pipe line to the required pressure, etc., complete.				
	800 mm dia	1000 m	2140.00	Rmt.	21.40
III.	Construction of VRCC over Head Service Reservoir of the following capacities with required stagings to the villages where there are no existing OHSRs/ Cisterns.				
	O.H.S.Rs:- 1,50,000 litres capacity	1 No.	3.00	litre	4.50
	1,00,000 litres capacity	2 Nos.	4.00	litre	8.00
	80,000 litres capacity	1 No.	4.00	litre	3.20
	60,000 litres capacity	1 No.	3.50	litre	2.10
	G.L.S.Rs:- 5,000 litres capacity	1 No.	3.50	litre	0.18
IV.	Amount for internal distribution system including S.C. localities and S.T localities and main village hamlets etc., complete using AC/RCC/HDPE/PVC pipes with necessary public stand posts, valves, valve chambers including necessary G.I.Pipes and specials wherever required.				
	Villages with O.H.S.Rs.	5 Nos.	2.00	each	10.00
	Villages with G.L.S.Rs.	1 No.	0.50	each	0.50
					403.83

Phase- II

ZONE - I

HYDRAULIC REPORT

MWL 227.20

Sl. No.	Designation of pipe line	Ultimate population to be served	Ultimate Daily Demand @ 55 LPCD	LPM Considering 16 Hours	Dia of Pipe Proposed	Loss of Head in 1000 mts.	Length of pipe line in mts.	Total loss in mts.	H.G.L at start of line	H.G.L End of line	GL	Residual head in mts.	Static Head in mts.	Class of pipes
	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	A6 to A5	7312	402160	420	125	3.80	1000	3.80	225.00	221.20	210.00	11.20	17.20	RCCP2
2.	A6 to A7	30950	1702250	1773	250	1.75	5000	8.75	225.00	216.25	180.00	36.25	47.20	Ac Cl
3.	A7 to $A7^1$	1424	78320	82	80	1.60	4000	6.40	216.25	209.85	200.00	9.85	27.20	RCCP3
4.	A7 to A8	10374	570570	594	150	3.55	3000	10.65	216.25	205.60	178.00	27.60	49.20	Ac Cl
5.	A8 to $A8^1$	856	47080	49	80	0.65	4000	2.60	205.60	203.00	188.00	15.00	39.20	RCCP3
6.	A8 to A9	8602	473110	493	150	2.70	3000	8.10	205.60	197.50	185.00	12.	42.20	Ac Cl
7.	A9 to A10	5899	324445	338	200	0.25	2000	0.50	197.50	197.00	186.00	11.00	41.20	Ac Cl
8.	A10 to A11	3238	178090	186	200	0.05	5000	0.25	197.00	196.75	190.00	6.75	37.20	RCCP3
9.	A 7 to A12	16385	901175	939	300	0.25	5000	1.25	216.25	215.00	205.00	10.00	22.20	RCCP2
10.	A12 to $A12^1$	9935	546425	569	200	0.70	2000	1.40	215.00	213.60	208.00	5.60	19.20	RCCP2
11.	$A12^1$ to A15	1338	73590	77	80	1.48	1000	1.48	213.60	212.12	180.00	32.12	47.20	Ac Cl
12.	A12 to A13	5112	281160	293	125	1.99	4000	7.96	215.00	207.04	200.00	7.04	27.20	RCCP3
13.	A13 to $A13^1$	1948	107140	112	80	2.99	1000	2.99	207.04	204.05	187.00	17.05	40.20	Ac Cl
14.	A13 to A14	3164	174020	181	100	2.45	2000	4.90	207.04	202.14	195.00	7.14	32.20	RCCP3

Phase-II

ZONE - II

HYDRAULIC REPORT

IWL = + 280.00

MWL @ B = + 282.7

Name of the Line	Ultimate population	Ultimate Demand (16 hours (55 lpcd) in ltrs.	in lpm	Dia of pipe line in mm	Loss of Head per 1000 mts	Length of pipe line in mts.	Total loss in mts.	HGL @ Start	HGL @ End	GL	Residual Head in mts.	Static head in mts	C lass of pipe	Re
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
BR at B to B1	55095	3030225	3157	350	1.07	1000	1.17	280.00	278.83	240.00	38.83	42.70	Ac.10	
B1 to B2	54340	2989700	3114	350	1.06	1500	1.74	278.83	277.09	239.00	38.09	43.70	Ac.10	
B2 to B3	8666	476630	497	125	5.40	1500	8.91	277.09	268.18	236.00	32.16	46.70	AC.10	
B3 to B4	7750	426250	444	125	4.30	1000	4.73	268.18	263.45	238.00	25.45	44.70	Ac.10	
B4 to B5	6143	337865	352	100	8.25	2000	18.15	263.45	245.30	235.00	10.30	47.70	Ac.10	
B2 to B6	45674	2512070	2617	300	1.60	1500	2.64	277.09	274.45	240.00	34.45	42.70	Ac.10	
B6 to B7	41887	2303785	2400	300	1.40	4000	6.16	274.45	268.29	235.00	33.29	47.70	Ac.10	
B7 to B8	40196	2210780	2303	300	1.30	2800	4.00	268.29	264.29	226.00	38.29	56.70	Ac.10	
B8 to B9 to B10	36554	2010470	2095	300	1.05	5500	6.35	264.29	257.94	220.00	37.94	62.70	Ac.10	
B10 to B11	1902	104610	109	80	2.90	3000	9.57	257.94	248.37	215.00	33.37	67.70	Ac.15	
B11 to B12	621	34155	36	80	0.36	1500	0.59	248.37	247.78	215.00	32.78	67.70	Ac.15	
B12 to B13	28463	1565465	1631	250	1.65	2800	5.08	257.94	252.86	239.00	13.86	43.70	Ac.10	

1	2	3	4	5	6	7	8	9	10	11	12	13	14
B13 to B 14	4322	237710	248	100	4.30	500	2.36	252.86	250.50	239.00	11.50	43.70	Ac.10
B13 to B15	5328	293040	306	125	2.10	3000	6.96	252.86	245.93	237.00	8.92	45.70	Ac.10
B15 to B16	2874	158070	165	100	2.00	2500	5.50	245.93	240.43	233.00	7.43	49.70	Ac.10
B13 td B17	18813	1034715	1078	200	2.25	4000	9.90	252.86	242.96	228.00	14.96	54.70	Ac.10
B17 to B18	13490	741950	773	200	1.25	4000	5.50	242.96	237.46	230.00	7.46	52.70	Ac.10
B18 to B19	7890	433950	452	150	1.80	4000	7.92	237.46	229.54	222.00	7.54	60.70	Ac.10
B19 tp B20	3014	165770	173	100	2.25	1500	3.71	229.54	225.83	218.00	7.83	64.70	Ac.10
B19 to B21	4876	268180	280	125	1.80	2000	2.37	229.54	227.17	220.00	7.17	62.70	Ac.10
B10 to B22	6189	340395	355	150	1.20	4700	6.20	257.94	251.74	220.00	31.74	62.70	Ac.10
B22 to B23	3017	165935	173	80	6.50	1200	8.58	251.74	243.16	213.00	30.16	69.70	Ac.15
B22 to B24	3172	174460	182	100	2.50	2 200	6.05	251.74	245.69	207.00	38.69	75.70	AC. 15
B24 to B25	750	41250	43	80	0.50	1000	0.55	245.69	245.14	209.00	36.14	73.70	Ac.15
B24 to B26	2422	133210	139	80	4.40	2000	9.68	245.69	236.01	205.00	31.01	77.70	Ac.15

Phase II.

HYDRAULIC STATEMENT FOR ZONE - III

L.W.L. 375.780

M.W.L. 381. 400

Sl No.	Name of pipe-line.	Ultimate population.	Ultimate Daily Demand @ 55 LPCD.	L.P.M. for 16 Hours.	Dia of pipe-line in mm.	Loss of Head for 1000 mtrs. in mtrs.	Length of pipe-line in mtrs.	Total loss of Head in mtrs.	H.G.L. @ Start L.W.L.(9)	H.G.L.@ End. (10 -9)	Ground Level.	Residual Head in mtrs.	Static Head in mtrs.	Class of pipe pro-posed.	REMARKS
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1.	C - C1	110476	6076180	6329	350	3.75	4000	16.50	375.780	359.28	293	66.28	88.40	ACCL - 15	
2.	C1 - C2	95367	5245185	5464	350	2.85	5000.	15.675	359.28	343.605	300	43.605	81.40	CL - 15	
3.	C2 - C3	44989	2474395	2577	300	1.55	2000	3.41	343.605	340.195	299	41.195	82.40	CL - 15	
4.	C3 - C4	44289	2435895	2537	300	1.50	2000	3.30	340.195	336.895	295	41.895	86.40	CL - 15	
5.	C4 - C5	42298	2326390	2423	250	3.50	2500	9.625	336.895	327.270	298	37.270	91.40	CL - 15	
6.	C5 - C6-C7	41536	2284480	2380	250	3.45	8000	30.36	327.270	296.910	275	21.910	106.40	CL - 20	
7.	C7 - C8	33890	1863950	1941	200	6.90	1000	7.59	296.910	289.320	260	29.32	121.40	CL - 20	
8.	C8 - C9	32697	1798335	1873	200	6.40	1500	10.56	289.320	278.76	271	7.760	111.40	CL -20	
9.	C9 - C10	20532	1129260	1176	250	0.85	1500	1.400	278.760	277.360	271	6.350	111.40	CL -20	Dia changing f: 200 t: 150 m
10.	C10 - C11	18664	1026520	1069	200	2.20	2000	4.84	277.360	272.520	260	12.520	121.40	CL -20	
11.	C11 - C12	16785	923175	962	200	1.80	2000	3.96	272.520	268.560	260	8.560	121.40	CL -20	
12.	C12-C13-C14	15780	867900	904	200	1.70	6500	12.155	268.560	256.405	245	11.405	136.40	ACCL -20	
13.	C12- C15	1005	55275	58	100	0.30	1500	0.495	268.560	265.065	262	6.065	119.40	CL -20	
14.	C11 - C16	1879	103345	108	100	0.90	1500	1.485	272.520	271.035	260	11.035	121.40	CL -20	
15.	C9 - C17-C18	12165	669075	697	200	1.00	6000	6.600	278.760	272.160	250	22.160	131.40	CL -20	
16.	C18 - C19	7122	391710	408	150	1.50	3000	4.950	272.160	267.210	250	17.210	131.40	CL -20	
17.	C19 - C20	6626	364430	380	125	3.21	2000	7.480	267.210	259.730	250	9.730	131.40	CL -20	
18.	C20 - C21	3864	212520	221	125	1.20	4000	5.280	259.730	254.450	248	6.450	133.40	CL -20	
19.	C8 - C22	1193	65615	68	80	1.20	1200	1.585	289.320	287.735	244	43.735	137.40	ACCL -20	
20.	C7 - C23-C24	4012	220660	230	125	1.25	5000	6.875	296.910	290.035	276	14.035	106.40	CL -20	

ZONE - III

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
21.	C5 - C25	762	41910	44	80	0.50	2500	1.375	327.270	325.895	290	35.895	91.40	CL - 15	
22.	C4 - C27	1991	109505	114	100	3.00	2500	8.250	336.895	328.645	295	33.645	86.40	CL - 15	
23.	C27 -C26	1086	59730	58	80	1.00	2000	2.200	328.645	326.245	290	36.245	91.40	ACCL - 15	
24.	C2 - C41	16011	880605	917	150	6.75	3000	22.275	343.605	321.330	290	31.330	91.40	ACCL - 15	
25.	C41 - C39	14358	789690	823	150	5.50	4000	24.200	321.330	297.130	290	7.130	91.40	ACCL - 15	
26.	C39 - C40	1595	87725	91	80	2.00	3000	6.600	297.130	290.530	290	52.615	91.40	ACCL - 15	
27.	C39 - C36	12763	701965	731	150	4.45	1000	4.895	297.130	292.235	260	32.235	121.40	CL - 20	
28.	C36 - C37	1089	59895	63	80	0.80	2000	1.760	292.235	290.475	260	30.475	121.40	CL - 20	
29.	C37 - C38	112	6160	7	80	0.10	1000	1.100	290.475	289.375	260	29.375	121.40	CL - 20	
30.	C36 - C34	11674	642070	669	150	3.70	1000	4.07	292.235	288.165	272	16.165	109.40	CL - 20	
31.	C34 - C35	1310	72050	75	80	1.55	1500	2.557	288.165	285.608	272	13.608	109.40	CL - 20	
32.	C34 - C33-C31	10364	570020	594	200	0.75	3000	2.475	288.165	285.690	280	5.690	101.40	CL - 20	Dia chainging 150 to 200
33.	C31 - C32	674	37070	39	80	0.40	2000	0.880	285.690	284.810	270	14.810	111.40	CL - 20	
34.	C31 - C30	4126	226930	236	125	1.30	2000	2.860	285.690	282.830	260	22.830	121.400	CL - 20	
35.	C30 - C29	1483	81565	85	80	1.75	1000	1.925	282.830	280.905	260	65.565	121.400	CL - 20	
36.	C30 - C28	2643	145365	151	100	1.75	1000	1.925	280.905	278.980	271	7.980	110.400	CL - 20	
37.	C2 - C50	31685	1742675	1815	200	5.85	3000	19.305	343.605	324.300	302	22.300	79.400	CL - 15	
38.	C50 - C51	3069	168795	176	100	2.31	3000	23.00	324.300	316.710	291	25.710	90.400	CL - 15	
39.	C51 - C52	1280	70400	73	80	1.40	1500	2.31	316.710	314.400	300	14.400	81.400	CL - 15	
40.	C50 - C53	22053	1212915	1263	200	3.00	4000	13.20	324.300	311.100	304	7.100	77.400	CL - 15	

ZONE - III

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
41.	C53.-C54	500	27500	27	80	0.25	1500	0.415	311.100	310.685	290	20.685	91.40	CL - 15	
42.	C53 - C55	2554	140470	146	80	5.00	5000	27.500	311.100	283.600	260	23.600	121.40	CL - 20	
43.	C53 -C56-C57	15406	847330	883	200	1.600	5000	8.800	311.100	302.300	290	12.300	91.400	CL - 15	
44.	C57 - C58	2625	144375	150	100	1.700	2000	3.740	302.300	298.560	290	8.560	81.400	CL - 15	
45.	C57 - C59	12781	702955	732	150	4.500	1000	4.950	302.300	297.350	290	7.350	91.400	CL - 15	
46.	C59 - C62 - C63.	4573	251515	262	150	0.600	2000	1.320	297.350	296.030	290	6.030	91.400	CL - 15	
47.	C59 - C60	8208	451440	470	150	2.00	3000	1.300	297.350	296.050	290	6.050	81.400	CL -15	
48.	C60 - C61	2952	162360	169	125	0.650	1000	0.715	297.350	296.635	290	6.635	81.400	CL - 15	
49.	C1 - C42	12468	685740	715	125	10.500	3000	34.650	359.280	324.630	270	54.630	111.400	CL - 20	
50.	C42 - C43	1222	67210	70	80	1.400	3000	4.620	324.630	320.010	260	60.010	121.400	CL - 20	
51.	C42 - C44	9840	541200	564	125	6.800	3000	22.440	324.630	302.190	260	42.190	121.400	CL - 20	
52.	C44 - C45	2428	133540	139	80	4.400	2000	9.680	302.190	292.510	260	32.510	121.400	CL - 20	
53.	C45 - C46	260	14300	15	80	0.100	1500	0.165	292.510	292.345	258	34.345	123.400	CL - 20	
54.	C44 - C47	7412	407660	425	100	11.750	4000	51.700	302.190	250.490	240	10.490	140.400	ACCL - 20	
55.	C47 - C48	3750	206250	215	100	3.300	3000	10.890	250.490	239.600	240	24.600	140.400	CL - 20	
56.	C47 - C49	1126	61930	65	100	0.400	3000	1.320	250.490	247.025	238	9.025	131.400	ACCL -20	

Phase-II

HYDRAULIC STATEMENT

ZONE - IV

L.W.L. + 528.450

M.W.L. + 530.000

Sl. No.	Discription of pipe-line	Ultimate population.	Ultimate Demand in Ltrs.	Demand in LPM	Dia of pipe-line (mm)	Loss of Head for 1000 Rmt (mtrs.)	Length of pipe-line in (mtrs.)	Total losses (mtrs.)	H.G.L. @ start.	H.G.L. @ End.	G.L. @ End.	Residual Head (mtrs.)	Static Head (mtrs.)	Class of pipe	REMARK
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16
1.	D - D1	43391	2386505	2486	300	1.46	1000	1.61	528.45	526.84	520.00	6.84	10.00	RCC P2	GRAVITY
2.	D1- D2	6620	309100	322	125	2.36	1000	2.60	526.84	524.24	518.00	6.24	12.00	RCC P2	"
3.	D1 - D3	37771	2077405	2164	300	1.14	2000	2.50	526.84	524.34	500.00	24.34	30.00	RCC P3	"
4.	D3 - D4	4221	232155	242	80	12.25	1000	13.48	524.34	510.86	488.00	22.86	42.00	AC.CL.10	"
5.	D3 - D5	33550	1845250	1922	200	6.60	2000	14.52	524.34	509.82	460.00	49.82	70.00	AC.CL.15	"
6.	D5 - D6	1602	88110	92	80	2.00	1000	2.20	509.82	517.28	457.00	60.28	73.00	AC.CD.15	"
7.	D5 - D7	31948	1757140	1831	200	6.00	1500	9.90	509.82	499.92	445.00	54.95	85.00	AC.CL.15	"
8.	D7 - D8	4171	229405	239	80	12.00	3000	39.60	499.92	460.32	430.00	30.32	100.00	AC.CL.15	"
9.	D8 - D9	1434	78870	82	80	1.65	2000	3.63	460.32	456.69	445.00	11.69	85.00	AC.CL.15	"
10.	D7 - D10	27777	1527735	1592	200	4.60	1000	5.06	499.92	494.86	442.00	52.86	88.00	AC.CL.15	"
11.	D10 - D11	936	51480	54	80	0.75	3000	2.48	494.86	492.38	440.00	52.38	90.00	AC.CL.15	"
12.	D10 - D12	26841	1476255	1538	200	4.40	4000	19.36	494.86	475.50	425.00	50.50	105.00	AC.CL.20	"
13.	D12 - D13	6241	343255	358	100	8.50	1000	9.35	475.50	466.15	420.00	46.15	110.00	AC.CL.20	"
14.	D12 - D14	20600	1133000	1180	150	10.90	4000	47.96	475.50	427.54	400.00	27.54	130.00	AC.CL.20	"
15.	D14 - D15	10306	566830	591	150	3.00	4000	13.20	427.54	414.34	400.00	14.34	130.00	AC.CD.20	"
16.	D14 - D16	1662	91410	95	80	2.25	4000	9.90	427.54	417.64	402.00	15.64	128.00	AC.CL.20	"

Phase-II

HYDRAULIC STATEMENT FOR ZONE - V

H.G.L. @ START 423.815

H.W.L. 427.565

	Name of pipe-line.	Ultimate population.	Ultimate Daily Demand @ 55 LPCD.	L.P.M. for 16 Hours.	Dia of pipe-line in mm.	Loss of Head for 1000 mtrs. in mtrs.	Length of pipe-line in mtrs.	Total loss of Head in mtrs.	H.G.L. @ Start	H.G.L. @ End.	Ground Level.	Residual Head in mtrs.	Static Head in mtrs.	Class of pipe proposed.	REMARKS
	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
	C - C'	163911	9015105	9391	500	2.70	2000	5.94	423.815	417.875	290	127.875	137.565	AC - 20	From Balanci Reservoir to Manammadapur
2	C' - N	160994	8854670	9224	500	2.65	2000	5.83	417.875	412.045	290	127.045	137.565	AC - 20	
3	N - CD1	154249	8483695	8837	500	2.55	2000	5.61	412.045	406.435	320	86.435	107.565	AC - 20	
4	CD1 - CD2	99771	5487405	5716	350	3.20	2000	7.04	406.435	399.395	310	89.395	117.565	AC - 20	
5	CD 2 - C1 D1	97389	5356395	5580	350	3.10	2500	8.525	399.395	390.870	312	78.870	115.565	AC -20	
6	C1 D1 - C1 D2	29676	1632180	1700	300	0.75	3000	2.470	390.870	388.400	340	48.400	87.565	AC - 25	
7	C1 D2 - C1 D3	297	16335	17	80	0.10	2000	0.220	388.400	388.180	361	27.180	66.565	AC - 15	
8	C1 D2 - C1 D4	2205	121275	127	80	3.75	3000	12.375	388.400	376.025	360	16.025	67.565	AC - 15	
9	C1 D2 - C1 D5	24289	1335895	1392	300	0.50	6000	3.300	388.400	385.100	350	35.100	77.565	AC - 15	
10	C1 D5 - C1 D6	1895	104225	109	80	2.75	3000	9.075	385.100	376.025	360	16.025	67.565	AC - 15	
11	C1 D5 - C1 D7	17934	986370	1028	250	0.70	4000	3.080	385.100	382.020	360	22.020	67.565	AC - 15	
12	C1 D7 - C1 D8	6905	379775	396	150	1.40	2500	3.850	382.020	378.170	367	11.170	60.565	AC - 10	
13	C1 D7 - C1 D9	11029	606595	632	200	0.85	3000	2.800	382.020	379.220	358	21.220	69.595	AC - 15	
14	C1 D9 - C1 D10	9077	499235	520	150	2.40	500	1.320	379.220	377.900	360	17.900	67.565	AC - 15	
15	C1 D10- C1 D11	5526	303930	317	125	2.30	3500	8.850	377.900	369.050	354	15.050	73.565	AC - 15	

ZONE - V

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
16.	C1 D11 -C1 D12	2740	150700	157	125	0.65	4000	2.86	369.05	366.190	360	6.19	67.565	AC - 15
17.	C1 D9 - C1 D13	1952	107360	112	80	3.00	2000	6.60	379.22	372.620	350	22.62	77.565	AC - 15
18.	C1 D13 - C1 D14	518	28490	30	80	0.30	2000	0.66	372.62	371.960	350	21.96	77.565	AC - 15
19.	C1 D13 - C1 D15	1434	78870	83	80	1.70	4500	8.41	372.62	364.21	355	9.21	62.565	AC - 10
20.	CD1 - E1	52714	2899270	3020	300	2.10	3000	6.93	406.435	399.505	306	93.505	121.565	AC - 20
21.	E1 - E2	49524	2723820	2838	300	1.90	2000	4.18	399.505	395.325	340	55.325	87.565	AC - 15
22.	E2 - E3	3727	204985	214	100	3.30	3000	10.89	395.325	384.435	350	34.435	77.565	AC - 15
23.	E2 - E4	37462	2060410	2147	300	1.10	3000	6.05	395.325	389.275	342	47.275	85.565	AC - 15
24.	E4 - E5	34668	1906740	1986	300	0.90	3000	2.97	389.275	386.305	350	36.305	77.565	AC - 15
25.	E5 - E6	2577	141735	148	80	4.90	2000	10.78	386.305	375.525	360	15.525	67.565	AC - 15
26.	E5 - E7	32091	1765005	1839	250	2.05	3000	6.76	386.305	379.555	335	44.545	92.565	AC - 15
27.	E7 - E8	2767	152185	159	80	5.60	3000	18.48	379.555	361.075	320	41.075	107.565	AC - 20
28.	E7 - E9	2590	142450	149	80	5.00	3000	16.50	379.555	363.055	355	8.055	72.565	AC - 15
29.	E7 - E10	14059	773245	806	200	1.30	4000	5.72	379.555	373.835	334	39.835	93.565	AC - 15
30.	E10 - E11	11876	653180	681	200	0.95	3000	2.85	373.835	370.985	340	30.985	87.565	AC - 15
31.	E11 - E12	9668	531740	554	200	0.65	4000	2.86	370.985	368.125	356	12.125	71.565	AC - 15
32.	E12 - E13	1948	107140	112	80	3.00	2800	8.25	368.125	359.875	340	19.875	87.565	AC - 15
33.	C1 D1 - CD3	67713	3724215	3880	300	3.40	500	1.87	390.870	389.000	315	74.000	112.565	AC - 20
34.	CD3 - CD4	64202	3531110	3679	300	3.00	2000	6.60	389.000	382.400	345	37.400	82.565	AC - 15
35.	CD4 - CD5	61277	3480235	3626	300	2.95	2000	6.49	382.400	375.910	365	10.910	62.565	AC - 10

Phase-II

ZONE - VI

HYDRAULIC REPORT

MOHAMADAPUR (BR+377)
L.W.L. + 377.90
N.W.L. - 381.40

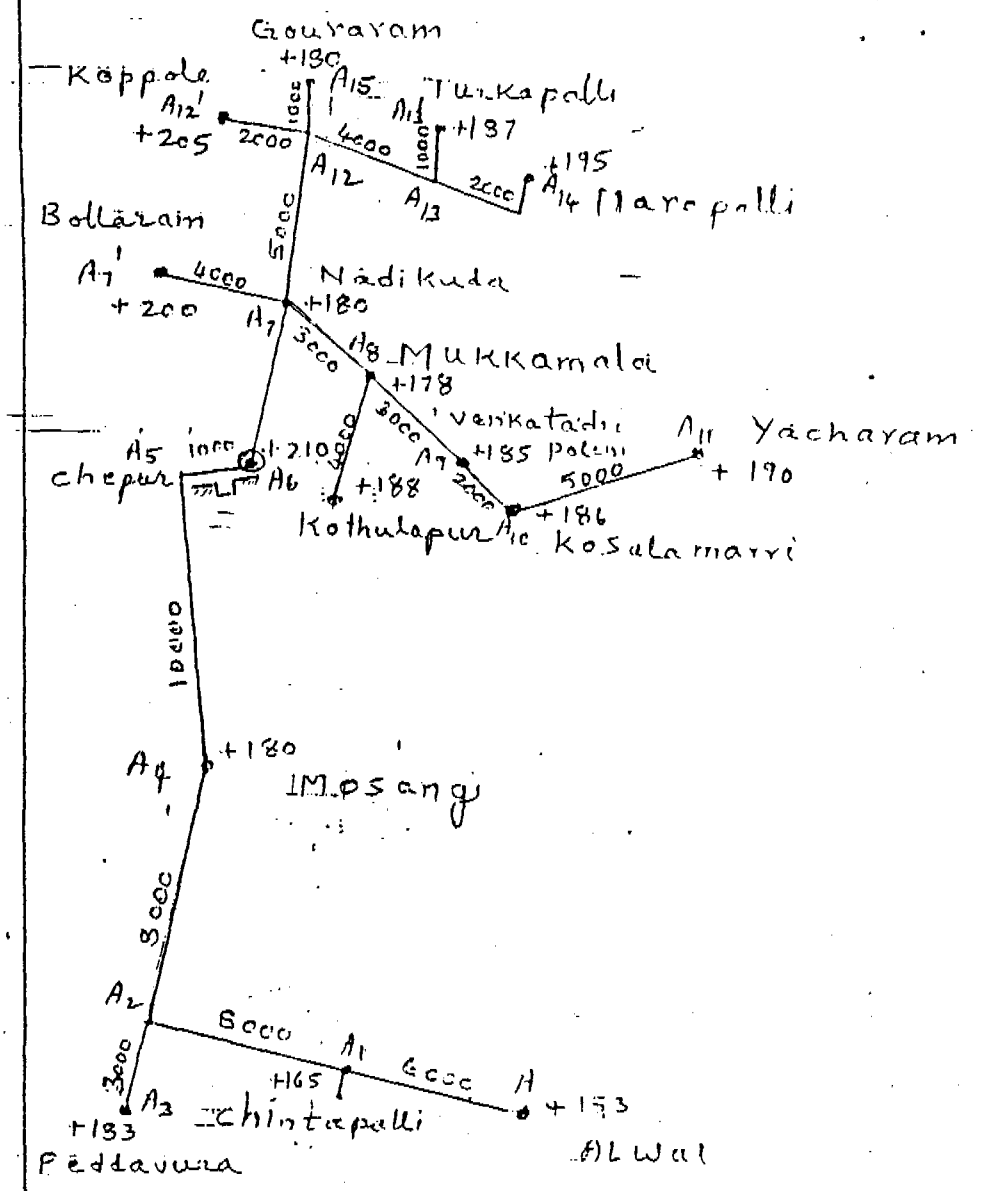
Sl. No.	Pipe-Line	Ultimate population.	Ultimate daily demand @ 55 LPCD	LPM considering 16 Hours.	Dia of pipe proposed.	Loss of Head in 1000 mtrs.	Length of pipe line in mtrs.	Total loss in mtrs.	H.G.L. at Start of line	H.G.L. End of line	G.L.	Residual head in mtrs.	Static Head in mtrs.	Class of pipes.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1.	B.R.(+377) to Peddapur via Mohamadapur & Nampally.	74221	4082155	4253	400	1.00	9000	9.90	377.90	368.00	290.00	78.00	91.40	Ac.Cl.15.
2.	Peddapur to Neratlapally Junction.	67385	3706175	3861	400	0.80	4000	3.52	368.00	364.48	290.00	74.48	91.40	-do-
3.	Nagulapally (Jn) to Neratlapally	2916	160380	168	100	2.00	3000	6.60	364.48	357.88	290.00	67.88	91.40	-do-
4.	Neratlapally Junction to K.T.Junction.	64469	3545795	36941	400	0.75	1000	0.82	364.48	363.66	290.00	73.88	91.40	-do-
5.	K.T.Junction to K.Tirumalagiri.	15671	861905	898	250	0.60	2000	1.32	363.66	362.34	305.00	57.34	76.40	-do-
6.	K.Tirumalagiri to Sompally	15429	848595	884	250	0.60	1500	0.99	362.34	361.35	245.00	116.35	136.40	Ac.Cl.20
7.	Sompally to Junction.	12426	683430	712	200	1.00	1500	1.65	361.35	359.70	280.00	109.70	131.40	-do-
8.	J.N. to Pochampally	7358	404690	422	200	0.40	2000	0.88	359.70	358.82	247.00	111.82	134.40	-do-
9.	Pochampally to Vathkode	4444	244420	255	150	0.65	4000	2.86	358.82	255.96	255.00	100.96	126.40	-do-
10.	K.T.J.N. to Tummalapally	48798	2683890	2796	350	0.80	2000	1.76	363.66	361.90	280.00	81.90	101.40	-do-
11.	Tummalapally to Donipamula	45795	2518725	2624	350	0.75	8500	7.01	361.90	354.89	338.00	16.89	43.40	Ac.Cl.10
12.	Donipamula to Nermetta	41929	2306095	2403	300	1.50	1000	1.65	354.89	353.24	330.00	23.24	51.40	-do-
13.	Nermetta to Teredpally	38110	2096050	2184	300	1.10	12000	14.52	353.24	338.72	315.00	23.72	66.40	-do-
14.	Teredpally to Gattupal	31768	1747240	1821	250	2.00	1500	3.30	338.72	335.42	315.00	20.42	66.40	-do-
15.	Gattupal to Woilpally	21840	1201200	1252	250	1.00	4500	4.95	335.42	330.47	340.00	—	41.40	Pumping - Booster.
16.	Wailpally to Chillapur	5884	323620	338	150	1.10	3000	3.63	330.47	326.84	330.00	—	51.40	-do-

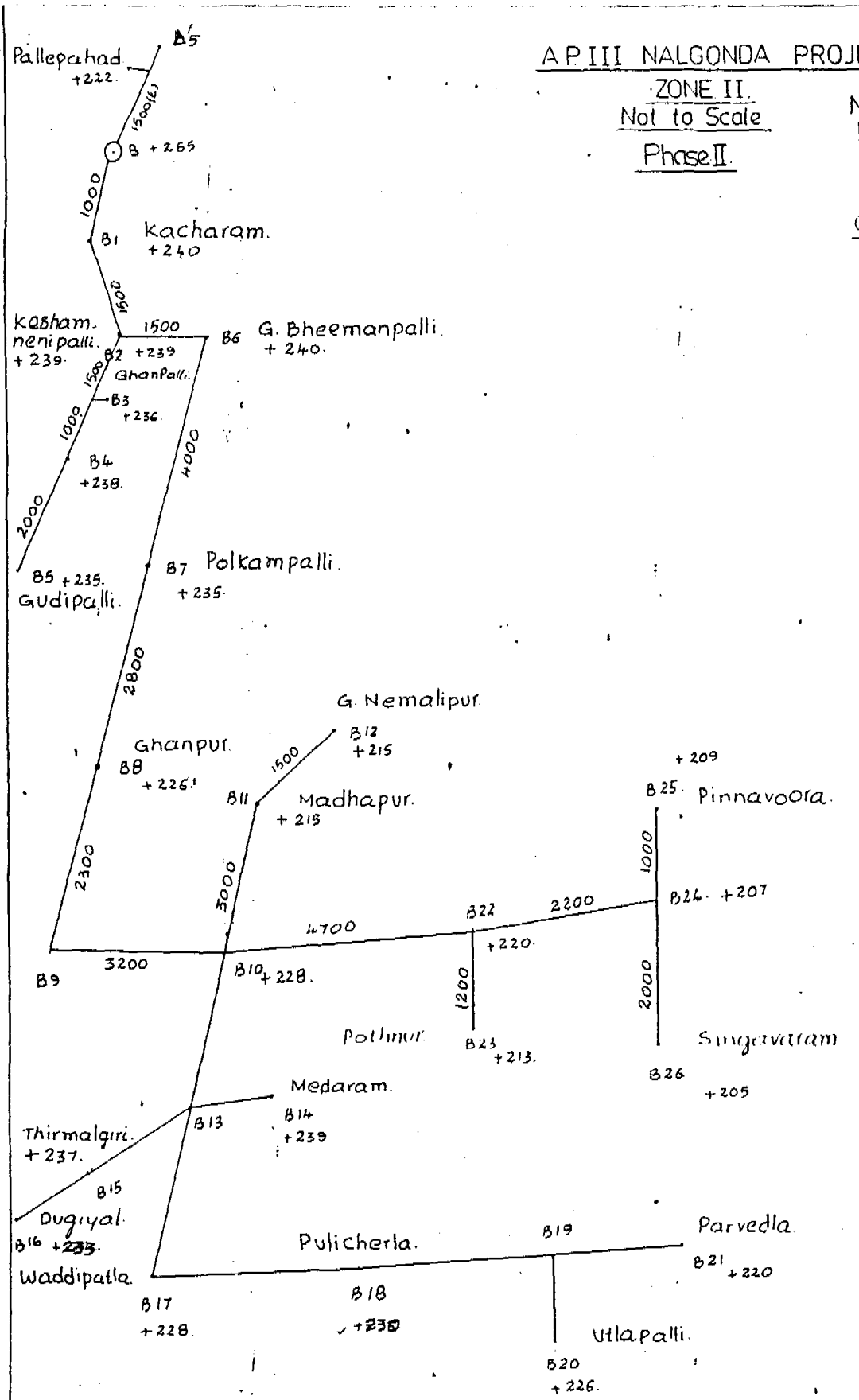
A.P III. NLG. PROJECT.

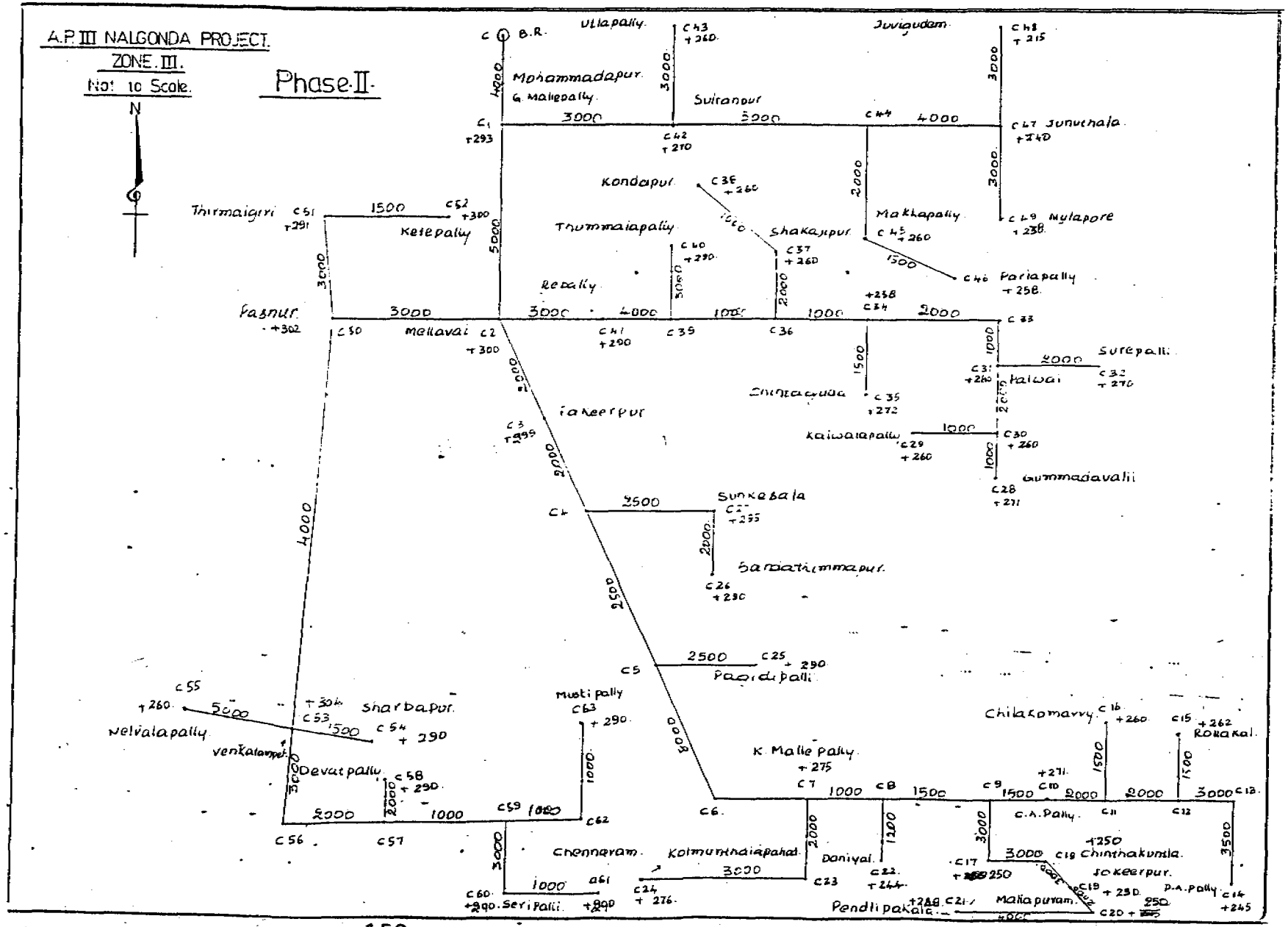
Phase II

Zone-1

N

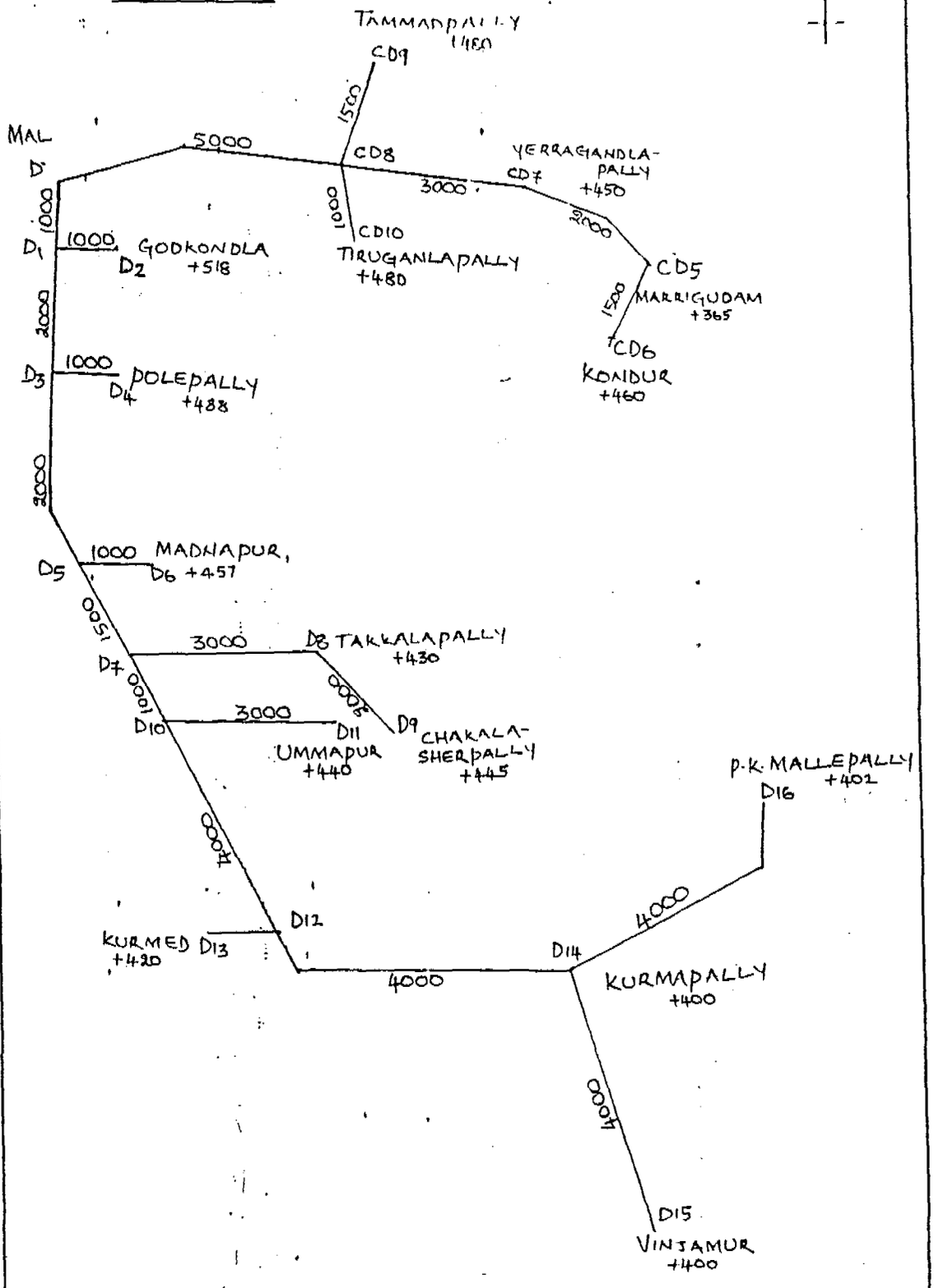


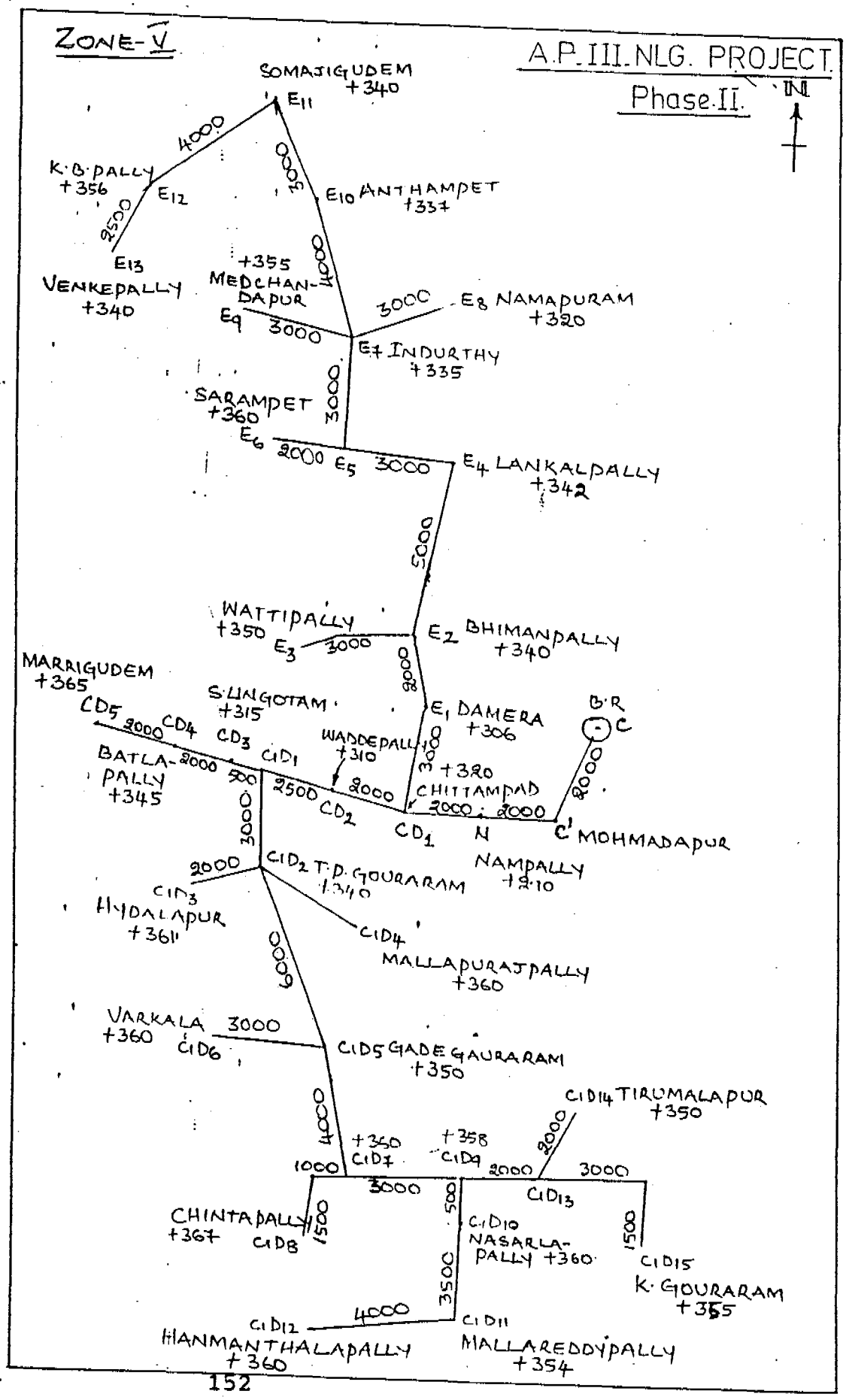

A P III NALGONDA PROJECT.
ZONE II.
Not to Scale
Phase II.
N
Pallepahad
+222.
B5
1500(E)
B +265
1000
B1 Kacharam.
+240
1600
Kasham.
nenipalli.
+239.
1500
B6 G. Bheemanpalli.
+240.
B2 +239
Ghanpalli.
1500
B3
+236.
1000
B4
+238.
2000
B5 +235.
Gudipalli.
4000
B7 Polkampalli.
+235.
2800
G. Nemalipur.
B12
+215
Ghanpur.
B8
+226.
1500
B11 Madhapur.
+215
2300
3000
+209
B25 Pinnavoora.
1000
B24. +207
B22
2200
4700
+220.
3200
B9
B10 +228.
1200
2000
Pothmor.
B23
+213.
Singavaram
B26
+205
Medaram.
B14
+239
B13
Thirmalgiri.
+237.
B15
Dugiyal.
B16 +233.
Waddipatla.
Pulicherla.
B19
Parvedla.
B21 +220
B17
+228.
B18
+230
Utlapalli.
B20
+226.

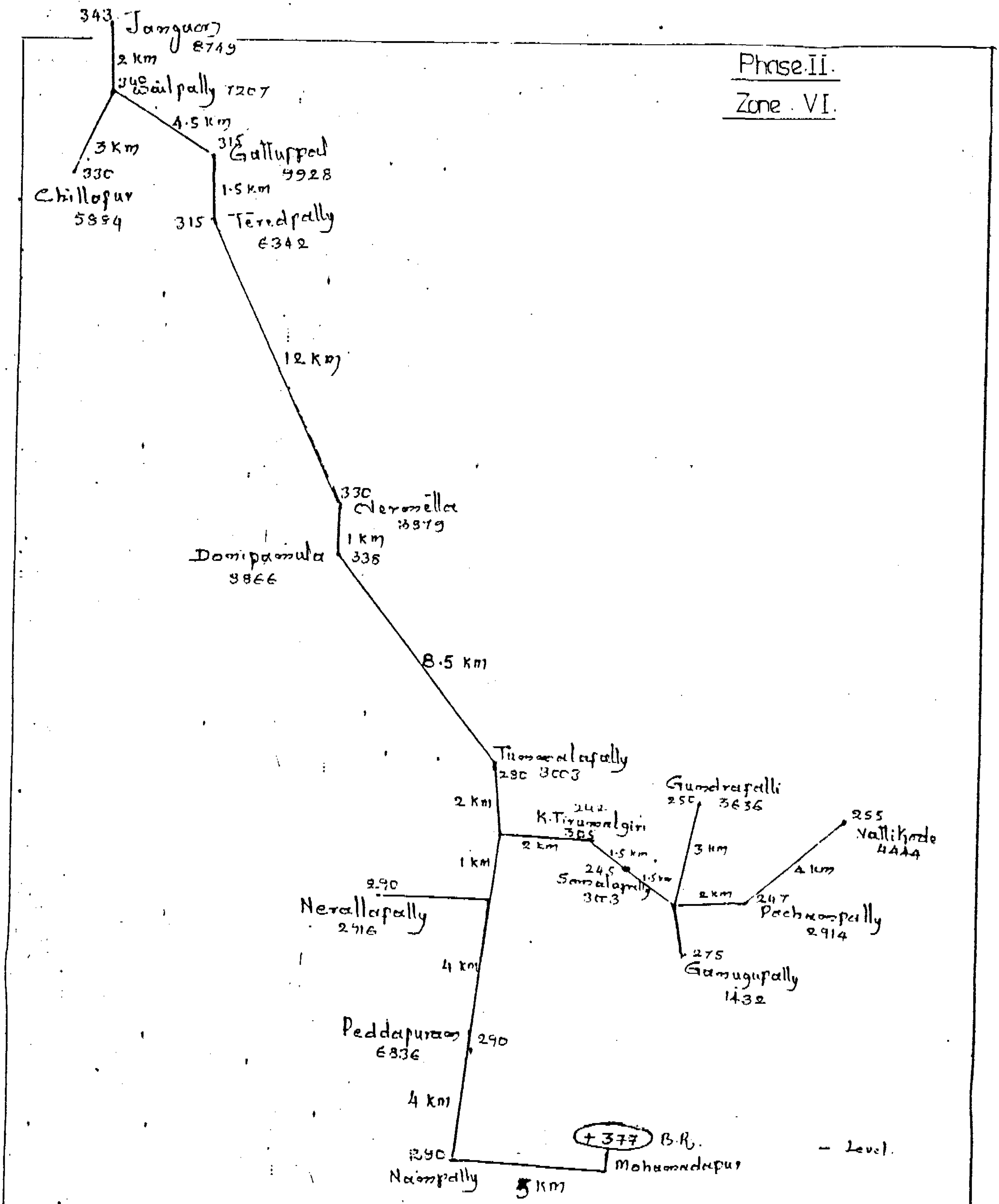

A.P. III NALGONDA PROJECT.
ZONE. III.
Not to Scale.
Phase-II.
N
C 0 B.R.
Utlapally
Juvigudam
Mohammadapur
G. Mallepally
Sultanpur
Kondapur
Thummalapally
Makkapally
Shakapur
Mylapore
Pariapally
Thirmalgiri
Ketepally
Repally
Pasnur
Mallavai
Fakeerpur
Chintagudda
Kalwalapally
Halwai
Surepalli
Gummadavalli
Sunkesala
Sardarthimmapur
Paidipalli
Shardapur
Nelvalapally
Venkatampet
Devatpally
Musti pally
Chennaram
Kolmunthalapahad
Seripalli
K. Malle pally
Daniyal
C.A. Pally
Chinthakunta
Fakeerpur
P.A. Pally
Pendlipakala
Malapuram
Chilakomarvy
Rollakal

A.P. III. NLG PROJECT.

ZONE - IV
Phase. II.




ZONE-V
A.P. III. NLG. PROJECT.
Phase-II.
IN
SOMAJIGUDEM +340
E11
4000
3000
K.B.PALLY +356
E12
E10 ANTHAMPET +337
2500
E13 VENKEPALLY +340
+355 MEDCHAL-DAPUR
4000
E9
3000
3000
E8 NAMAPURAM +320
E7 INDURTHY +335
SARAMPET +360
3000
E6
2000
E5
3000
E4 LANKALPALLY +342
5000
WATTIPALLY +350
E3
3000
E2 BHIMANPALLY +340
8000
MARRIGUDEM +365
S.LINGOTAM +315
E1 DAMERA +306
B.R
C
CD5
2000
CD4
CD3
CID1
WADDEPALLY +310
3000
+320
CHITTAMPAD
2000
2000
8000
BATLA-PALLY +345
2000
500
2500
CD2
2000
CD1
N
C'
MOHMADAPUR
3000
CID2 T.P. GOURARAM +340
NAMPALLY +2.10
2000
CID3
HYDALAPUR +361
CID4
MALLAPURAJPALLY +360
6000
VARKALA +360
3000
CID6
CID5 GADEGAURARAM +350
CID14 TIRUMALAPUR +350
4000
+360
CID7
+358
CID9
2000
2000
3000
1000
3000
CID13
CHINTAPALLY +367
CID8
1500
500
CID10 NASARLA-PALLY +360
1500
CID15
K. GOURARAM +355
3500
4000
CID12
CID11
HANMANTHALAPALLY +360
MALLAREDDYPALLY +354


Phase II.
Zone . VI.
343 Jangaon 8749
2 Km
340 Wailpally 7207
4.5 Km
3 Km
330 Chillapur 5894
315 Gattuppal 9928
1.5 Km
315 Teredpally 6342
12 Km
330 Neramella 3879
1 Km
335
Domipamula 3866
8.5 Km
Tirmalapally 280 3003
2 Km
1 Km
242 K.Tirumalgiri 305
2 km
1.5 Km
245 Samalapally 3003
Gundrapalli 250 3636
3 Km
255 Vallikode 4444
4 Km
2 km
247 Pochampally 2914
275 Gamugupally 1432
290 Nerallapally 2416
4 Km
Peddapuram 6836 290
4 Km
290 Naimpally
5 Km
+377 B.R. Mohamadapur
— Level.

ABSTRACT ESTIMATE FOR THE CONSTRUCTION OF BUILDINGS FOR THE OFFICERS AND STAFF QUARTERS FOR THE PROJECT

Sl. No.	Description	Qty	Rate	Per	Amount in Lakhs.
1.	2.	3.	4.	5.	6.
1.	Construction of Executive Engineers Office Building (339.00 Sq.mtrs,)	1 No. (339 Sqm)	2430/-	Sqm.	8.23
2.	Construction of Deputy Executive Engineer's Office Buildings (274.00 Sq.mtrs)	1 No (274 Sqm)	2430/-	Sqm.	6.65
3.	Construction of Office Buildings for section officers (AEE/AE) (160.00 Sq.mtrs.)	3 Nos. (120 Sqm)	2430/-	Sqm.	2.95
4.	Construction of Officers Quarters (309.00 Sq.mtrs)	1 No. (103 Sqm.)	2430/-	Sqm.	2.50
	b) Staff Quarters Twin type (210.00 Sq.mtrs)	1 No. (105 Sqm.)	2430/-	Sqm.	2.50
5.	Construction of Dutch Banglow Royal Netherlands Guest House and Head works at Alwal (230.00 Sq.mtrs.)	1 No. (230 Sqm.)	2430/-	Sqm.	5.58
6.	Construction of Electrician, operators and Watchman quarters (200.00 Sq.mtrs.)	10 Nos. (200 Sqm.)	2430/-	Sqm.	4.86
7.	Construction of Water Quality Tests Monitoring Laboratory Building (140.00 Sq. Mtrs.)	1 No. (140 Sqm.)	2430/-	Sqm.	3.40
8.	Unforeseen Items.				2.18
			T O T A L	Rs.	38.85

ORGANISATIONAL STRUCTURE OF P.R.E.D. IN THE PROJECT DISTRICT (NALGONDA)

CHIEF ENGINEER (R.W.S. & ADMINISTRATION)
HYDERABAD

SUPERINTENDING ENGINEER, P.R., HYDERABAD
(NALGONDA DISTRICT, RANGA REDDY DISTRICT)

NALGONDA DISTRICT

EXECUTIVE ENGINEER P.R., BHONGIR	EXECUTIVE ENGINEER P.R., NALGONDA	EXECUTIVE ENGINEER P.R., MIRYALAGUDA
DY. EXECUTIVE ENGINEER'S (5)	DY. EXECUTIVE ENGINEER'S (9)	DY. EXECUTIVE ENGINEER'S (6)
1) BHONGIR (PR)	1) NALGONDA (PR)	1) MIRYALAGUDA (PR)
2) RAMANNAPET (PR)	2) NALGONDA (NREP)	2) MIRYALAGUDA (UK)
3) ALAIR (PR)	3) NALGONDA (UK)	3) KODAD (PR)
4) MOTHKUR (PR)	4) NALGONDA (I & S)	4) HUZUR NAGAR (PR)
5) BHONGIR (UK)	5) NAKREKAL (PR)	5) HALIYA (PR)
	6) SURYAPET (PR)	6) DEVARKONDA (PR)
	7) THUNGATHURTHY (PR)	
	8) MUNGODE (PR)	
	9) CHINTAPALLY (PR)	

ANNUAL MAINTENANCE ESTIMATE FOR COMPREHENSIVE PROTECTED WATER SUPPLY SCHEME (TAPING WATER FROM NAGARJUNA SAGAR CANAL) TO 226 REVENUE VILLAGES AND 337 HAMLETS IN NALGONDA DISTRICT.

ESTIMATED COST Rs.280.00 LAKHS

Sl. No.	Description	Qty	Rate per	Amount
1	2	3	4	5
I.	MAJOR SUPERVISION ESTABLISHMENT			
A)	DIVISION OFFICE HEAD QUARTERS			
1.	Executive Engineer	1 x 12	6000	72000.00
2.	Divl. Accounts Officer (W)	1 x 12	3500	42000.00
3.	Superintendent	1 x 12	3000	36000.00
4.	Senior Assistants	2 x 12	2500	60000.00
5.	Junior Assistants	3 x 12	2000	60000.00
6.	Typist & Steno	2 x 12	1800	43200.00
7.	Record Assistants	1 x 12	1300	15600.00
8.	Asst. Executive Engineer	1 x 12	3000	36000.00
9.	Draughtsman Grade-II	1 x 12	2000	24000.00
10.	Draughtsman Grade-III	1 x 12	1800	21600.00
11.	Tracer	1 x 12	1500	18000.00
12.	Blue print Operator	1 x 12	1400	16800.00
13.	Attenders	5 x 12	1400	84000.00
14.	Driver	1 x 12	1400	16800.00
15.	Provision for T.A.Bills	-	L.S.	30000.00
B)	SUB-DIVISION OFFICE HEAD QUARTERS:			
	1. Anumula (Haliya) Head quarter at Head Works.			
	2. Chandur Head Quarters.			
	3. K.Mallepalli Head Quarters.			
	4. Nalgonda Head Quarter.			
1.	Dy.Executive Engineer	4 x 12	5000	240000.00
2.	Asst. Executive Engineers/ Asst. Engineers	16 x 12	3000	576000.00

1	2	3	4	5
3.	Senior Assistants	4 x 12	2500	120000.00
4.	Junior Assistants	4 x 12	2000	96000.00
5.	Draughtsman Grade-III	4 x 12	1800	86000.00
6.	Typists	4 x 12	1800	86400.00
7.	Attenders	8 x 12	1400	134400.00
8.	Provision for T.A.Bills for Technical Staff			100000.00
9.	Provision for T.A.Bills of other staff			68000.00
C)	PETTY SUPERVISION ESTABLISHMENT MAINTENANCE STAFF:			
1.	a) Electrician Grade-I	3 x 12	1500	54000.00
	b) Electrician Grade-II	6 x 12	1000	72000.00
2.	Fitters	3 x 12	1500	54000.00
3.	Pump Operators	18 x 12	1000	216000.00
4.	Watchmen	177 x 12	800	1699200.00
5.	Watchmen (Stores)	8 x 12	1200	115200.00
6.	Helpers	12 x 12	1200	172800.00
7.	Work Inspectors	32 x 12	2000	768000.00
8.	Second class fitters	8 x 12	800	76800.00
9.	Secohd class Helpers	32 x 12	1200	460800.00
10.	Man Mazdoors	10 x 12	1000	120000.00
II.	MAINTENANCE OF VEHICLES:			
	1. Drivers for 5 Nos. jeeps	5 x 12	1500	90000.00
	2. Maintenance of Jeeps such as Fuel, Repairs for Jeeps	5 Nos.	L.S.	200000.00
	3. Drivers for Matador Van	2 x 12	1500	36000.00
	4. Maintenace for Van etc.		L.S.	20000.00

1	2	3	4	5
III)	ELECTRICITY CONSUMPTION TO BE PAID TO THE ELECTRICITY DEPARTMENT:			
	Total K.Watts 4110 x 16 x 365 x 0.75 =			18001800.00
	Maintenance and replacement of Electrical insulations etc.			200000.00
IV)	Maintenance of transmission mains and distribution net work.			
	i) Annual cost for replacement of pipes, C.I.Specials, Valves etc.			850000.00
V)	PROVISION FOR CHEMICALS:			
	a) Cost of bleaching powder approximate quantity 140 MT		L.S.	600000.00
VI)	MAINTENANCE HEAD WORKS:			
	a) Cost of boat for removal of floating material and sprinkling of chemicals in S.S.Tank.		30000.00	
	b) Maintenance of lighting arrangements replacement of wires etc. at 4 places		40000.00	
	c) Maintenance of S.S.Tank		100000.00	
			170000.00	170000.00
VII)	MAINTENANCE OF STRUCTURES AND SPECIAL REPAIRS:			
	a) O.H.S.Rs.		300000.00	
	b) Cisterns		50000.00	
	c) Sump and pump house		50000.00	
	d) Buildings		100000.00	
	e) Protective works to OHSRs balancing reservoirs and Cisterns		300000.00	
		Rs.	800000.00	800000.00
VIII)	MAINTENANCE OF S.S.FILTERS:			
	a) Operation cost such as Labour for replacement of sand and other media etc.		100000.00	
	b) Cost of scrapers for rincing the filter media etc.		50000.00	
			150000.00	150000.00

1	2	3	4	5
IX)	MAINTENANCE OF PUMPING STATIONS:			
	a) Mechanical spares such as bearings, bushes, impellers, shafts, electrical panels, wiring, starters, Ammeters, Voltameters, indicator bulbs, panel boards, switches, bulbs painting etc.			500000.00
X)	Plantation and beautifucation at all pumping stations etc.		L.S.	40000.00
XI)	Maintenance of Royal Dutch Guest House		L.S.	30000.00
XII)	Conducting workshops on various aspects and also maintenance of schemes.		L.S.	10000.00
XIII)	Cost of tanker for supply of water to tail land villages when any problem arises in the supply.		L.S.	150000.00
XIV)	Provision for contingencies including maintenance of Telephones.		L.S.	60000.00
XV)	Provision for miscellaneous items such as house taxes, rent etc., complete.		L.S.	100000.00
XVI)	Provision for incidental charges.		L.S.	100600.00
			TOTAL:	280.00LAKHS

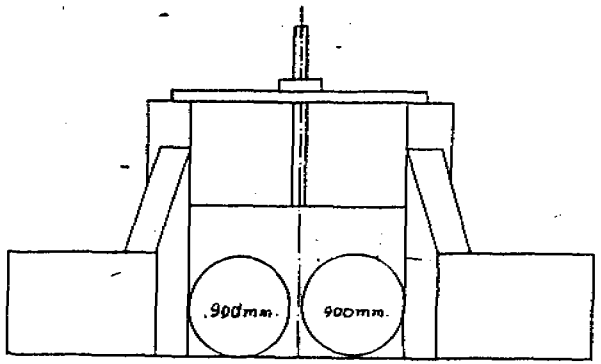
ACTIVITY FLOW AND TIME SCHEDULING FOR WATER SUPPLY COMPONENT (PANCHAYATI RAJ ENGG.DEPTT)

Sl No.	ACTIVITY	1992-93	93-94	94-95	95-96	96-97	97-98
1.	2.	3.	4.	5.	6.	7.	8.
1.	DETAILED INVESTIGATION						
	PHASE - I						
	PHASE - II						
2.	STAFF MOBILISATION						
	PHASE - I						
	PHASE - II						
3.	ENTRUSTMENT WORKS						
	PHASE - I						
	PHASE - II						
4.	CONSTRUCTION OF QUARTERS						
	PHASE - I						
	PHASE - II						
5.	PROCUREMENT OF MATERIALS						
	PHASE - I						
	PHASE - II						
6.	CONSTRUCTION OF HEAD WORKS						
	PHASE - I						
	PHASE - II						
7.	CONSTRUCTION OF BRs. & SUMPS *						
	PHASE - I						
	PHASE - II						
8.	CONSTRUCTION OF SERVICE RESERVOIRS						
	PHASE - I						
	PHASE - II						
9.	LAYING OF PUMPING MAINS						
	PHASE - I						
	PHASE - II						
10.	LAYING TRANSMISSION MAINS						
	PHASE - I						
	PHASE - II						
11.	LAYING OF DISTRIBUTION MAINS C/O. PSP's **						
	PHASE - I						
	PHASE - II						
12.	OPERATION AND MAINTENANCE						
	PHASE - I						
	PHASE - II						
13.	TRAININGS						

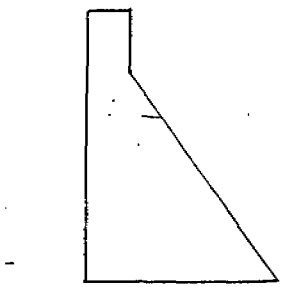
* BALANCING RESERVOIRS

** PUBLIC STAND POSTS

CANNEL SLUICE AT ALWAL

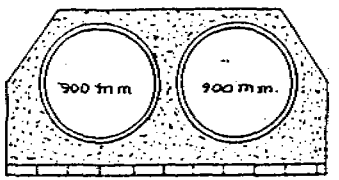


END ELEVATION (U/S)

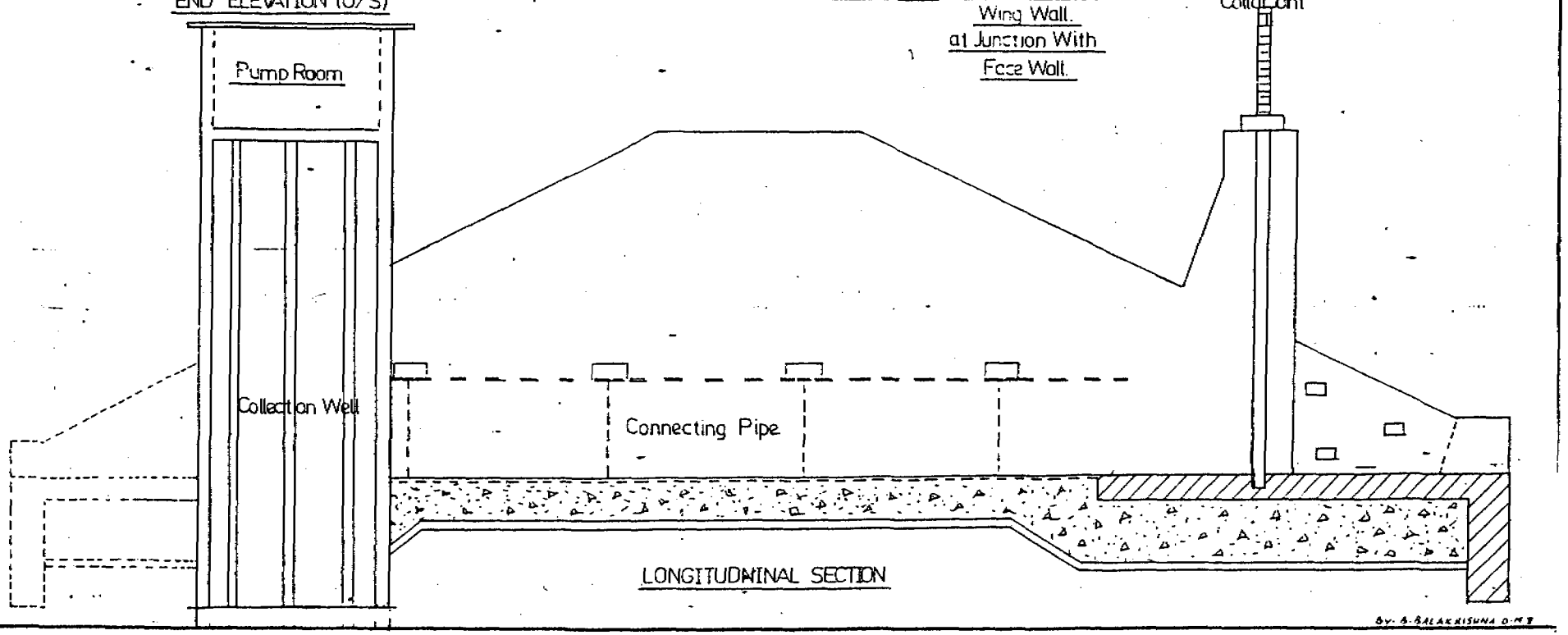


Cross Section of Face Wall (U/S)

Cross Section of Wing Wall at Junction With Face Wall.



Section at Collar Joint

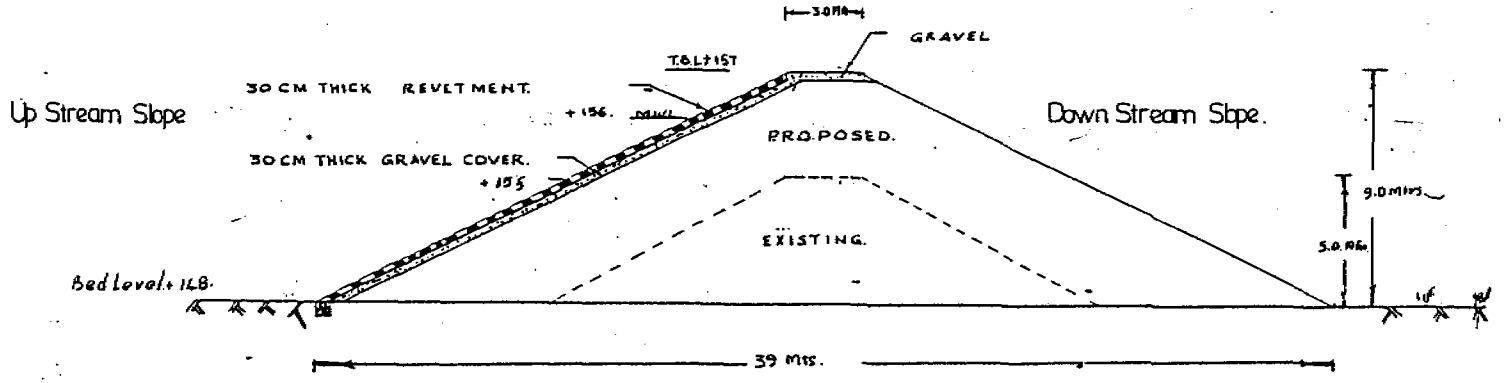


LONGITUDINAL SECTION

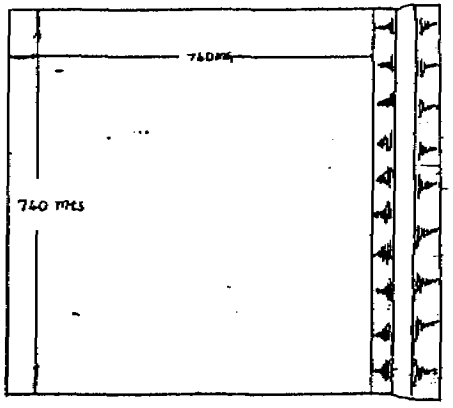
By: S. BALAKRISHNA D.M.E

Summer Storage Tank at Alwal Vg Nalgonda Dist.

Scale: 1:2



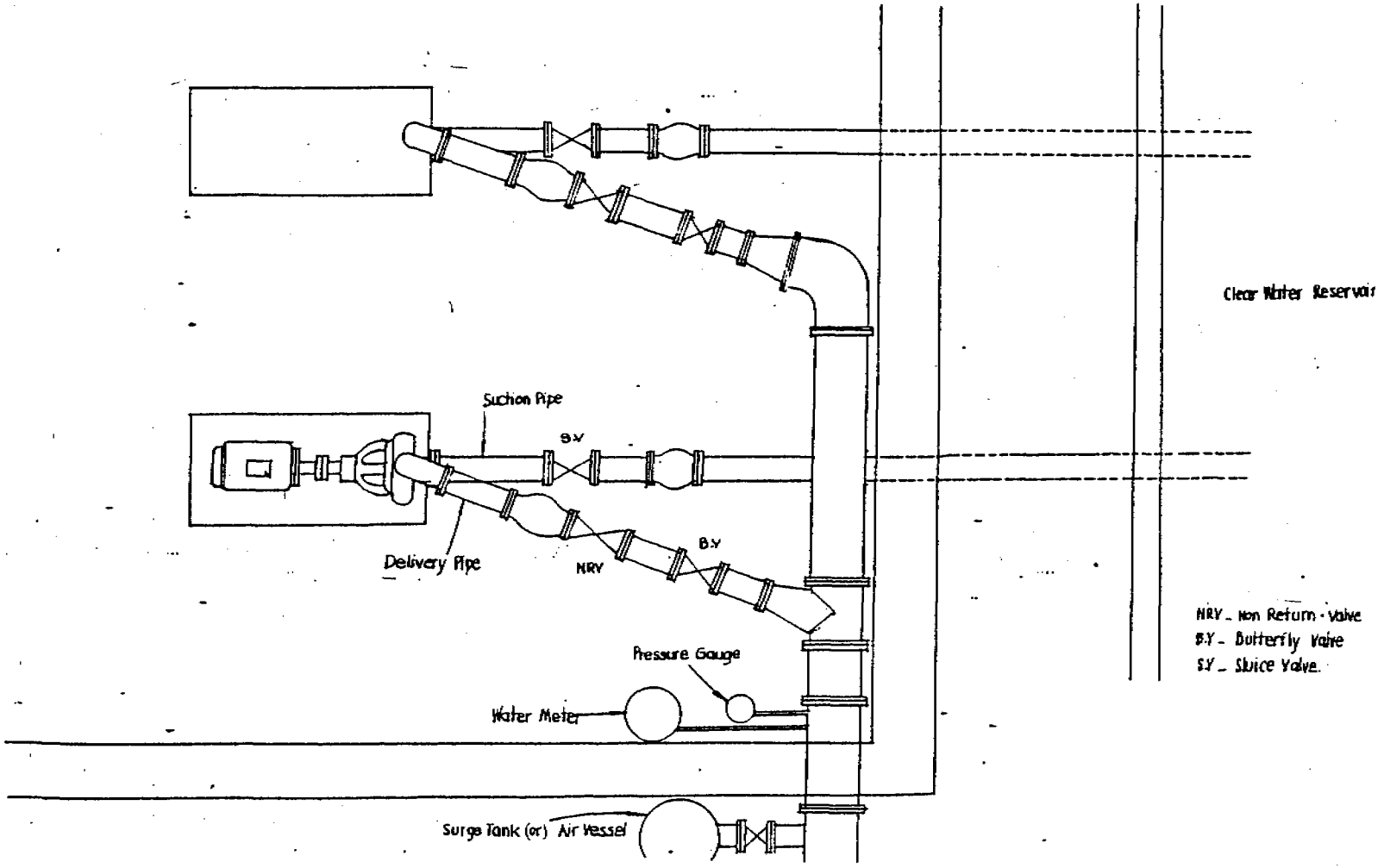
SECTION

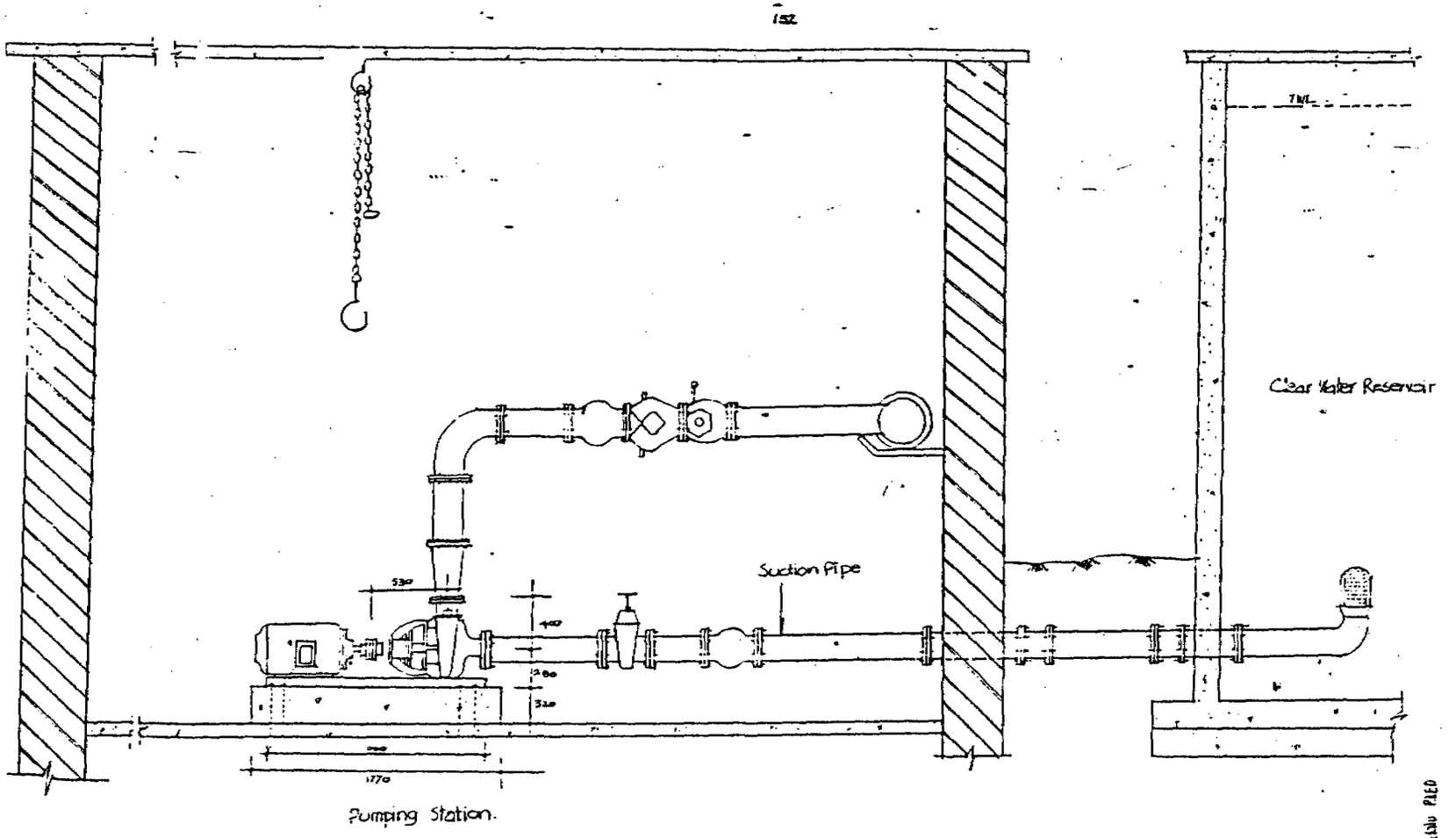


Scale: 1:100

PLAN

Plan for Pumping Station



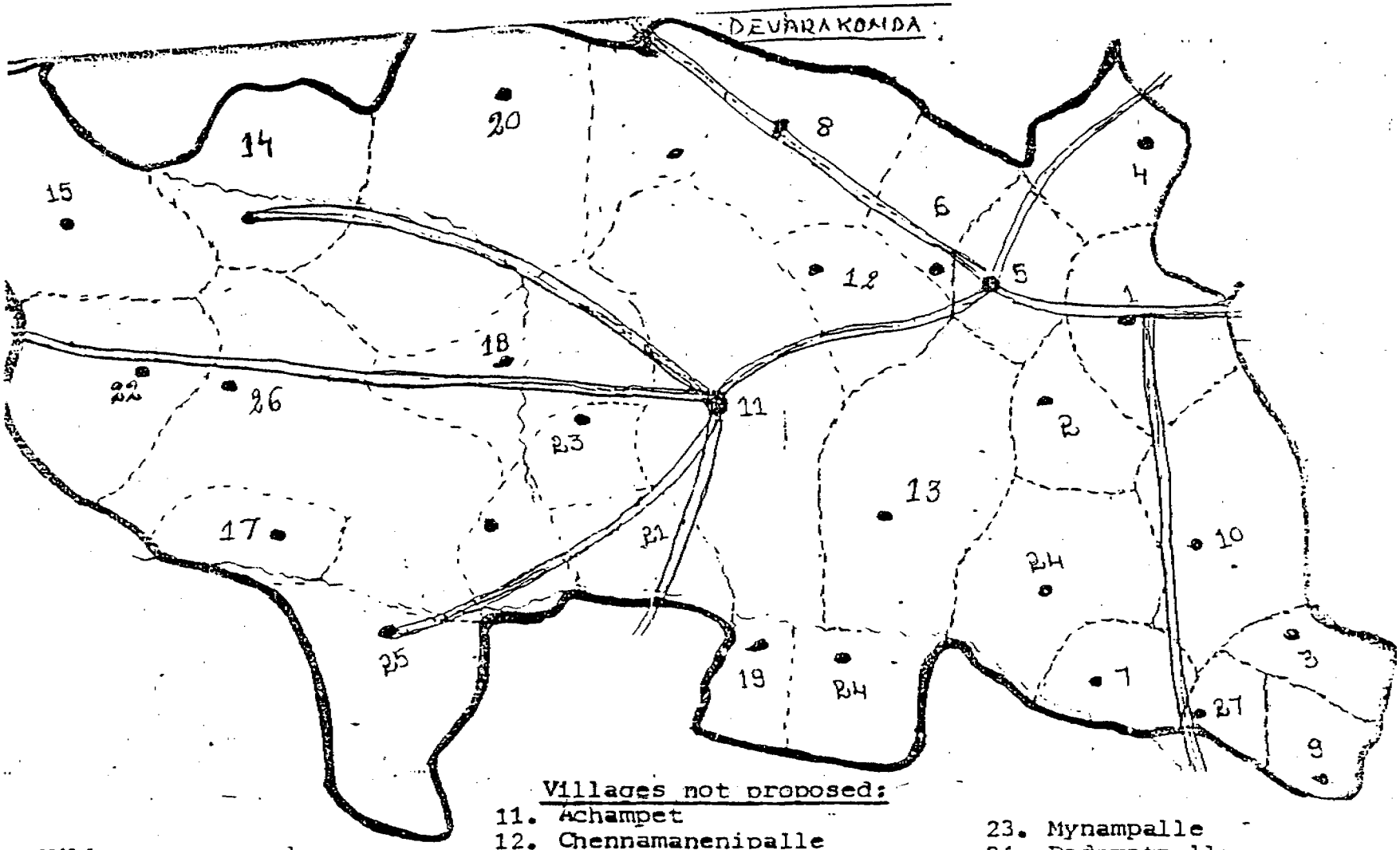


Sec. Elevation at 'A A' for Pumping Station and Clear Water Reservoir

MANDAL WISE STATEMENT OF VILLAGES PROPOSED TO BE COVERED

NAP - A.P III (NALGONDA DISTRICT

Sl. No.	Name of Mandal	Number of villages			Population		Remarks
		Revenue	Hamlet	Total	1992	2022	
1	2	3	4	5	6	7	8
1.	Gurrampode	28	34	62	38677	70004	
2.	Nampally	27	30	57	37168	67297	
3.	Mungode	20	19	39	39927	62447	
4.	Narayanpur	14	58	72	41395	74939	
5.	Chandur	16	17	33	43437	78684	
6.	Marriguda	18	33	51	39065	72716	
7.	Chintapalli	20	27	47	39632	73827	
8.	Choutuppal	6	13	19	24873	45019	
9.	Nalgonda	9	8	17	22775	41214	
10.	Narkatpalli	10	12	22	30962	55366	
11.	Chityal	14	8	22	42837	77582	
12.	Devarakonda	10	31	41	17093	30951	
13.	P.A.Palli	17	31	48	31338	56761	
14.	Kangal	3	2	5	9399	17013	
15.	Peddavoora	8	13	21	15590	28219	
16.	Anumula	6	1	7	8998	15202	
	TOTAL	226	337	563	482639	877180	



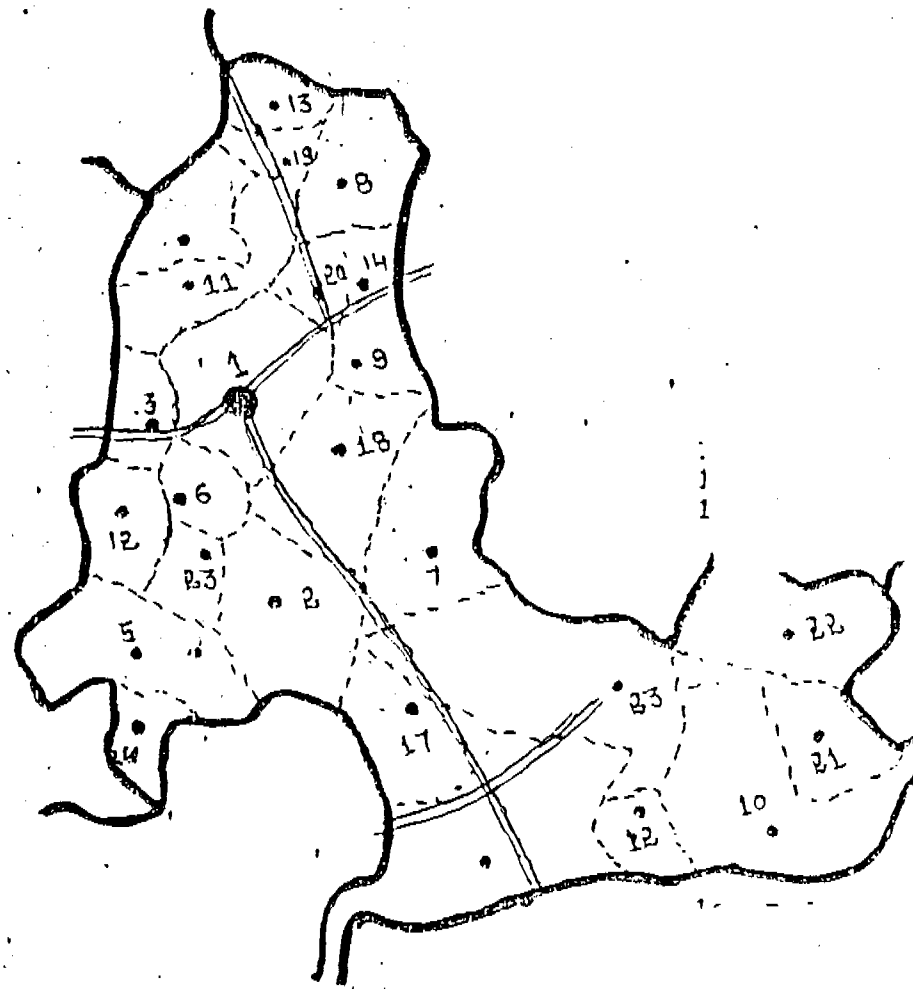
Villages proposed

1. China Adisharla Pally
2. Doniyala
3. Fakhirpur
4. Gummadevelli
5. K.Mallepally
6. Kulmanthalapahad
7. Chemaram
8. Chintakuntla
9. Pelipakala
10. Sarupally

Villages not proposed:

11. Achampet
12. Chennamanenipalle
13. Devarakonda
14. Eppor
15. Gazinagar
16. Gottimukkala
17. Iddampalle
18. Kacharam
19. Kommepally
20. Konda Bheemanpally
21. Madmadka
22. Mudigunda
23. Mynampalle
24. Padamatpally
25. Penchikar Pahad
26. Shankavalle
27. Tatikorlu
28. Turupupalle
29. Vardhamniguda

PEDDA VOORA MANDAL



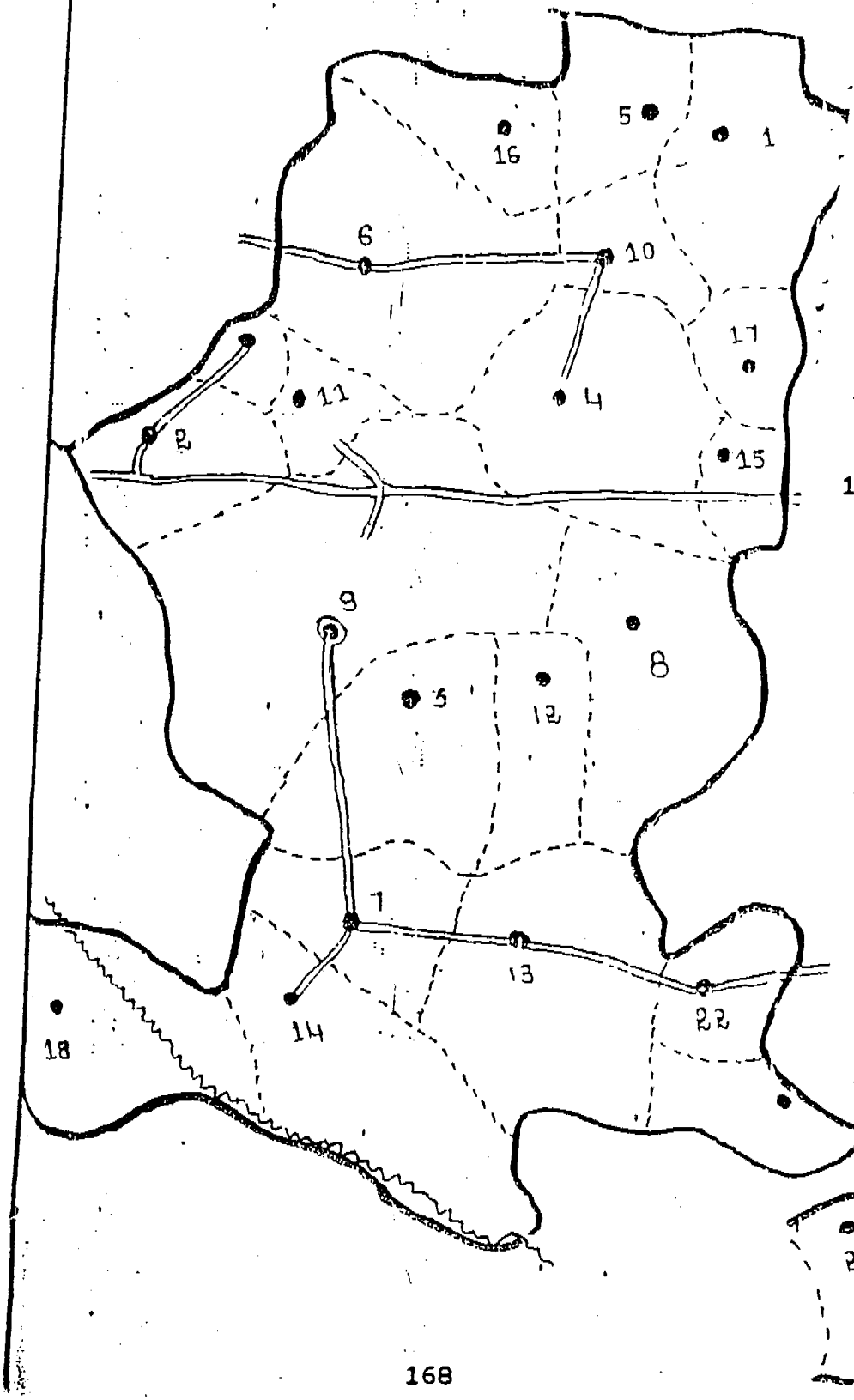
Villages proposed

1. Pedavoora
2. Parivedula
3. Pinnavoora
4. Pothunoor
5. Pulicherla
6. Singaram
7. Chintapally
8. Utlapally

Villages not proposed

9. Chalakurthi
10. Chiru Sanagalu
11. Chintalapalem
12. Garnekunta
13. Gammanakota
14. Kothalooru
15. Lingampally
16. Nadikonda
17. Polepalli
18. Sunkisala
19. Tangatur
20. Thammadapally
21. Theppala madaka
22. Thimmayapalem
23. Thunikinuthala
24. Nellakatlu

PEDDAADISARLAPALLI MANDALAM



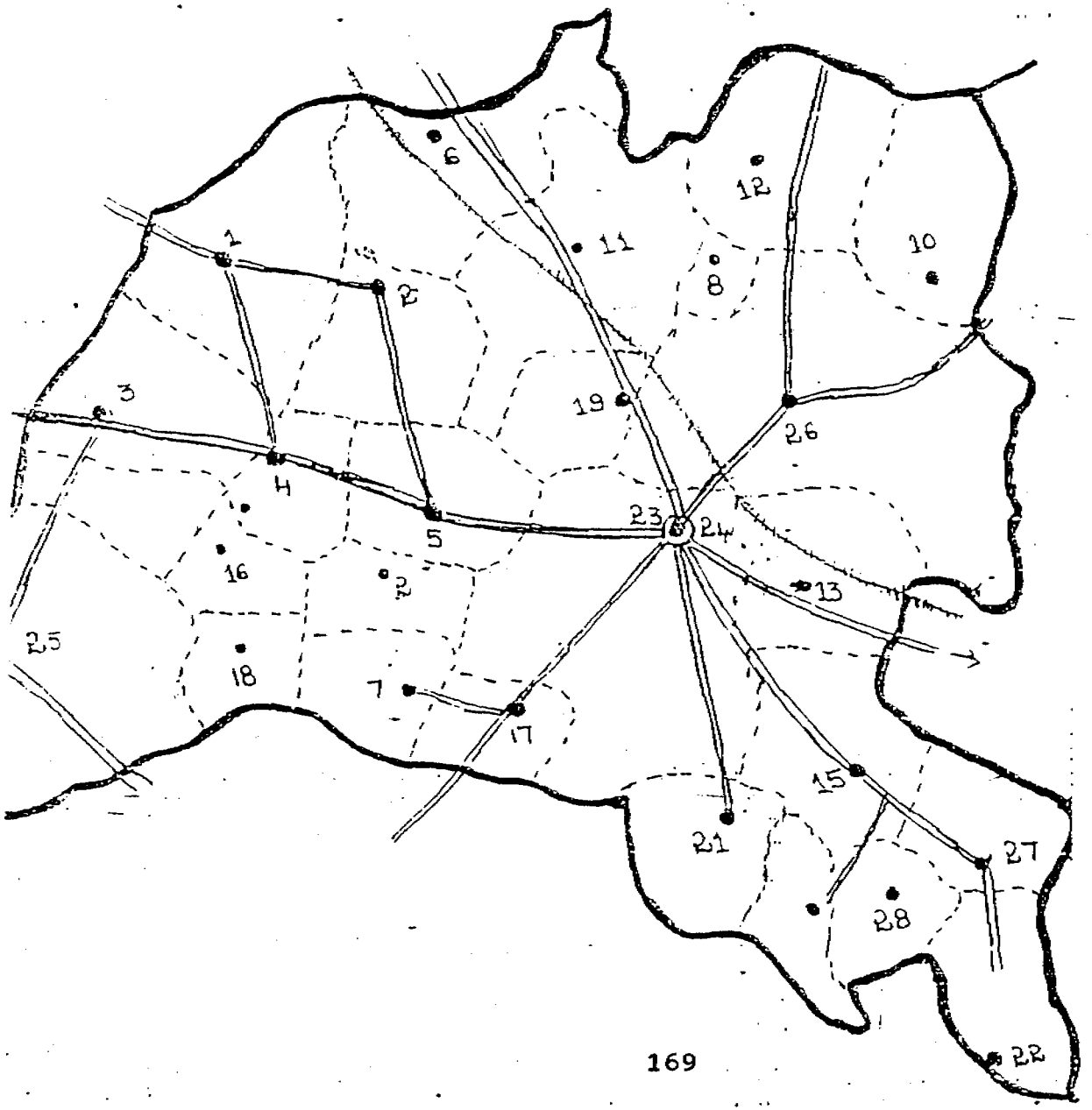
Villages Proposed:

1. Bhimanapally G.
2. Chilakamarry
3. Dugyala
4. Ghanapur
5. Ghanapally
6. Gudipally
7. Mallapuram
8. Medaram
9. Pedda Adisharla Pally
10. Polkam Pally
11. Rollkal
12. Thirumalagiri
13. Waddi Patla
14. Gatvemillipuram
15. Kesamneni Pally
16. Madhavapuram
17. Sura Pally

Villages not Proposed:

18. Ajapuram
19. Peravala
20. Sedda Puram
21. Vabbapuram
22. Venka Nilaya Pahad
23. Yellapuram

NALLAGONDA MANDALAM



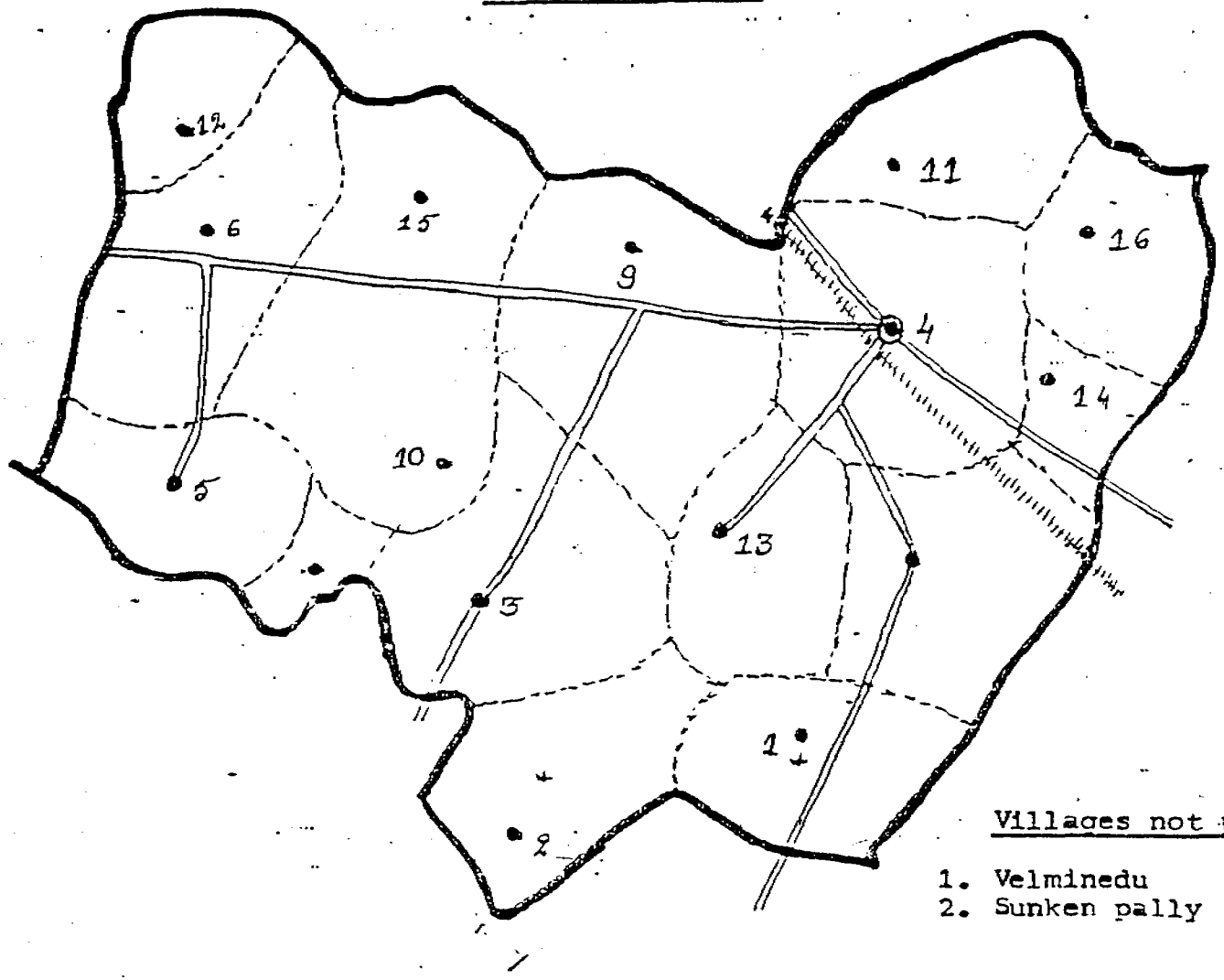
Villages proposed:

1. Appagipet
2. Buddaram
3. Domalapally
4. Kakulakondaram
5. Kanchanapally
6. Anneparthi
7. Cherlapalli
8. Donakal
9. Marrigudem

Villages not proposed:

10. Anantharam
11. Ammagudem
12. Annareddigudem
13. Chandanapalle
14. Dandampalle
15. Gollagudem
16. Gundlapalli
17. Guttakindi Annaram
18. Kothapalle
19. Kudavanpur
20. Maddivaridomalapalle
21. Medla Duppalapalle
22. Mushampalle
23. Nalgonda (U)
24. Nalgonda (R)
25. Narsinghbatla
26. Panagal
27. Rasoolpuram
28. Velgupalle

CHITYALA MANDALAM



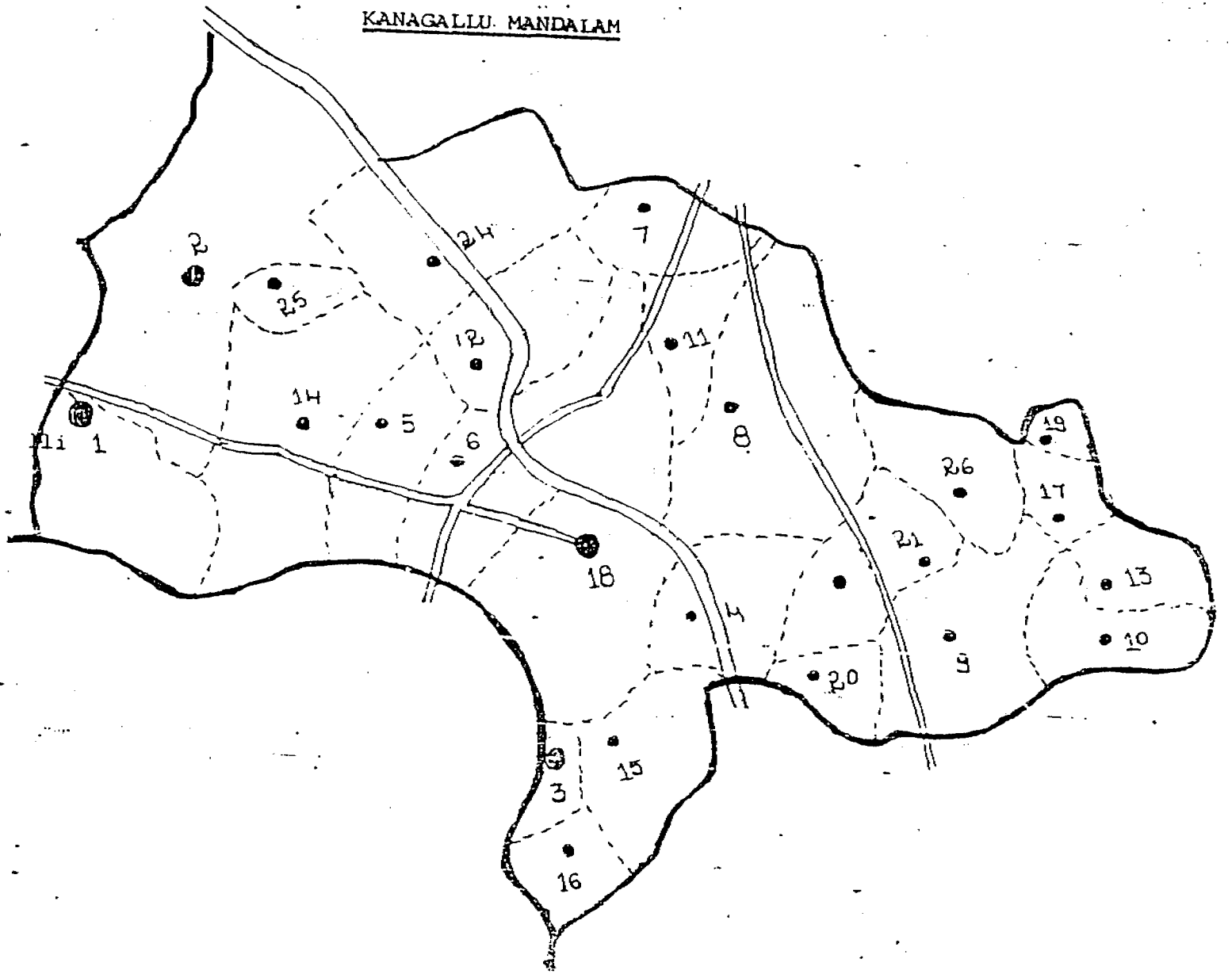
ages Proposed:

atta
ellamla
akaparthy
yal

rampally
da
pally
akaparthy
am Pally
neniguda
dla
imarthy
pakala
oni chervoo

Villages not proposed:

1. Velminedu
2. Sunken pally



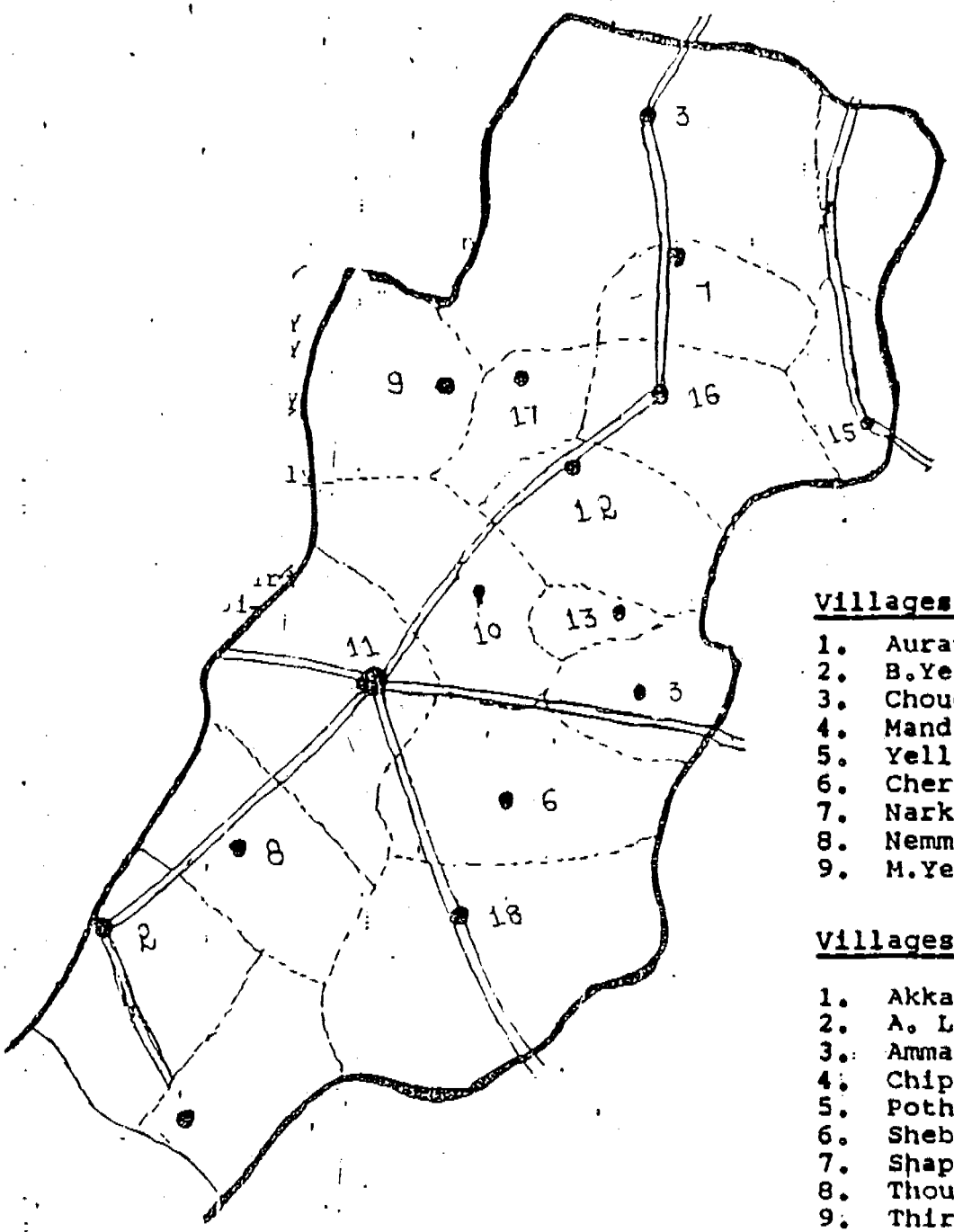
ges Proposed:

nugodu
gatta
urakapally
wraram

llages not proposed:

mmepalli
yyanapalli
dumarlapalli
ennaram
erla Gouraram
etla Chennaram
inamadaram
rveshpur
repalli
dugantipalli
ddavari Yedlapalli
dilapur
gamayaguda
nagallu
ngenapalli
laram
rsimpur
rvathagiri
rveshpur
agidimatti
abbulapur
oragallu

NARKETPALLI MANDALAM



Villages Proposed:

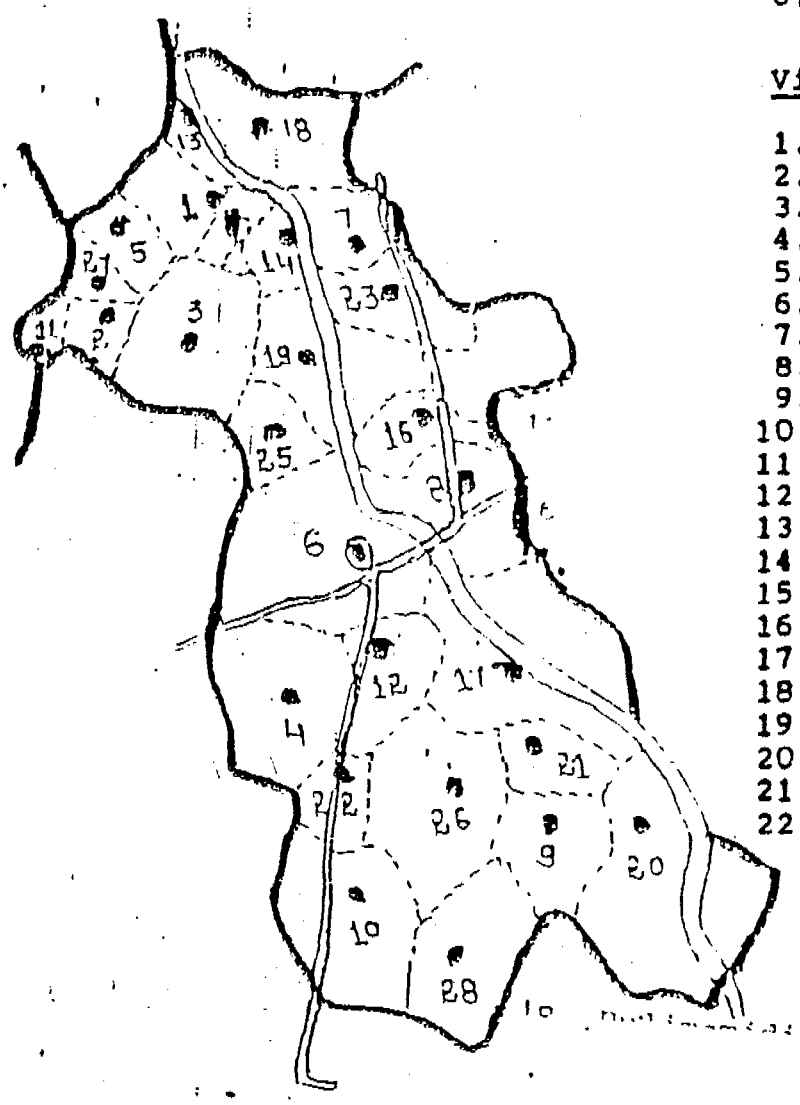
1. Auravani
2. B.Yellemla
3. Choudrampally
4. Mandra
5. Yellareddyguda
6. Cheroogattu
7. Narketpally
8. Nemmani
9. M.Yedavally

Villages Proposed(NOT)

1. Akkanapally
2. A. Lingotam
3. Ammanabole
4. Chippalapally
5. Pothinenipally
6. Shebbiguda
7. Shapally
8. Thoundalvai
9. Thirumalgiri

ANNEXURE - 4

ANUMULA MANDALAM



Villages Proposed

1. Marepally
2. Mukkamala
3. Yacharam
4. Alvala
5. Kosalamarri
6. Venkatadri palem

Villages Not Proposed:

1. Annaram
2. Anumula
3. Ambetpally
4. Ibrahimpeta
5. Kompally
6. Konerupuram
7. Kothapally
8. Kummarikunta Kalava
9. Kushanpally
10. Narayanapuram
11. Palem
12. Perroru
13. Pulimamidi
14. Ramadugu
15. Rajavaram
16. Shilgapuram
17. Shirampuram
18. Srinathapuram
19. Kushampally
20. Thimmapuram
21. Thirmalgiri
22. Yellapuram

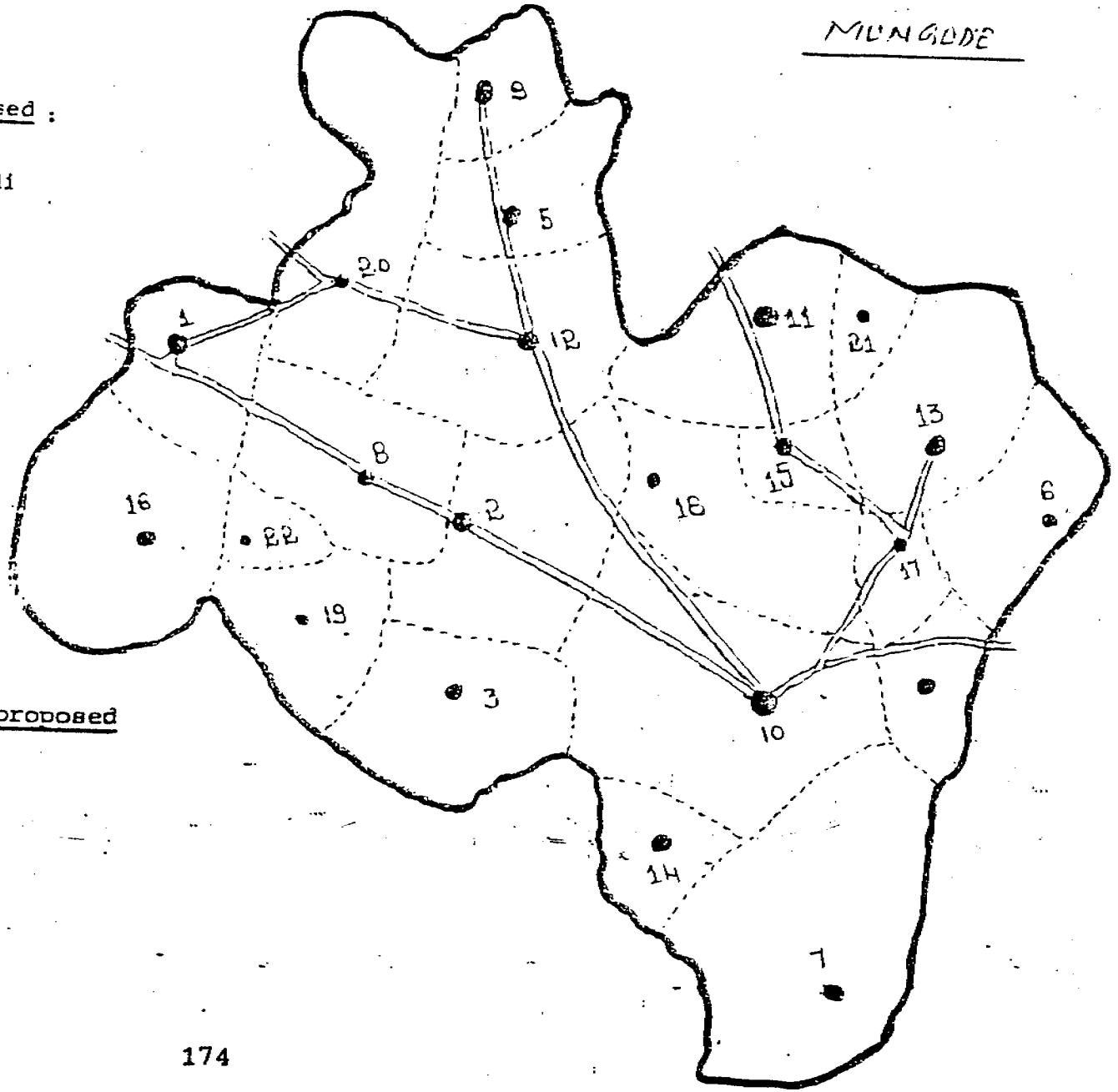
MUNGODE

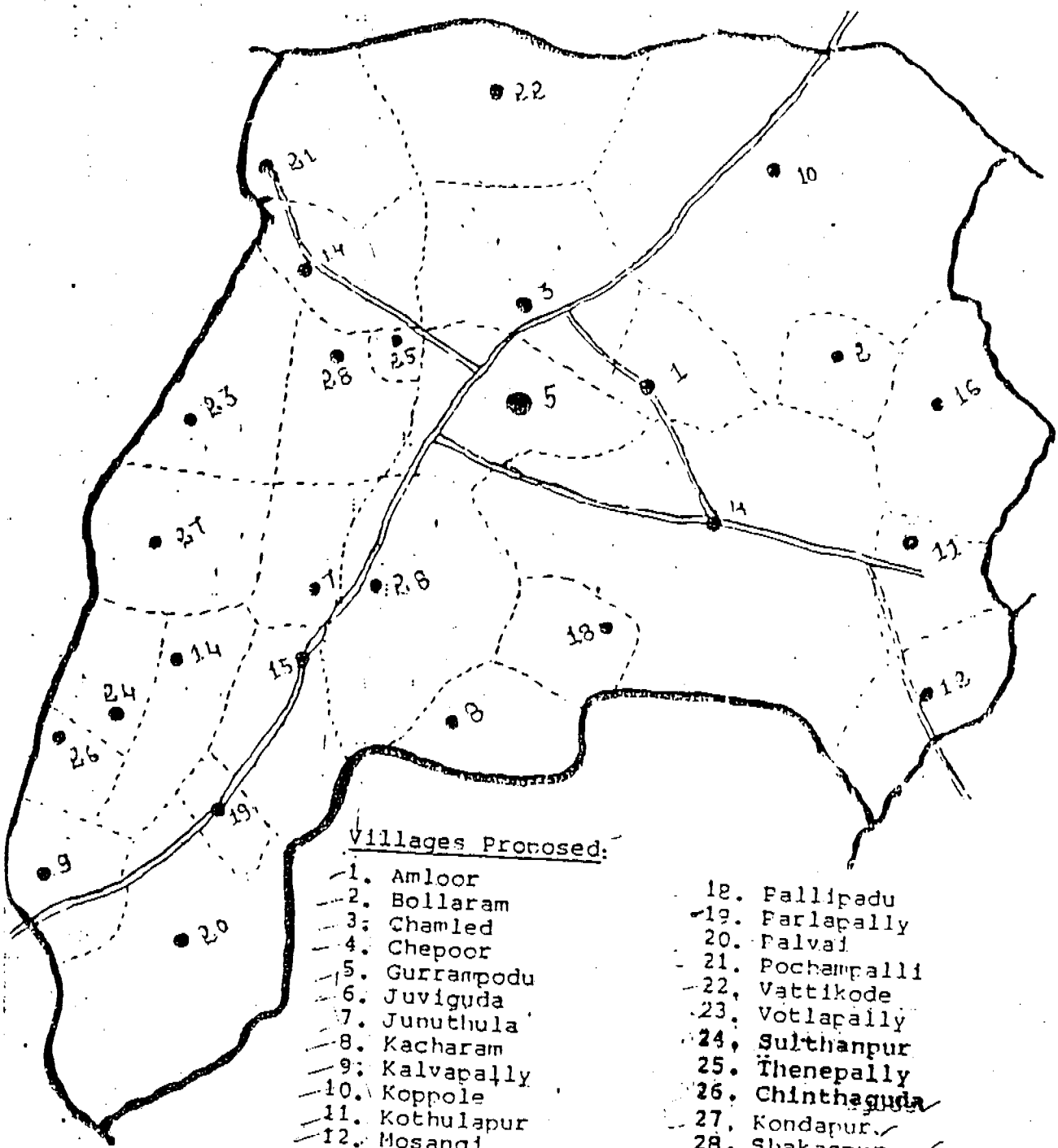
Villages Pronosed :

1. Chalimada
2. Chikatimamidi
3. Choliedu
4. Gudapur
5. Ippartni
6. Kalvalapally
7. Koratikal
8. Kompally
9. Kisthapur
10. Munugode
11. OOkandi
12. Pallivella
13. Pulipalpula
14. Solipur
15. Singaram
16. Velmakanne
17. Kachilapur
18. Kalvakuntla
19. Kothularam
20. Kathipalli

Villages not proposed

1. Jamastanpalli
2. Marriguda



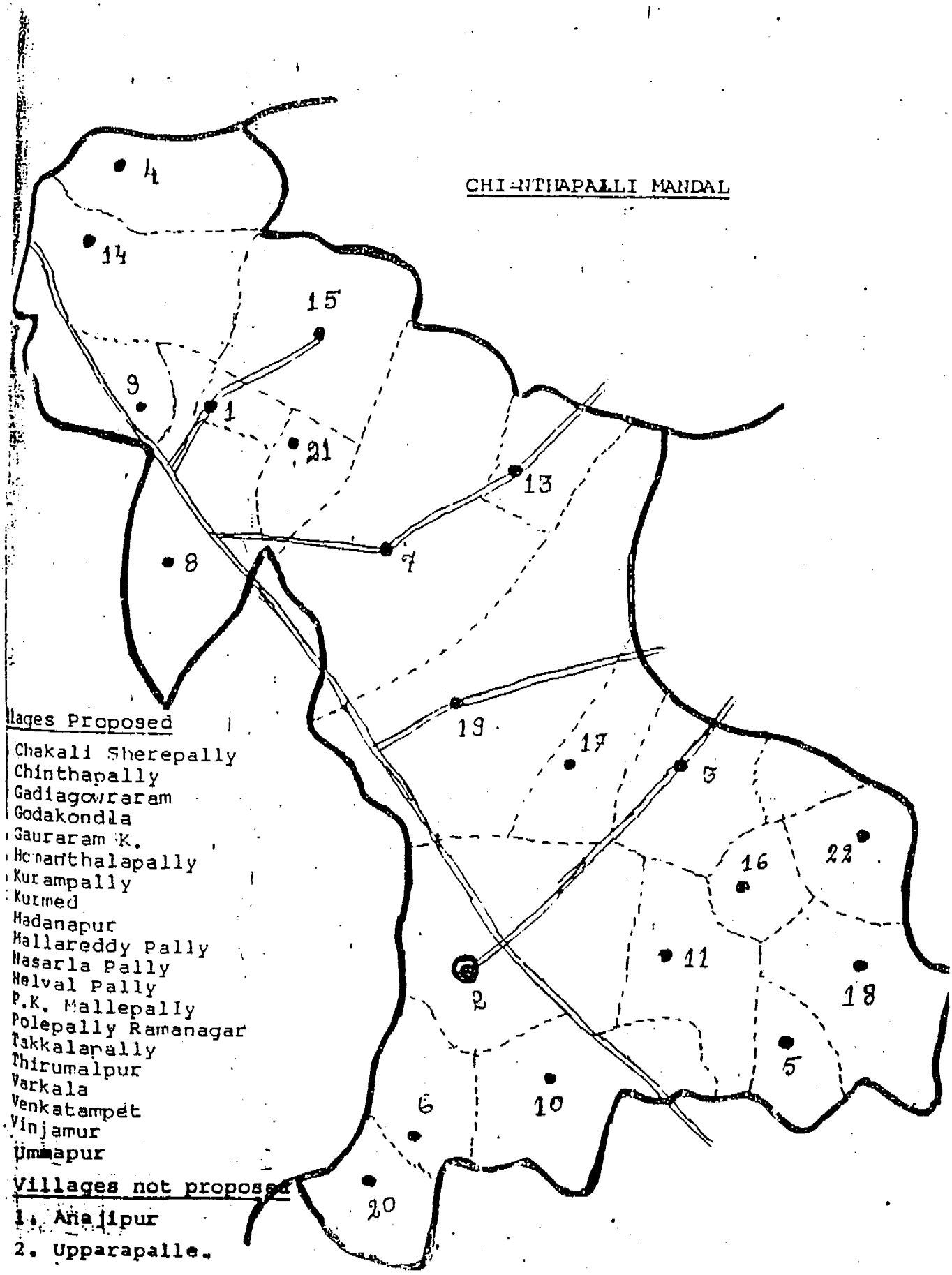


Villages Proposed:

1. Amloor
2. Bollaram
3. Chamled
4. Chepoor
5. Gurrampodu
6. Juviguda
7. Junuthula
8. Kacharam
9. Kalvapally
10. Koppole
11. Kothulapur
12. Mosangi
13. Nakkapally
14. Mulkulapally
15. Mylapur
16. Nadikuda
17. Nakkapally
18. Pallipadu
19. Parlapally
20. Palvai
21. Pochampalli
22. Vattikode
23. Votlapally
24. Sulthanpur
25. Thenepally
26. Chinthaguda
27. Kondapur
28. Shakaspuram
29. Sulthanpur
30. Thenepally

GURRAMPODU MANDALAM

CHINTHAPALLI MANDAL



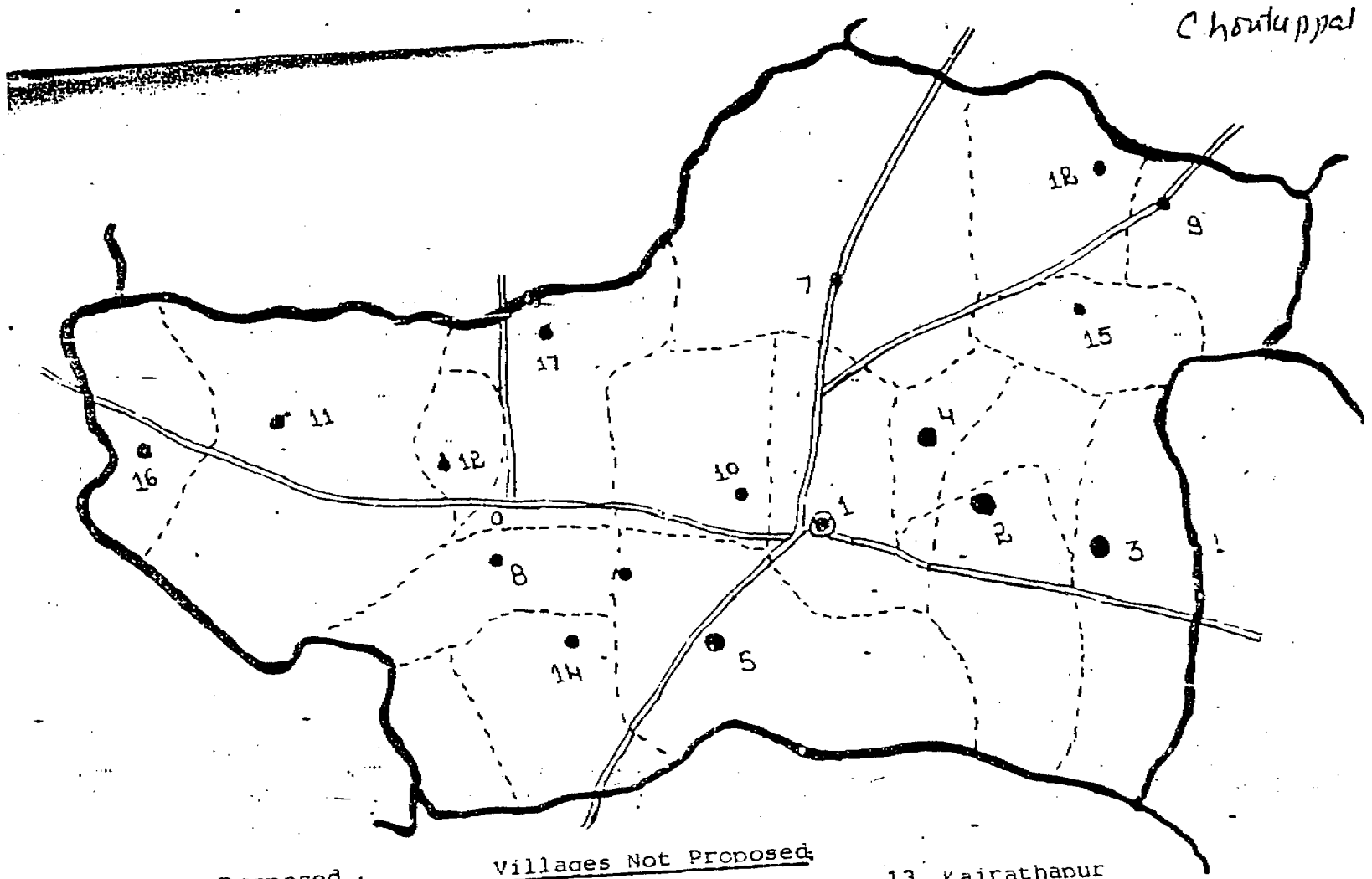
Villages Proposed

Chakali Sherepally
Chinthapally
Gadiagowraram
Godakondla
Gauraram K.
Honarthalapally
Kurampally
Kurmed
Madanapur
Hallareddy Pally
Nasarla Pally
Nelval Pally
P.K. Mallepally
Polepally Ramanagar
Takkalapally
Thirumalpur
Varkala
Venkatampet
Vinjamur
Ummapur

Villages not proposed

1. Anajipur
2. Upparapalle.

Chautupal



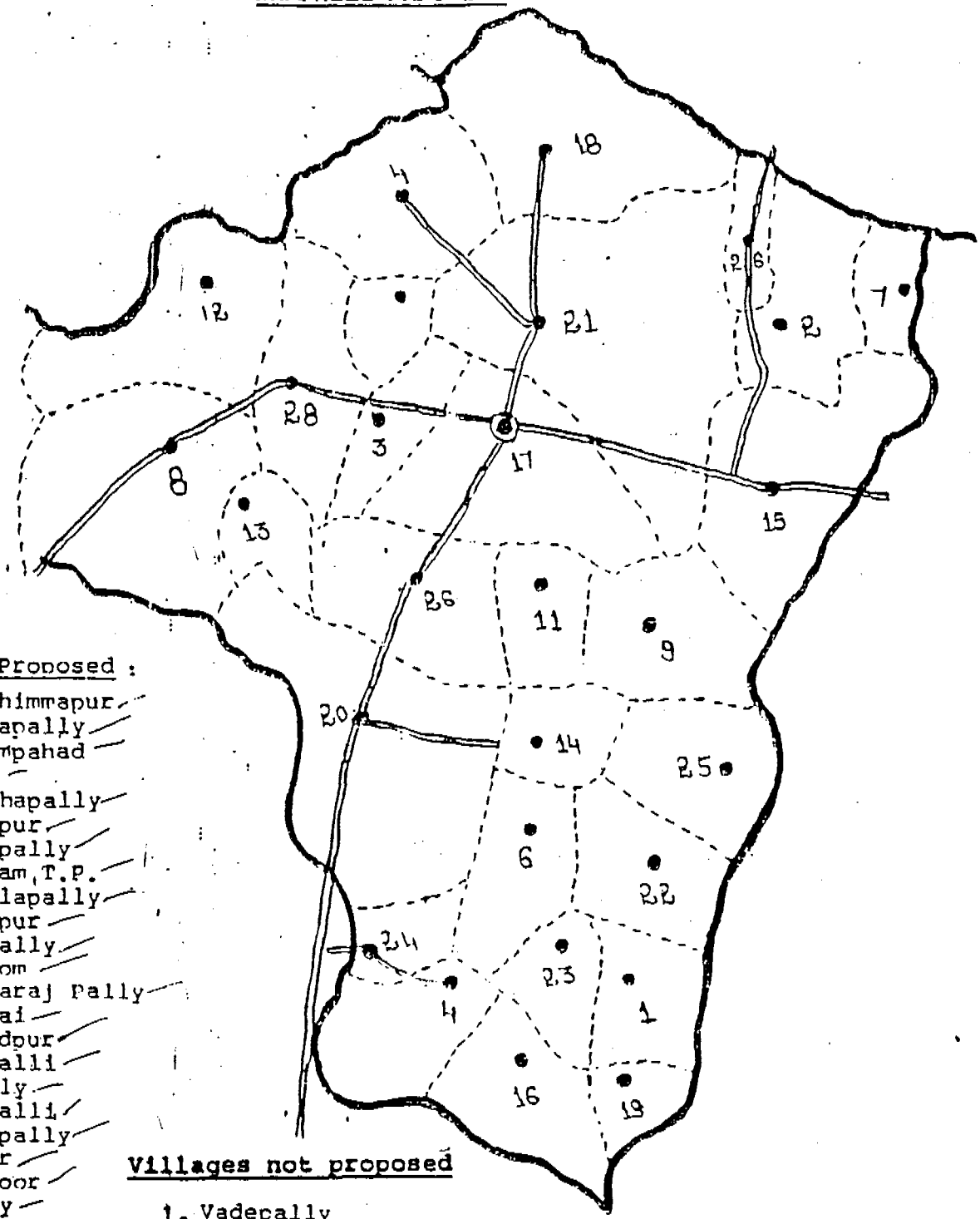
Villages Proposed :

1. Chautupal
2. Lingojiguda
3. Panthangi
4. Tallasingaram
5. Thangadapally
6. **Lakkaram**

Villages Not Proposed:

7. Allapur
8. Chivakonduru
9. Devulamma Nagaram
10. Jaikesaram
11. **Nelapatla**
12. Malkapur
13. Kairathapur
14. Nelapatla
15. Peepal Pahad
16. Swamulavari Lingotum
17. Thupran P et
18. Yelagiri

NAMPALLI MANDALAM



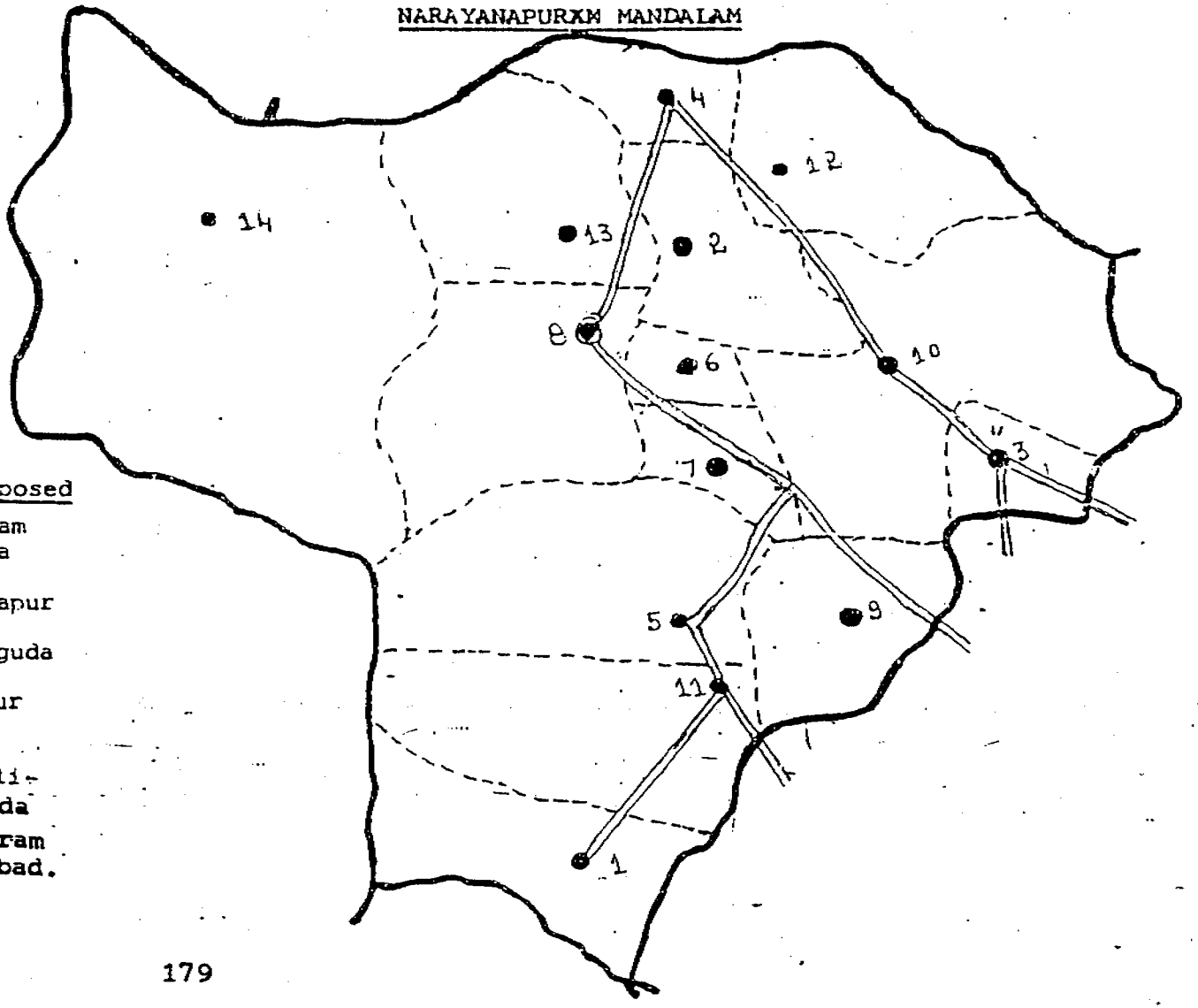
Villages Proposed :

1. Bandathimmapur
2. Chamalapally
3. Chittampahad
4. Damera
5. Devanthapally
6. Fakkerpur
7. Ganugapally
8. Gowraram, T.P.
9. Mallapally
10. Hydalapur
11. Kethepally
12. Lingotom
13. Mallaparaj Pally
14. Medlavai
15. Mohamadpur
16. Mustupalli
17. Nampally
18. Nerlapalli
19. Pagidipally
20. Pasnoor
21. Peddapoor
22. Rebally
23. Sunkishala
24. Sharbhapur
25. Thummalapally
26. Thirumalagiri
27. Thummalagiri

Villages not proposed

1. Vadepally

NARAYANAPURXM MANDALAM



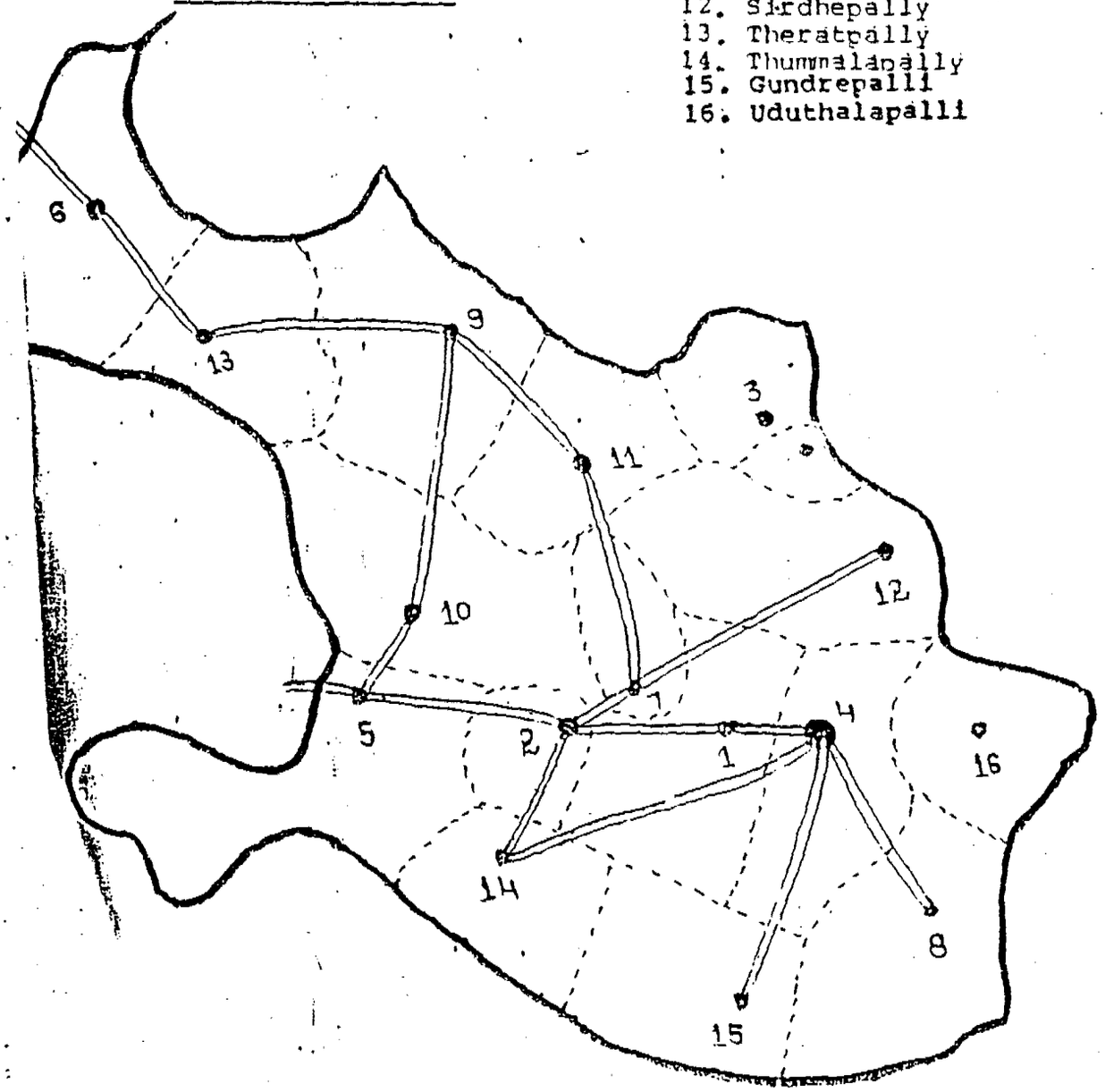
Villages Proposed

1. Chillapuram
2. Chimiryala
3. Gujja
4. Guddimalkapur
5. Jangam
6. Kankanalaguda
7. Kothaguda
8. Narayanapur
9. Pulilapaka
10. Survalu
11. Vavilapalli
12. Rachakonda
13. Kothulapuram
14. Mahammadabad.

Villages Proposed :

1. Angadipet
2. Bangarigadda
3. Bodanghiparthy
4. Chandur
5. Donipamula
6. Gattupal
7. Idikuda
8. Kasthala
9. Kondapuram
10. Nermatta
11. Pulemla
12. Sirdhepally
13. Theratpally
14. Thummalapally
15. Gundrepalli
16. Uduthalapalli

CHANDURU MANDALAM



MARRIGUDA MANDALAM

Villages Proposes:

Anthampet
Batlapally
Bhina Pally. D.
Indurthy
Konduru
Khudabakshapally
Lenkala Pally
Marriguda
Matichandrapur
Namapur
Sarumpet
Somarajuguda
Tammada Pally
Thirugundla Pally
Venkapally
Wattipally
Yerragundlapally
Vaddepalli