

Detailed Note accompanying the proposals for Diversion of forest land to an extent of 1602.2870 Ha Forest Land required for Sita Rama Lift irrigation Project including permission for 275.44 Ha is falling in Eco Sensitive Zone (ESZ) of Kinnerasani WLS and in addition to the forest area permission for 167.5191 Ha of Non forest area falling in Eco Sensitive Zone of KinnerasaniWLS

Introduction:

Earlier to Bifurcation of Andhra Pradesh, two projects namely (i) Rajiv Dummugudem Lift Irrigation Scheme (RDLIS) (ii) Indira Sagar Rudramkota Lift Irrigation Scheme (ISRLIS) were proposed in order to harness the irrigation potential of left out ayacut from existing irrigation schemes, which is about 6.74 Lakh Acres in Khammam, Bhadradi-Kothagudem (earlier Khammam Dist.) and Mahabubabad Dist. (earlier in Warangal Dist.). Out of which about 2 Lakh Acres was proposed to be covered by Rajiv Dummugudem Lift Irrigation Scheme (RDLIS) and 1.25 Lakh Acres was proposed to be covered by Indira Sagar Lift Irrigation Scheme (ISRLIS). Even after execution of these two schemes, about 2.55 Lakh Acres will still remain to be covered by any future irrigation scheme. More over after Bifurcation of Andhra Pradesh 7 Mandals of Khammam District were transferred to Andhra Pradesh and it was amalgamated in West Godavari District of Andhra Pradesh. In this process the intake structure of proposed Indira Sagar Lift Irrigation Scheme went into the administrative boundary of Andhra Pradesh. As such there is a need for revision of the Indira Sagar Scheme in order to avoid administrative difficulties in O&M between two adjoining states. In view of above the present Telangana Government has decided not only to integrate earlier proposed Indira Sagar and Rajiv Sagar Lift Irrigation Scheme (IRLIS & RDLIS) into one lift irrigation scheme and also to cover the Gap Ayacut, which is not covered under any present or future irrigation schemes. It is in this context the present scheme is contemplated duly renaming as Sita Rama Lift Irrigation Project (SRLIP) to cover about 6.74 Lakh Acres of ayacut in Khammam, Bhadradi-Kothagudem and Mahabubabad Districts. The Sita Rama Lift Irrigation Scheme will cover the Khammam, Bhadradi-Kothagudem and Mahabubabad Districts, With a command area of 3,28,853 Acres as new ayacut and Stabilization of ayacut about 3,45,534Acres.

The Sita Rama Lift irrigation Project is proposed to draw water from Godavari River (R/S) U/S of existing Dummugudem Anicut. The Dummugudem anicut is located at Dummugudem (Village & Mandal) in Bhadradi Kothagudem district at 17° 52' 26" N and 80° 53'6" E.

Sita Rama Lift Irrigation project is formulated to cover about 674387 Lakh Acres of ayacut in Khammam, Bhadradi-Kothagudem and Mahabubabad Districts in Telangana state including new ayacut about 3,28,853 Acres and Stabilization of about 3,45,534 Acres. Stabilization of existing ayacut under Major and Medium projects like NSP, Wyra, Lankasagar and Paleru is of about 2,48,376 Acres and other under minor irrigation schemes and PR Tanks where there is no assured irrigation source for an area of about 97,158 Acres is envisaged. And there is provision for Industrial and Drinking Water Supply also.

Sita Rama Lift Irrigation Project envisages construction of Head Regulator at Dummugudem anicut and to draw water from Godavari through an approach channel right side of Godavari. It consists of gravity canals, four nos. Of pump houses at (1) B.G.Kothuru, Aswapuram (M), (2) V.K.Ramavaram, H/O Pusugudem, Mulakalapally(M), (3) Kamalapuram, Mulakalapally(M), (4) Dibbagudem H/o Gandugulapally(V), Dammapeta (M), Lift systems, Tunnels and Distributory Networks.

Cost of the Project:

The Government has accorded administrative approval vide G.O.Ms No. 11, IRRIGATION & CAD (PROJECTS -I) DEPARTMENT, Dated: 18-02-2016 (enclosed) for the work "Construction of Integrated (Rajeev Sagar and Indira Sagar) Dummugudem Lift Irrigation Scheme which is now named as "Sita Rama Lift Irrigation Project" for an amount of Rs. 7,926.147 Crores. The Revised Estimate was submitted to the Government of Telangana for Rs.13243.50 Crores for approval. Total land required is 7032.18 Ha out of which 1602.287 Ha is forest land and 5429.90 Ha is Non-forest land.

Sitarama Lift Irrigation Project:

The Sita Rama Lift Irrigation Project envisages construction of Head Regulator at Dummugudem anicut to draw 70.40 TMC of water from River Godavari through an approach channel at CBL El.+45.00 m. The Approach Channel has been designed 1.50 times the capacity the of required discharge i.e., with a design discharge of 382 Cumecs (13500 Cusecs) from the River Godavari and with a length of 1.00 Km and then designed as gravity canal for a length of 9.50 km, thereafter the water will be lifted with a proposed 1st pump house with a discharge of 255Cumes (9000 cusecs) at Village B.G.Kothuru, Aswapuram (M) from El. +43.51 m to El. +67.180 m and then water will be flowing through a gravity canal of a length 33.100 Km crossing two major rivers Kinnerasani and Murredu at Ch. 36.250 Km and 38.000 Km respectively, and then will be lifted with 2nd pump house at Ch. 43.900 Km near Village V.K.Ramavaram, H/O Pusugudem, Mulakalapally(M), Bhadradri-Kothagudem District with a discharge of about 250 cumecs from El. +62.464 to El +110 m to Delivery Cistern at Ch. 44.650 Km and then water will be flowing through a lined canal of about 12.575 Km length up to proposed 3rd Pump House at Km. 57.225, Kamalapuram and then water will be lifted through the pump from El.+ 108.238 m to El. +160 m to delivery cistern at Ch. 58.750 Km with a Discharge of 209.23cumecs, and canal runs by gravity up to km 114.5 (and its end at Rollapadu (KM 114.500)).Then Water will passes by Gravity canal and enter into Tunnel at km 110.475 and Exit at km 112.434 and then water passes up to km 114.500 chimalapadu village and merged into Moddupeddavagu (local vagu) by irrigating the above discussed ayacut. The Sathupally Trunk envisages lifting of water from El. +108.238 m to El. +160 m and El. +200 m. The left branch of canal i. e Lingasamudram is of about 14.725 Km (at El. + 161 m) covers about 6000 Acres. The Sathupally Main Canal (at El. 200 m) is of about 43.5 Km length and irrigates around 70,000 Acres. A Branch canal of about 12.950 Km namely Bethupally takes off from this canal and irrigates about 51265 Acres (NTR Canal 19500 Acres and rest new ayacut). Water is lifted from the Sathupally main Canal through Fourth pump house, which has been proposed at Dibbagudem H/o Gandugulapally(V), Dammapeta(M) of Bhadradri-Kothagudem District. Here, the Sathupally canal is divided into two Branch canals namely Palavagu and Dammapeta(lifted from El. +193.364m to El. + 271m and El. + 225.5m respectively). Dammapeta canal is about 15.125m and irrigates about 23970 Ac. Palavagu flows through gravity for a length of about 13.500 Km and then split in to two canals namely Vinayakapuram and Gollagudem. Gollagudem is a gravity canal of about 18.375 km. Vinayakapuram canal flows for a length of 0.3m and then it is allowed to flow through existing

pipeline (pressure main at El. +200.00m executed as a part of ISRLIS) for a length of about 4km and again flows through gravity for 19.6 Km. Palavagu Canal irrigates about 31850 Ac Vinayakapuram about irrigates 21850 Ac.

1.1 Status of the Project:

- Total Project reaches are proposed to be divided into 9 numbers of reaches for the purpose of work convenience, DPR is also enclosed.
- Field investigation works for main canal, distributaries are in progress.
- Land acquisition is also in progress.

1.2 Environmental & Forest Aspects:

Proposals for Environmental clearances are Submitted and the proposals are accepted and TOR received vide Lr. M.O.E.F, GOI, No J-12011/16/2017-1A-I(R) Dt: 04-08-2017, and EIA / EMP studies are in progress.

1.3 Total Land required for the Project (Forest & Non - Forest):

The total extent of Forest area required for diversion for the purpose of SRLIP is **1602.287 Ha** out of which **275.44 Ha of forest land** is falling in Eco Sensitive Zone (ESZ) of Kinnerasani wild life Sanctuary, but does not fall in the Kinnerasani WLS. Apart from the above an extent of about **167.5191 Ha** of Non forest areas also falls in ESZ.

The tentative total land acquisition for the entire project details are shown in tables below for both forest and Non – Forest along with status of each project viz., conducting ETS & DGPS Survey by I&CADD and its authentication by PCCF, the tentative dates for commencement and completion of work, the details of land requirement etc are as follows.(ETS & DGPS / DGNSS data authenticated by PCCF(HOFF)).

Statement showing Forest Area required each Forest Division wise		
RF_NF_ESZ	Division	Area_Ha
Forest	Khammam	52.6488
	Kothagudem	418.3755
	Manuguru	10.3922
	Paloncha	568.0272
	Sathupally	277.4033
	Total	1326.847
ESZ & Forest	Manuguru	202.5612
	Paloncha	72.8788
	Total	275.44
Total (Forest Area & Forest ESZ)		1602.287
ESZ & Non Forest apart from the above 1602.287 Ha.	Manuguru	54.5542
	Paloncha	112.9649
	Total	167.5191
Grand Total		1769.8061

Reach wise Forest and Non Forest Area

Reach	Non Forest Area (in ha)	Forest Area (in ha)
Reach -I	412.1651153	10.3922
Reach -II	166.8757588	270.1931
Reach -III	107.223796	27.7917
Reach -IV	276.7381627	250.6333
Reach -V	42.35936868	8.2013
Reach -VI	58.61999191	25.528
Reach -VII	363.9619587	145.5326
Reach -VIII	371.0101174	337.9931
Reach -IX (Sathupally Trunk)	595.7373533	508.2904
Distributaries	3035.2084	17.7313
TOTAL	5429.90	1602.287

1.4 Proposals for diversion of forest land for Sitarama Lift Irrigation Project under FC Act, 1980:

Many alternative alignments for water conveyer system are worked out in order to minimize the involvement of forest land. The forest land diversion proposals are finalized with a minimum total diversion of forest land of about **1602.287 Ha and are submitted.**

As per the provision of the Forest (Conservation) Act, 1980 and the Rules, Guidelines, Circulars issued therein, the user agency who wants to use any forest land for non-forest purpose, the proposals shall be submitted for the **entire project in totality** to the concerned Nodal officer authorized by the State Government i.e., Principal Chief Conservator of Forests, Hyderabad, Telangana. However, as per the provisions contained in Para 2.2 (iii) in guidelines issued under the Forest (Conservation) Act, 1980 (amended in F.No.10-125/2013-FC(pt-III), Dt.25.02.2014 in case of Irrigation Projects, "the proposals seeking prior approval of the Central Government under the Act for the irrigation projects shall be processed in entirety. However, keeping in view of the long gestation period of such projects, User Agency, for valid and cogent reasons, may split such projects in different phases. State government while submitting the proposals to obtain in-principle (stage-I) approval of the Central Government under the Act for diversion of the entire forest land required for the project, may intimate the extent of forest land required and time-schedule for execution of its each phase, and may request the Central Government to consider grant of final (Stage-II) approval under the Act for diversion of forest land required for the project in a phased manner, as may be specified by them.

In such cases at the time of submission of the proposals, scheme for compensatory afforestation for the forest land required for execution of initial phase, main canals, approach channel from the river Godavari and pump houses and its ancillaries, as indicated by the State Government in the proposal, may be insisted upon. The FAC after examination of such proposals may stipulate time-schedule for transfer and mutation in favor of SFD, of the non-forest land and funds for creation of compensatory afforestation in lieu of the forest land required for execution of remaining phases, so as to ensure that expenditure incurred on the initial phases of the project doesn't become infructuous. Stage-II approval under the act for diversion of forest land required for execution of such phases will be accorded with the approval of FAC".

After working out various alternative Alignments, the diversion of forest land to the minimum requirement is worked out as per the hydraulic parameters and extent of forest land required is as follows:

RF_NF_ESZ / DISTRICT	Division	Patch	RF Name	RF Compartment	Area in Hectares
Forest / Bhadradi Kothagudem	Manuguru	Patch - 1	Chintriyal	2	10.3922
ESZ & Forest / Bhadradi Kothagudem		Patch - 3	Nellipaka b	6	46.7093
		Patch - 3	Nellipaka b	5	7.8587
		Patch - 3	Nellipaka b	4	19.4033
		Patch - 5	Kistasagar	16	29.103
		Patch - 5	Kistasagar	8	1.5289
		Patch - 10	Kistasagar	8	32.1118
		Patch - 10	Kistasagar	7	28.7014
		Patch - 14	Non Forest		1.4517
		Patch - 15	Kistasagar	8	5.8535
		Patch - 15	Kistasagar	7	5.4392
		Patch - 17	Nellipaka b	6	5.2469
		Patch - 20	Nellipaka b	6	7.7561
		Patch - 20	Nellipaka b	5	1.3604
		Patch - 20	Nellipaka b	4	3.2704
		Patch - 22	Kistasagar	16	5.7815
		Patch - 22	Kistasagar	8	0.9851
		Forest / Bhadradi Kothagudem	Kothagudem	Patch - 30	Penagadapa
Patch - 35	Kanigiri			95	4.8038
Patch - 35	Kanigiri			126	13.7979
Patch - 35	Kanigiri			94	23.0426
Patch - 36A	Kanigiri			92	20.7974
Patch - 36A	Kanigiri			91	13.3327
Patch - 36A	Kanigiri			90	30.4316
Patch - 37	Kanigiri			89	10.1633
Patch - 39	Kakarla			86	3.7815
Patch - 40	Kanigiri			88	17.1524
Patch - 40	Kanigiri			87	5.1483
Patch - 41	Cheemalapadu			32	55.0796
Patch - 41	Cheemalapadu			31	75.6707
Patch - 41	Cheemalapadu			27/2	2.8913
Patch - 59	Cheemalapadu			32	2.1941
Patch - 59	Cheemalapadu			31	8.5855
Patch - 61	Julurpadu			85	40.1159
Patch - 62	Julurpadu			85	8.8616
Patch - 63	Julurpadu			85	3.6228
Patch - 65	Annapureddipalli			131	0.4144
Patch - 66	Annapureddipalli	131	3.7956		
Patch - 67	Annapureddipalli	129	10.51165		
Patch - 67	Annapureddipalli	128	15.18595		

RF_NF_ESZ / DISTRICT	Division	Patch	RF Name	RF Comartment	Area in Hectares
ESZ & Forest / Bhadradi Kothagudem		Patch - 68	Annapureddipalli	132/1	30.1742
		Patch - 7	Uppusaka	8	3.5152
		Patch - 7	Uppusaka	9	34.9784
		Patch - 11	Kistasagar	18	19.7019
		Patch - 11	Kistasagar	17	9.3691
		Patch - 23			0.2117
		Patch - 23	Kistasagar	18	3.5264
		Patch - 23	Kistasagar	17	1.5761
Forest / Bhadradi Kothagudem	Paloncha	Patch - 9	Narayanaraopet b	1	4.4679
		Patch - 12	Mulakalapally	7	4.5277
		Patch - 12	Dantalabora	1	18.4276
		Patch - 13	Narayanaraopet a	1	0.3685
		Patch - 31	Annapureddypally	43	42.6713
		Patch - 31	Annapureddypally	42	21.0387
		Patch - 32	Mulakalapally	18	25.6594
		Patch - 32	Mulakalapally	19	46.7452
		Patch - 33	Mulakalapallyext ii	21	4.6197
		Patch - 34	Mulakalapally	12	48.7849
		Patch - 34	Mulakalapally	1	12.9592
		Patch - 34	Mulakalapally	2	29.5698
		Patch - 43	Annapureddypally	43	2.4539
		Patch - 44	Annapureddypally	42	8.9262
		Patch - 44	Penagadapa	39	4.7585
		Patch - 45	Annapureddypally	43	5.3679
		Patch - 45	Annapureddypally	42	10.8955
		Patch - 45	Penagadapa	39	2.6403
		Patch - 46	Mulakalapally	18	2.6821
		Patch - 46	Mulakalapally	19	3.2804
		Patch - 47	Mulakalapallyext ii	21	1.8926
		Patch - 48	Mulakalapally	12	6.8152
		Patch - 48	Mulakalapally	1	3.8796
		Patch - 48	Mulakalapally	2	5.7237
		Patch - 51	Annapureddypally	44	1.3237
		Patch - 51	Annapureddypally	43	4.5208
		Patch - 51	Annapureddypally	45	1.3458
		Patch - 51	Annapureddypally	42	2.2985
		Patch - 51	Penagadapa	39	2.3552
		Patch - 52	Penagadapa	39	3.4398
		Patch - 53	Penagadapa	39	22.2460
		Patch - 54	Mulakalapallyext ii	21	28.3997
		Patch - 55	Mulakalapallyext ii	21	2.8619
		Patch - 57	Mulakalapallyext i	11	7.7635
Patch - 58	Mulakalapallyext i	11	1.5200		
Patch - 70	Nagupalli	196	1.501		
Patch - 70	Balrajguda	318	0.2598		
Patch - 71	Nagupalli	195	1.5995		
Patch - 71	Balrajguda	318	8.6304		

RF_NF_ESZ / DISTRICT	Division	Patch	RF Name	RF Comartment	Area in Hectares
		Patch - 71	Balrajguda	318	5.1443
		Patch - 72	Devudigattu	304	3.0185
		Patch - 73	Nagupalliextn i	211	2.4349
		Patch - 74	Nagupalliextn i	211	1.3765
		Patch - 75	Lachapurext i	301	0.9968
		Patch - 76	Lachapur	300	3.3584
		Patch - 77	Lachapur	300	8.0786
		Patch - 78	Tirumalakunta	226	1.4702
		Patch - 78	Tirumalakunta	225	12.3813
		Patch - 78	Tirumalakunta	224	10.6282
		Patch - 80	Tirumalakunta	227	3.8921
		Patch - 80	Tirumalakunta	226	3.9310
		Patch - 81	Tokagudem	299	7.3410
		Patch - 82	Tokagudem	299	1.5981
		Patch - 83	Annapureddypally	43	1.1239
		Patch - 83	Annapureddypally	45	4.8169
		Patch - 83	Annapureddypally	42	1.1717
		Patch - 87	Tirumalakunta ii	322	8.5723
		Patch - 88	Annapureddypally	44	3.3638
		Patch - 88	Annapureddypally	45	13.2416
		Patch - 90	Annapureddypally	42	2.0309
		Patch - 91	Annapureddypally	42	0.3671
		Patch - 92	Nallamudi	185	6.3536
		Patch - 93	Jagannadhapuram	186	12.777
		Patch - 94	Devudigattu	304	17.1169
		Patch - 95	Devudigattu	304	4.0827
		Patch - 96	Jamedarbanjar n	316	10.3841
		Patch - 97	Lachapurext i	301	5.5973
Patch - 98	Lachapurext i	301	2.1561		
Forest / Khammam	Sathupally	Patch - 69	Lankapalli	154	1.775
		Patch - 84	Lankapalli	153 a	99.123
		Patch - 84	Lankapalli	149/1	31.635
		Patch - 84	Lankapalli	152	40.1696
		Patch - 84	Lankapalli	152	10.1352
		Patch - 84	Lankapalli	154	3.1507
		Patch - 84	Lankapalli	153 b	16.1065
		Patch - 84	Lankapalli	153 b	2.7405
		Patch - 85	Lankapalli	154	11.9193
		Patch - 89	Annapureddipalli	139	18.4616
		Patch - 89	Annapureddipalli	140 a	15.3487
		Patch - 89	Annapureddipalli	137	2.1097
		Patch - 89	Annapureddipalli	138	24.7285
Forest / Khammam	Khammam	Patch - 42	Cheemalapadu	29	2.5223
		Patch - 42	Cheemalapadu	27/2	4.4098
		Patch - 42	Cheemalapadu	27/2	5.0764
		Patch - 49	Cheemalapadu	29	27.9571
		Patch - 49	Cheemalapadu	29	5.0586

RF_NF_ESZ / DISTRICT	Division	Patch	RF Name	RF Comapartment	Area in Hectares
		Patch - 50	Cheemalapadu	27/2	0.9367
		Patch - 50	Cheemalapadu	27/2	1.0133
		Patch - 60	Cheemalapadu	27/2	5.6746
				Total	1602.2870

The total requirement of diversions of forest land is of about **1602.2870 Ha** spreading over Five Divisional forest units including **275.44 Ha** falling in **Eco Sensitive Zone (ESZ)** of **Kinnerasani Wild life Sanctuary**. The diversion of forest land proposals as per the F(C) Act, 1980 for each divisional forest unit has been prepared duly marking the canals, Tunnels, Reservoirs on the relevant forest maps in separate booklets. In addition to the forest, an extent of **167.5191 Ha** of non-forest areas are also falling in ESZ of Kinnerasani WLS also requires permission under Wildlife (Protection) Act, 1972.

1.5 Mapping of the forest areas proposed for diversion:

The ETS & DGPS/ GNSS Survey for the forest areas proposed for diversion has been carried out and the data was submitted to the Forest Department. The same were authenticated by the Forest Department. The extent of the forest area involved is estimated as per the ETS & DGPS/ GNSS Survey data by ascertaining the entry & exit points of alignment with RF, as furnished in the above table.

The alignment of the water conveyer system is marked on the topo sheet of 1:50,000 scale. The alignment is also marked in the field with boundary stones. The actual involvement of forest land and its extent is ascertained after joint field inspection with forest authorities.

1.6 Project details are as follows: Total cost of the project is **Rs. 13,263.860 Crores**. The Sita Rama Lift Irrigation project is divided into 9 number of reaches for purpose of work convenience. The Government have accorded administrative approval vide G.O.Ms No. 11, IRRIGATION & CAD (PROJECTS -I) DEPARTMENT, Dated: 18-02-2016 (enclosed) for the work "Construction of Integrated (Rajeev Sagar and Indira Sagar) Dummugudem Lift Irrigation Scheme which is now named as "Sita Rama Lift Irrigation Project" for an amount of **Rs. 7,926.147 Crores**. The Revised Estimate was submitted to the Government of Telangana for **Rs. 13243.50.00 Crores** for approval. Total land required is **7032.18 Ha** out of which **1602.287 Ha** is forest land and **5429.90 Ha** is Non-forest land

Reach - I: SRLIP Ch 0.0 km to 10.800 km

This reach envisages construction of Head Regulator at Dummugudem Anicut and to draw 70.4 TMC of water from River Godavari through an approach channel of CBL El. +45m. The approach Channel has been designed 1.5 times the capacity of required discharge i.e., with a design discharge of 382 cumecs (13500 cusecs) from the river with a length of 1.0 Km and then designed as gravity canal for a length of 9.50 Km.

Pump house 1 : Water will be lifted through the proposed 1st pump house with a discharge of 255 cumecs (9000 cusecs) at B.G. Kothuru village, Aswapurammandal, Bhadradi Kothagudem district from El. +43.510m to El.+67. 180m.

Main components of the lift system:

The cost estimate for technical sanction is prepared for each component of lift system and the provisions made are as follows.

1. Forebay & Surge Pool:

A surge pool of 40m length is proposed with bottom level of +24.00. To negotiate the bed level of approach channel i.e +47.508 to the top level of surge pool i.e +28.00, a forebay of 200m is proposed from Km 10.300 to Km 10.500. Necessary energy dissipation arrangements, protection works and retaining walls were proposed.

2. Rock Ledge:

To accommodate draft tube from El. +30.00m to El. +27.00m between surge pool and pump house a rock ledge of 40.00m is proposed. It is proposed to construct a RCC structure duly excavating up to bottom of draft tube. A gravel filling of 1m thick is proposed over the draft tube casing structure and thereby with excavated soil up to ground level.

3. Pump House

- a) **Civil Works:** A pump house of size 126mX20m is proposed for 6No.s of pumps and motors and its allied EM & HM works to lift 9000 cusecs of water. The bottom most level of the pump house is at EL +18.00m for drainage and dewatering component with an excavation depth of 51.00m from G.L.

- b) EM & HM Works: Six numbers of pumps and motors with 25 MW rating is proposed to lift 45 cumecs per each pump. The detailed estimate including itemized equipment for each pump motor set and common equipment for all pumps and motors is prepared. The adviser, Lift Irrigation Schemes, has vetted the proposals to proceed for tenders.
- c) Delivery Main: Six rows of 5m diameter MS pipe of 30mm thick for a length of 200 m is proposed to deliver the required discharge of 9000 cusecs of water. Necessary surge protection works were also provided. The data for cost of MS Pipes and laying & jointing of pipes has been worked out based on SSR 2016-17 data.
- d) Delivery Cistern: Delivery cistern is proposed to accommodate the discharge of 9000 cusecs and to connect the pumped water into the gravity canal. Necessary energy dissipation and protection works were proposed as per the requirement.
- e) Compound wall: A compound wall is proposed all around the pumping station.
- f) Diversion channel: The pumping station is located near the toe of the hillock. A diversion channel is proposed to divert the flash floods along the streams generated from catchment of the hillocks nearby to safe guard the pumping station.
- g) Approach road: The proposed pumping station is located in the fields and inside edge of B.G.Kotturu village. The proposed location is connected by a village kachha road with minimum standards which is not at all suitable for transport of Heavy machinery HM&EM equipment. Hence an approach road of 5km with black top provisions is proposed to connect the pump house to the nearest state highway location at sitaramapuram village to carry heavy loaded vehicles with EM & HM equipments and other materials.

Reach-II: SRLIP From Ch. 10.800 km to 32.000 km

This reach includes Excavation of gravity Main Canal from Km. 10.800 Near B.G.Kotturu (V) of Aswapuram (M) to Km. 32.000 Near Vepalagadda(V) of Burgampahad, Khammam District including construction of CM & CD works. This reach of canal passes through the villages i.e., B.G.Kotturu of Aswapuram, Mondikunta, Krishnasagar, KothaThanda, Nakiripeta, Kalyanapuram, Vepalagadda of Burgampahad mandal. Out of total length of 21.2 Km, forest land is 12.5 Km. Non forest land is from Ch. 10.800 Km to Ch.15.300 Km and forest land is from Ch.15.300 Km to Ch. 26.000 Km & from Ch. 30.00 Km to Ch. 31.800 Km.

Reach-III: SRLIP From Ch 32.000 km to 39.926 km

This reach includes Excavation of gravity Main Canal from Km32.000 near Vepalagadda (V), Burgampahad (M) to Km 39.926 near Koyagutta (V), Paloncha (M) including construction of CM & CD works. Out of total length of 7.926Km forest land is 1.826 Km Non forest land is from Ch.32.000 Km to Ch.38.100Kmand forest land is from Ch.38.100 Km to Ch. 39.926 Km.

Reach-IV: SRLIP Ch 39.926 km to 43.725 km and ch 44.650 km to 57.075 km :

This reach includes Excavation of gravity Main Canal from Km39.926 near Koyagutta (V) to Km 43.725 near V.K. Ramavaram (V) and from Km 44.650 near Pusugudem (V) to Km. 57.075 near Kamalapuram (V), Mulakalapally (M) including construction of CM & CD works. Out of total length of 16.224Km forest land is 8.000Km. Non forest land is from Ch.39.926 Km to Ch.43.725 Kmand 49.300 Km to 51.000 Km and 54.075 Km to 56.650 Km and 56.950 Km to 57.075 Km. Forest land is from Ch.44.675 Km to Ch. 49.300 Km and 51.00 Km to 54.075 Km.

Reach-V: SRLIP Pump House at Ch 43.725 Km to 44.650 Km :

Construction of Pumping Station No.2 at Km 43.900 (Km 43.725 to Km 44.650) of SRLIP Francis Turbine pumps of 6 No's of 40 MW capacity to deliver 8,900 cusecswith synchronous motors including supply, erection, testing and commissioning of electromechanical and hydro mechanical works with allied civil works viz, fore bay, surge pool, rock ledge, raising main, delivery cistern , Compound wall etc. near V.K.Ramavaram village of Mulakalapallymandal of BhadradiKothagudem District. The water will lift from El. + 62.464 m to El. + 110.000m.

Main components of the lift system:

The cost estimate for technical sanction is prepared for each component of lift system and the provisions made are as follows.

1. **Forebay& Surge Pool**

A surge pool of 40m length is proposed with bottom level of +41.00. Necessary energy dissipation arrangements, rock bolting and protection works were proposed.

2. Rock Ledge

To accommodate draft tube from El. +47.00m to El. 44.00m between surge pool and pump house a rock ledge of 50.00m is proposed. It is proposed to construct tunneling with necessary supports upto bottom of draft tube.

3. Pump House

a) Civil Works: A pump house of size 177mX22m is proposed for 6No.s of Francis turbine pumps with synchronous motors and its allied EM & HM works to lift 8900 cusecs of water. The bottom most level of the pump house is at El. +35.00m for drainage and dewatering component with an excavation depth of 53.00m from G.L.

b) EM & HM Works: Six numbers of Francis turbine pumps with synchronous motors with 40MW rating is proposed to lift 42cumecs per each pump. The detailed estimate including itemized equipment for each pump motor set and common equipment for all pumps and motors is prepared. The adviser, Lift Irrigation Schemes, has vetted the proposals to proceed for tenders.

c) Pressure Main: Six rows of 4.5m diameter MS pipe of 22mm thick for a length of 750 m is proposed to deliver the required discharge of 8,900 cusecs of water. Necessary surge protection works were also provided. The data for cost of MS Pipes and laying& jointing of pipes has been worked out based on SSR 2016-17 data.

d) Delivery Cistern: Delivery cistern is proposed to accommodate the discharge of 8,900 cusecs and to connect the pumped water into the gravity canal. Necessary energy dissipation and protection works were proposed as per the requirement.

e) Compound wall: A compound wall is proposed all around the pumping station.

Reach-VI: SRLIP Pump House at Ch 57.075 km to 59.070 km:

This reach includes construction of pumping station-3 at Km 57.225 (from Km 57.075 to Km 59.070) with Francis Turbine pumps of 7 No's (5No's – 40MW and 2 No's -30MW) to deliver 8,758cusecs with synchronous motors including supply, erection, testing and commissioning of electromechanical and hydro mechanical works with allied civil works viz, fore bay, surge pool, rock ledge, raising main, delivery cistern, Compound wall etc. near Kamalapuram village of Chandrugondamandal of BhadradiKothagudem District. From this pump house-3 two raising

mains are necessitated i.e., one is towards Rollapadu to meet required level of +160.000m and the other one towards to meet required level of +200.000m.

Main components of the lift system:

The cost estimate for technical sanction is prepared for each component of lift system and the provisions made are as follows.

1. Forebay& Surge Pool

A Forebay&surge pool of length 60m and 40m respectively is proposed with bottom level of +77.00.

2. Rock Ledge

To accommodate draft tube from El. +88.00m to El.+91.00m between surge pool and pump house a rock ledge of 50.00m is proposed. It is proposed to excavate using tunnelingmethod and necessarymechanical arrangements were proposed for draft tube gates.

3. Pump House

a) Civil Works:A pump house of size 149mX26.4m is proposed for 7No.s of pumps and motors and its allied EM & HM works to lift 8758 cusecs of water. The bottom most level of the pump house is at El. +76.00m for drainage and dewatering component with an excavation depth of 66.50 m from G.L.

b) EM & HM Works:Five numbers of pumps and motors with 40MW rating is proposed to lift 42cumecs from each pump towards Rollapadu and Two numbers of pumps and motors with 30MW rating is proposed to lift 20cumecs from each pump towards Sathupally. The detailed estimate including itemized equipment for each pump motor set and common equipment for all pumps and motors is prepared. The adviser, Lift Irrigation Schemes, has vetted the proposals to proceed for tenders.

c) Pressure Main: Five rows of 4.0 m diameter MS pipe of 22mm thick for a length of 1,525 m is proposed to deliver the required discharge of 7,407 cusecs of water towards Rollapadu. Two rows of 3.0 m diameter MS pipe of 18mm thick for a length of 1,800 m is proposed to deliver the required discharge of 1,388 cusecs of water towards Sathupally Necessary surge protection works were also provided. The data for cost of MS Pipes and laying& jointing of pipes has been worked out based on SSR 2016-17 data.

d) Delivery Cistern: Delivery cistern is proposed to accommodate the discharge of 7,414 cusecs for Rollapadu trunk canal and another to accommodate a discharge of 1,342 cusecs to connect the pumped water into the gravity canal. Necessary energy dissipation and protection works were proposed as per the requirement.

e) Compound wall: A compound wall is proposed all around the pumping station.

Reach-VII: SRLIP From Ch 59.075 Km to 83.00 km:

This reach includes construction of Gravity Canal from Km 59.075 to Km 83.000 with CM & CD works. This reach of canal passes through the villages i.e., Kamalapuram, Ramachandrapuram, Marrigudem, Rajapuram, Gumpena and Bendalapadu of Chandrugondamandal of Bhadradi – Kothagudem Dist. The gravity canal runs in Non-forest land is from Ch. 62.350 Km to Ch. 79.500 Km and forest land from Ch. 59.075 Km to Ch. 62.350 Km & from Ch. 79.500 Km to Ch. 83.000 Km. Total length of the canal in this package is 23.925 Km.

Reach-VIII: SRLIP From Ch 83.000 Km to 114.500 Km:

This reach includes Excavation of gravity Canal from Km 83.000 near Guttaygudam(V), Chandrugonda (M) to Km. 114.500 and merged into Moddupeddavagu (local vagu) near Chimalapadu (V), Singareni (M) of Bhadradi – Kothagudem District including construction of CM & CD works. It includes tunnel from Km 110.475 to Km 112.434.

Reach-IX: Sathupally Trunk:

The Sathupally Trunk envisages lifting of water from El. +108.238 m to El. +160 m and El. +200 m. The left branch of canal i. e. Lingasamudram is of about 14.725 Km (at El. + 161 m) covers about 6000 Acres. The Sathupally Main Canal (at El. 200 m) is of about 43.5 Km length and irrigates around 70,000 Acres. A Branch canal of about 12.950 Km namely Bethupally takes off from this canal and irrigates about 51265 Acres (NTR Canal 19500 Acres and rest new ayacut). Water is lifted from the Sathupally main Canal through Fourth pump house, which has been proposed at Dibbagudem H/o Gandugulapally(V), Dammapeta(M) of Bhadradi-Kothagudem District. Here, the Sathupally canal is divided into two Branch canals namely Palavagu and Dammapeta(lifted

from El. +193.364m to El. + 271m and El. + 225.5m respectively). Dammapeta canal is about 15.125m and irrigates about 23970 Ac. Palavagu flows through gravity for a length of about 13.500 Km and then split in to two canals namely Vinayakapuram and Gollagudem. Gollagudem is a gravity canal of about 18.375 km. Vinayakapuram canal flows for a length of 0.3m and then it is allowed to flow through existing pipeline (pressure main at El. +200.00m executed as a part of ISRLIS) for a length of about 4km and again flows through gravity for 19.6 Km. Palavagu Canal irrigates about 31850 Ac Vinayakapuram about irrigates 21850 Ac. s Package envisages lifting of water from El. 113.163 m to El. 165 m and El. 200 m. The left branch of canal at El. 165 m covers about 6000 Acres through LingaSamudram Branch Canal. The Sathupalli Main Canal (at El. 200 m) is of about 43 Km irrigates around 70,000 Acres out of which a branch canal namely Bethupalli of about 15 Km takes off from this main canal irrigates about 51265 Ac. (NTR Canal 19500 Ac and rest new ayacut). Water is lifted from the Sathupalli main Canal from El. 192.16 to El. 273.5 and 226.5 to flow through canal Palavagu and Dammapeta Canals respectively. Dammepata Canal irrigates about 23970 Ac. whereas Palavagu Canal irrigates about 31850 Ac. and water is allowed to flow through existing pipeline and joins proposed Vinayakapuram canal at El. 200 m which irrigates 21850 Ac. An estimate amount is worked out toRs. 2107Crores.

1.7 Details of non-forest CA lands:

a) Certain Non forest government lands have been identified for CA propose in Bhadradi-Kothagudem, Khammam and Jagtiyal districts. ETS & DGPS/ GNSS Survey conducted and authentication has been obtained from forest department.

b) The District Collector, Bhadradi-Kothagudem and khammam have accepted to divert the government lands to forest department and issued no objection and non-encumbrance certificate and the same certificate are awaited from The District Collector, Jagtiyal. The details of the non-forest CA land area of**1983.2943Ha** are as follows.

District	Mandal	Name	Sy no	Area (ha)
Bhadrachalam	Charla	Jangallapalli	60	115.087
		Ricepeta	117	127.347
		Bumulanka	12	
		Dosalapalli	40	7.595
		Cherla	6	10.709
		Singasamudram	91	4.463
		Kaliveru	37	13.622
		Puligundala	1	20.040
	Aswapuram	Aswapuram	400	39.660
		Elkalagudem	336	0.000
		Amerdha	127/1	9.433
		Bhattupalli	116	0.000
		Gondigudem	336	36.505
		Nellipaka	997	7.140
		Thummalacheruvu	71	7.904
		Thummalcheruvu	71	0.000
		Aswapuram	400/1	0.000
	Dummugudem	Chinnabandirevu	63	37.582
		Balarajugudem	78p	17.324
		Sitarampuram	3,4 & 5	13.488
Paidakulamadugu		31	13.701	
Kothagudem	Mulakalapalli	Alupulagutta	626	20.479
		Rachannagudem	116	61.660
		Nallamudi (jagannadapuram)	626	42.194
	Mulkalapalli	Jagannadapuram (seethaigutta)	626	21.593
	Yellandu	Pusapalli	549, 556, 557 & 558	33.506
	Dammapeta	Ankampalem (bojjagutta)	350	20.883
		Patwarigudem (kukkalagutta)	149	25.726
		Patwarigudem (edurugutta)	570/1 & 884	28.343
		Jaggaram	287p	15.581
		Nacharam	412p	35.571
	Aswaraopeta	Asupaka	225, 226 & 229	50.186
		Asupaka	226 & 228	220.318
		Tirumalakunta (usirlagudem hamlet)	631	13.919
		Tirumalakunta (bandarigumpu hamlet)	631	31.581
		Total		1103.141

District	Mandal	Name	Sy no	Area (ha)	
Khammam	Thallada	Annargudem_a	68	6.177	
		Annargudem_c	68	7.212	
		Balapet	189	11.343	
			Total		24.732
	Kamepalli	Mucherla – 1	52	77.767	
	Khammam rural	Kasirajugudemnallagutta - 1	94	9.364	
		Teldharpalli -1	205	6.115	
		Teldharpalli -2	569	7.146	
		Are kodu	36	7.799	
	Madhira	Rompinalla		23.013	
		Yendepalli	61	10.262	
	Raghunadhapalem	Erlapudi _ a	52	6.649	
		Erlapudi _ b	52	7.324	
		Erlapudi _ c	52	48.881	
	Tirumalayapalem	Tirumalayapalem_puligutta	169	7.297	
Yerrupalem	Choppakatlalalem	58	18.918		
		Total		230.535	
District	Mandal	Village	Sy.no	Area_Ha	
Jagtial	Medipalli	Kacharam_bojjagutta	187	48.3734	
		Lingampet-gogulagutta	338	10.2870	
		Mannegudem	369	7.9416	
		Govindaram-jilledugutta-1	804 &	113.1453	
		Govindaram-jilledugutta-2	890	14.9720	
		Kalwakota&mannegudem-kukkalagutta	372 &696	59.7164	
		Katlakunta	657	9.9919	
		Kondapur	936	5.8241	
		Kalwakota-nemallagutta	143	14.8538	
		Kacharam-pottigutta	354	16.2981	
		Bheemaram	1308	21.1934	
	Pegadapalli	Lyagalamarri	59	17.1845	
		Pegadapalli_addagutta	583	39.3245	
		Namapur_addagutta	361	22.6353	
		Nancherla	352	17.6070	
		Nancherla	379	68.5080	
		Aithupalli	348	19.9141	
		Aravelli	1423	19.3827	
		Aravelli	1403	25.4564	
		Vengalaipeta	320	38.2733	
Devikonda	38	7.8516			
Devikonda	374	26.1519			
		Total		624.8863	
		Grand Total		1983.2943	

c) This Project proposal **doesn't involve any places of historical, religious, archaeological, recreational importance.**

d) **Booklets:** The total requirement of diversion of forest land is of about **Rs.1602.2870 Ha** spreading over 5 Forest Divisions. Of the total extent of 1602.287 Ha of Forest area required for SRLIP **275.44 Ha** is falling in Eco Sensitive Zone (ESZ) of Kinnerasani Wild life Sanctuary for final ESZ notifications has been issued, but doesn't constitute part of the Kinnerasani WLS.


In addition to the forest area, an extent of **167.5191 Ha** of Non forest area also falls in Eco Sensitive Zone of Kinnerasani Wild Life sanctuary, in total an area of **442.9591 Ha** falls in the ESZ of Kinnerasani WLS.

The diversion of forest land proposals as per the Forest Conservation Act F©Act, 1980 and permission of the proposals as per the Wildlife (Protection) Act, 1972 have been prepared separately each division wise.

The diversion of forest land shall **not be used for any other purpose other than specified in the proposal** i.e., for the purpose of Sita Rama Lift Irrigation Project.

- e) **The required check slips as per Forest (Conservation) Act, 1980 are furnished as follows:**
- i. Annexure – I along with filled-in Part-I,II as well as empty Part III,IV and V in W(P)Act,1972format.
 - ii. Undertaking for depositing funds towards raising & maintenance of Compensatory afforestation (including raising and maintenance of plantations, aided natural regeneration, SMC works etc.)
 - iii. Undertaking for depositing funds towards payment of Net Present Value (NPV) and Additional NPV.
 - iv. Undertaking for depositing funds towards payment of extraction of tree growth.
 - v. Certificate of Area Minimum.
 - vi. Detailed statement requirement of forest land.
 - vii. Map in SI sheet topo showing the forest land.
 - viii. ETS & DGPS/GNSS survey data and maps for forest land proposed for diversion as well as CA land.
 - ix. Certificate for non-violation of Forest (Conservation) Act, 1980 and Wildlife (Protection)Act,1972

- x. Proforma Site inspection certificate to be given by Divisional Forest Officer
- xi. Proforma Certificate for not affecting historical, religious, archaeological, recreational importance to be given by Divisional Forest Officer.
- xii. Proforma Certificate of proposed compensatory afforestation land in a compact block and is located in close proximity under Section-IV of AP Forest Act, 1967 and also site suitability certificate for raising the CA to be given by Divisional Forest Officer.
- xiii. Proforma Certificate for non-violation of Forest (Conservation) Act, 1980 to be given by Divisional Forest Officer
- xiv. Proforma Certificate for soil suitability for compensatory afforestation to be given by Divisional Forest Officer
- xv. Proforma Certificate that the non-forest land has not been proposed in any other project of this department for compensatory afforestation in lieu of Reserved Forest area which is diverted in the proposals to be given by M.R.O.
- xvi. Proforma Certificate of proposal for quantifying the extent of land with all particulars free from any en-conference, encroachment and cultivation to be given by M.R.O.
- xvii. Proforma Undertaking to be given by the District Collectors "that the non-forest CA lands identified will be transferred and mutated in favor of the Forest Department upon receipt of the Stage-I approval" along with non-encumbrance certificate.


Dy. Executive Engineer
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Executive Engineer
SRLIP Division No.1,
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