

Annexure 3

**STRUCTURES UNDERGOING
REHABILITATION AND
TYPICAL DRAWINGS**

GLOSSARY OF TERMS IN IRRIGATION SYSTEM DESIGN AND MANAGEMENT

Any Irrigation System Design and Management Reports refer to various terms that are typically used to denote the function and the structures utilised to provide the necessary services required from an irrigation system. The glossary of terms used in a Typical Irrigation System and Design Management Report is provided in the table below. All the structures mentioned herein may not find a place in the VNC System. Following the glossary of terms are provided Typical Drawings of the structures utilised in the Modernization of the VNC Project. For details of the design and location of these structures, kindly refer to the DPR 2017.

No.	Term	Description
1	Anicut	A barrier built across the river to impound water to feed the canals connected to the anicut.
2	Aqueduct	A structure of masonry, concrete or pipe constructed across natural drainage valley, or road or canal or railway or river etc. , to carry canal water without having to drop the bed level of the lower water way.
3	Balancing Tank / Reservoir	A subsidiary tank / reservoir for storing excess water from the canal which is utilised during the periods of short-supply.
4	Base Period	The number of days a crop requires for maturing from first watering till last watering before harvest.
5	Berm	(a) A horizontal strip built into an embankment / cutting to break the continuity of an otherwise long slope. (b) The space left between the upper edge of the cut and the toe of the embankment.
6	Branch Canal	A canal receiving its supply from main canal and acting as a feeder canal for distribution.
7	Bridges	A structure carrying a road, rail or pathway across a canal or river
8	Canal	Canal is a water-way constructed and maintained for conveyance of water.
9	Canal Losses	Losses of water by percolation, absorption and evaporation from canals.
10	Capacity	The discharge carried at full-supply depth of canal.
11	Cattle Ramp	Cattle ramp provided along the length of the canal to provide the animals of the area access to canal water.
12	Chute	An inclined conduit or open channel for conveying water to negotiate a drop.
13	Continuous Flow Irrigation	A system by which each irrigator receives his allotted quantity of water continuously without resort to rotational water supply.
14	Contour Canal	Canal conforming generally to the contours of the country traversed being given however such a bed fall along its length as is necessary to produce the required velocity of flow.

No.	Term	Description
15	Cross Drainage Works	Cross drainage works is a structure constructed when there is a crossing of canal and natural drain, to prevent the drain water from mixing into canal water.
16	Culturable Command Area	The gross command area less the un-culturable areas like village site, cart tracks, natural drainages, grazing grounds, cremation and burial grounds, thrashing floors, highlands and other uncultivable lands.
17	Delta	The total depth of water required for a crop to mature over its base period.
18	Demand	The irrigation water requirement at the point under consideration.
19	Distributary	A water way receiving its supply from main / branch canal. It supplies water to laterals.
20	Distribution System	Network of canals and appurtenances conveying irrigation water from the head of the distributary down to the fields.
21	Drainage	A natural or artificial process of removing excess water from the surface or sub-surface of an area.
22	Drainage Channel	A channel through which surface or sub-surface water escapes into the valley.
23	Duty Of Water	The relation between the area irrigated and the quantity of water used or required to irrigate upto maturity. Duty is stated with reference to a base period and the point of its reckoning or measurement.
24	Escape	An escape is a structure to remove surplus water from the canal.
25	Fall Or Canal Drop	A work designed to secure lowering of the water surface in a canal and safe dissipation of energy.
26	Feeder	A canal constructed primarily to convey water from one source of supply or system to another.
27	Field Channel	A channel which supplies water from an outlet of a distributary system to the fields. The capacity of the field channel is generally about 1 cusec.
28	Flume	A constricted water-way.
29	Free Board	The minimum vertical distance provided above the full-supply level in the waterway of the canal.
30	Gross Command Area	The total area included within the farthest limits upto which canal water is proposed to be supplied.
31	Inlet	A cross-drainage work consisting of an opening in a canal bank, to admit upland drainage water into the canal.
32	Intensity Of Irrigation	The percentage of culturable command area proposed to be annually irrigated.
33	Inundation Canal	A canal taking off from a river during floods without permanent diversion works constructed.

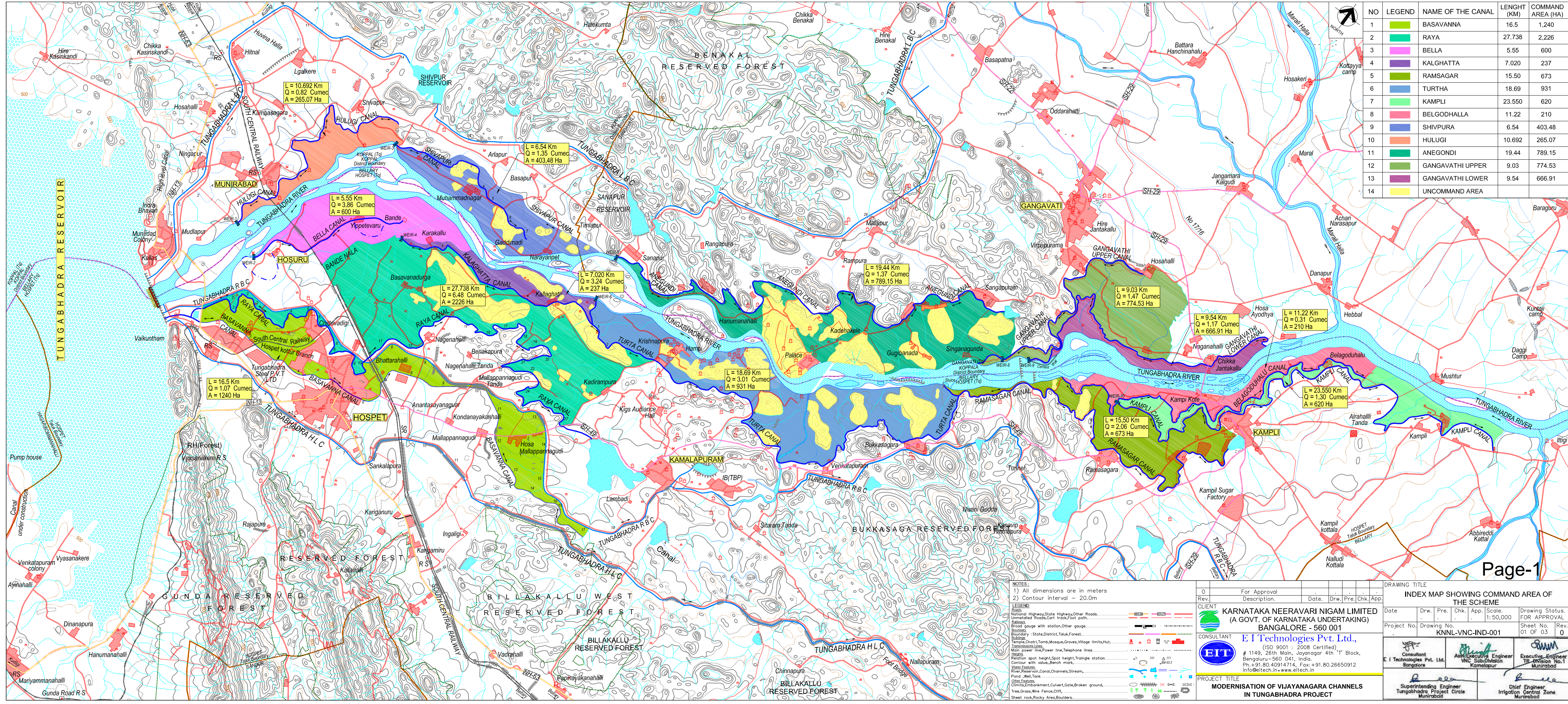
No.	Term	Description
34	Lateral	A channel which takes off from a distributary and its discharge is more than 1 cusecs. It is also called a minor or water course.
35	Main Canal	The principal canal taking off from a river, tank or reservoir.
36	Measuring Devices	A device for measuring discharge directly by measuring the depth of water flowing through it. Open channel methods generally rely on a structure such as a weir, flume, or orifice installed in the channel.
37	Outlet	A regulation structure through which water is supplied to a field channel.
38	Peak Consumptive Use Or Peak Crop Water Requirement	Maximum rate at which water is consumed in the life of a crop
39	Proportional Distributor	A distributor which divides the flow proportionately as required.
40	Regulator	A structure to regulate the flow, passing through the structure or to control the upstream water surface elevation or both. These include the Cross Regulator and Head Regulator.
41	Ridge Canal	Canal aligned along a ridge. There will be no cross-drainage works on a ridge canal.
42	Sopanams	Access provided to the local community along the length of canal for utilising the canal water for washing clothes. In certain cases, the sopanams are also used by the local community to use the canal water for washing clothes.
43	Super Passage	A cross-drainage structure where the natural drainage water is passed over the irrigation canal
44	Syphon	A pressure duct constructed to carry water at a level lower than that at which the open channel normally flows.
45	TMC	Tmcft, (Tmc ft), (TMC), (tmc), is the abbreviation of one thousand million cubic feet (1,000,000,000 = 10^9 = 1 billion), commonly used in India in reference to volume of water in a reservoir or river flow.
46	Water Allowance	The authorized discharging capacity of outlets for thousand hectares of culturable command, expressed as number of cumecs
47	Water Logged Area	Land is classified as water logged when the water table is permanently retained within the crop root zone due to which, the crop yield gets reduced

DRAWINGS

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NO	LEGEND	NAME OF THE CANAL	LENGHT (KM)	COMMAND AREA (HA)
1	[Green]	BASAVANNA	16.5	1,240
2	[Light Green]	RAYA	27.738	2,226
3	[Pink]	BELLA	5.55	600
4	[Purple]	KALGHATTA	7.020	237
5	[Light Green]	RAMSAGAR	15.50	673
6	[Blue]	TURTHA	18.69	931
7	[Light Green]	KAMPLI	23.550	620
8	[Pink]	BELGODHALLA	11.22	210
9	[Blue]	SHIVPURA	6.54	403.48
10	[Orange]	HULUGI	10.692	265.07
11	[Green]	ANEGONDI	19.44	789.15
12	[Light Green]	GANGAVATHI UPPER	9.03	774.53
13	[Purple]	GANGAVATHI LOWER	9.54	666.91
14	[Yellow]	UNCOMMAND AREA		

L = 10.692 Km
Q = 0.82 Cumec
A = 265.07 Ha

L = 6.54 Km
Q = 1.35 Cumec
A = 403.48 Ha

L = 5.55 Km
Q = 3.86 Cumec
A = 600 Ha

L = 7.020 Km
Q = 3.24 Cumec
A = 237 Ha

L = 27.738 Km
Q = 6.48 Cumec
A = 2226 Ha

L = 19.44 Km
Q = 1.37 Cumec
A = 789.15 Ha

L = 9.03 Km
Q = 1.47 Cumec
A = 774.53 Ha

L = 9.54 Km
Q = 1.17 Cumec
A = 666.91 Ha

L = 11.22 Km
Q = 0.31 Cumec
A = 210 Ha

L = 16.5 Km
Q = 1.07 Cumec
A = 1240 Ha

L = 18.69 Km
Q = 3.01 Cumec
A = 931 Ha

L = 15.50 Km
Q = 2.06 Cumec
A = 673 Ha

L = 23.550 Km
Q = 1.30 Cumec
A = 620 Ha

NOTES:
1) All dimensions are in meters
2) Contour interval - 20.0m

LEGEND

Roads
National Highway, State Highway, Other Roads
Unmetalled Roads, Cart track, Foot path
Railways
Broad gauge with station, Other gauge
Boundary : State, District, Taluk, Forest
Buildings
Temple, Chattri, Tomb, Mosque, Graves, Village limits, Hut
Transmission Lines
Main power line, Power line, Telephone lines
Height
Reduction spot height, Spot height, Triangulation station
Contour with value, Bench mark
Water Features
River, Reservoir, Canal, Channels, Stream
Pond, Well, Tank
Other Features
Climb, Embankment, Culvert, Gate, Broken ground
Tree, Grass, Wire Fence, Cliff
Sheet rock, Rocky Area, Boulders

DRAWING TITLE
INDEX MAP SHOWING COMMAND AREA OF THE SCHEME

0	For Approval						
Rev.	Description	Date	Dr.	Pre.	Chk.	App.	

CLIENT
KARNATAKA NEERAVARI NIGAM LIMITED
(A GOVT. OF KARNATAKA UNDERTAKING)
BANGALORE - 560 001

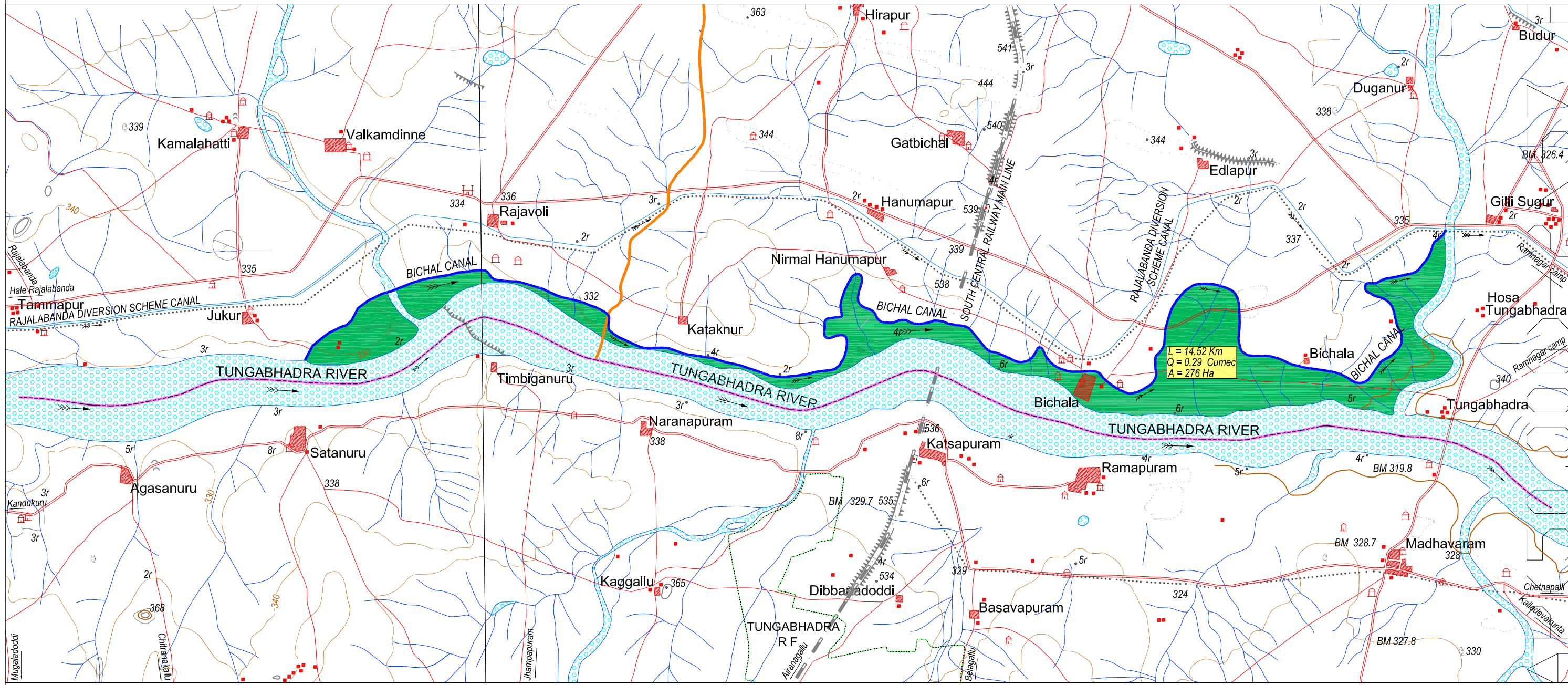
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PROJECT TITLE
MODERNISATION OF VIJAYANAGARA CHANNELS
IN TUNGABHADRA PROJECT

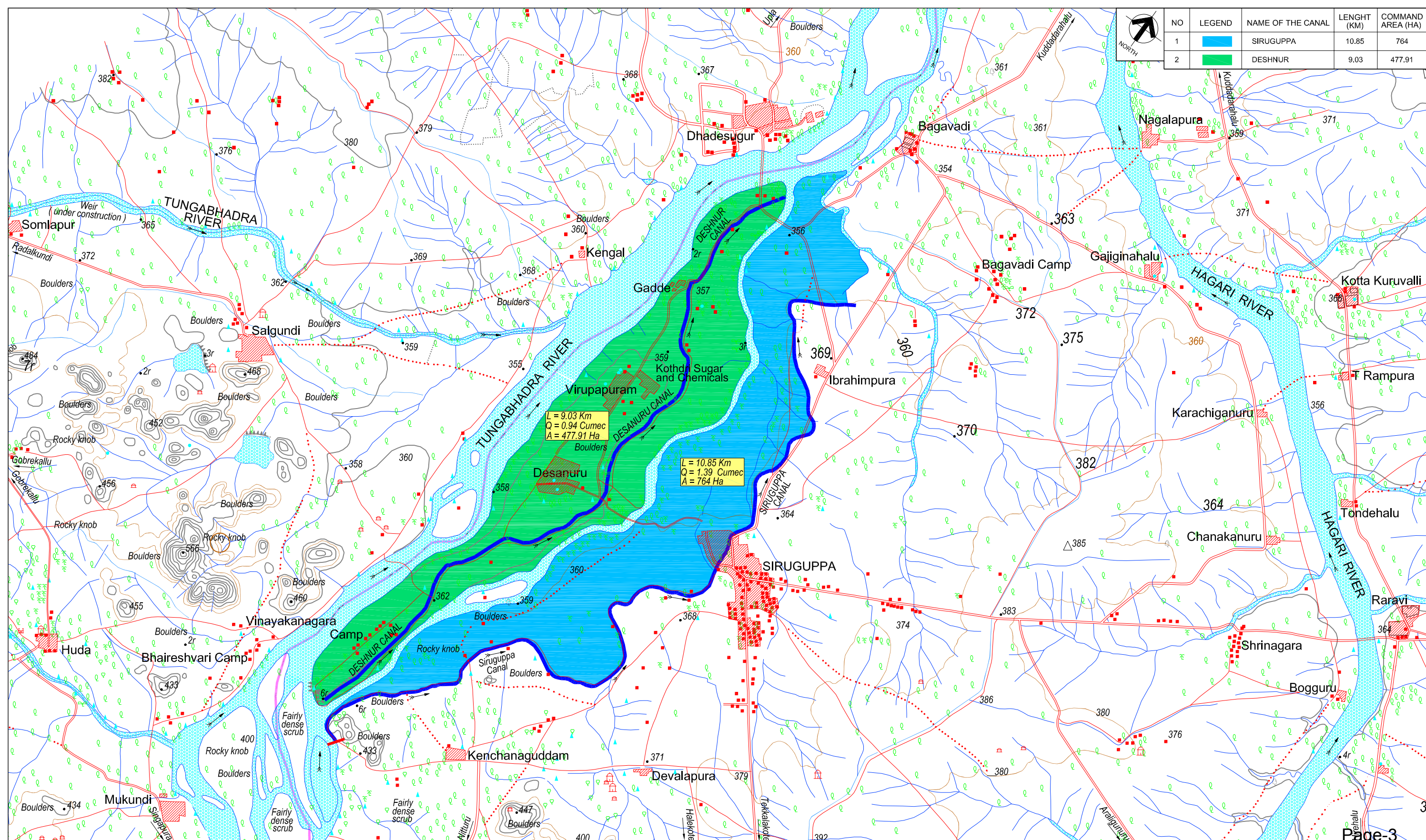
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		KNNL-VNC-IND-001			01 OF 03	0

Consultant E I Technologies Pvt. Ltd. Bangalore	Asst. Executive Engineer VNC Sub-Division Kamalapur	Executive Engineer TP Division No.1 Munirabad
Superintending Engineer Tungabhadra Project Circle Munirabad	Chief Engineer Irrigation Central Zone Munirabad	

NO	LEGEND	NAME OF THE CANAL	LENGHT (KM)	COMMAND AREA (HA)
1		BICHAL	14.52	276



<p>NOTES:</p> <p>1) All dimensions are in meters 2) Contour interval - 20.0m</p> <p>LEGEND</p> <p>Roads National Highway, State Highway, Other Roads..... Unmetalled Roads, Cart track, Foot path..... Railways Broad gauge with station, Other gauge..... Boundary Boundary : State, District, Taluk, Forest..... Buildings Temple, Chatri, Tomb, Mosque, Graves, Village limits, Hut..... Transmission Lines Main power line, Power line, Telephone lines..... Heights Contour with value, Bench mark..... Relation spot height, Spot height, Triangle station..... Water Features River, Reservoir, Canal, Channels, Stream..... Pond, Well, Tank..... Other Features Limits, Embankment, Culvert, Gate, Broken ground..... Tree, Grass, Wire Fence, Cliff..... Sheet rock, Rocky Area, Boulders.....</p>	<table border="1"> <tr> <td>0</td> <td>For Approval</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Rev.</td> <td>Description.</td> <td>Date.</td> <td>Drw.</td> <td>Pre.</td> <td>Chk.</td> </tr> </table>	0	For Approval					Rev.	Description.	Date.	Drw.	Pre.	Chk.	<p>DRAWING TITLE</p> <p>INDEX MAP SHOWING COMMAND AREA OF BICHAL CANAL</p>																												
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1		SIRUGUPPA	10.85	764
2		DESHNUR	9.03	477.91

NOTES:
 1) All dimensions are in meters
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LEGEND

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