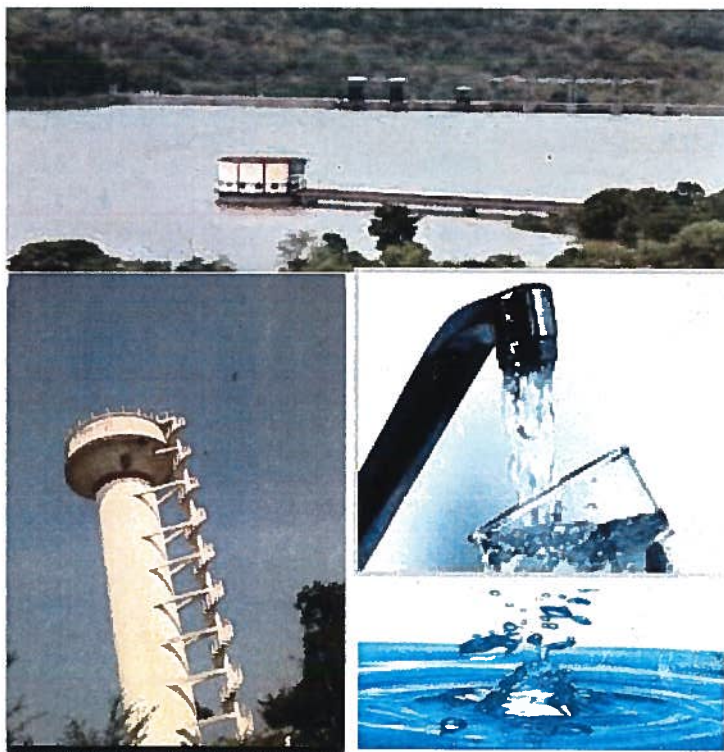




**GOVERNMENT OF KARNATAKA**  
**DETAILED SCHME REPORT**



---

**DESIGN & ESTIMATES OF MULTI VILLAGE SCHEME WATER SUPPLY TO  
MAHADEVAPURA, CHIKKANAKANAHALLI, K SHETTYHALLI AND OTHER  
16 VILLAGES IN SRIRANGAPATNA TALUK IN MANDYA DISTRICT**

---

**Estimated Cost : 2800 Lakhs**

Submitted to  
**Executive Engineer**  
RWSS Division  
Mandya



***Koushik Consultants***

# 1169/A, II nd Floor, T.K. Layout 4th Stage,  
Ramakrishna Nagara Post

Mysore - 570 022

Ph : 0821 2340880, 94480 56884

Email: [koushikconsultants@gmail.com](mailto:koushikconsultants@gmail.com)

MVS To Mahadevapura, Chikkanakanahalli, K Sheetyhalli & Other 16 Villages in Srirangapatna Taluk, Mandya  
District

### Contents

SI No.	Contents
1	Salient Features
2	Introduction
3	Profile of a project area
4	Population Projection and Designs
5	Details of Existing Water Supply and proposed water infrastructure
6	Abstract
7	Design
8	Cost & Estimates
9	Rate Analysis
10	Volume 2 - Drawings

MVS To Mahadevapura, Chikkanakanahalli, K Sheetyhalli & Other 16 Villages in Srirangapatna Taluk, Mandya  
District

## 1 Salient Features

Sl. No.	Salient Features	
1	Name of the Scheme	MVS To Mahadevapura, Chikkanakanahalli, K Sheetyhalli & Other 16 Villages
2	Taluk	Srirangapatna
3	District	Mandya
4	No. of villages benefitted	19 Villages
	Population in 2011	18720
	Population in 2021	19664
5	Population in 2036	21180
6	Type of contamination	F, Fe & Ni
7	Projected population for 2051	22794
8	Per capita Supply	85 lpcd
9	Details of source	Cauvery River near Mahadevapura
10	Total water requirement (MLD)	2.60
11	Proposed scheme (Components)	Jack well, Water treatment plant, raw water rising mains, pure water rising mains, pure water Gravity mains, raw water and clear water pumping machinery, MBT & ZBTs
12	Water Treatment Plant capacity (MLD)	2.50
13	Project Cost (Rs. In lakhs)	2800.00 Lakhs
14	Cost Per Capita	
a	Per capita cost for 2019 population without O & M	12202
b	Per capita cost for 2019 population with O & M	14374
c	Per capita cost for 2051 population	10428

## **2.1 Introduction**

Majority of Rural population in Srirangapatna Taluk is depended on ground water resources. This has subsequently resulted in the depletion of water table. As the degree of exploitation of ground water resources is increasing at larger scale, most of the ground water based scheme is also getting affected, both in terms of quantity as well as quality. In order to minimize the dependence of ground water consumption, RDW&SD in response looks for the alternative and reliable source of water to these draught prone areas. Providing access to potable drinking water in adequate quantity is a major challenging task for any Government. Hence, the PRE Department of Government of Karnataka has launched Multi Village Scheme, which is aimed at improving the quality and quantity of rural water supply with sharp focus on sustainability of investments and systems for present and future generations.

Multi Village Scheme is initiated under RDW&SD by the Government of Karnataka with a desire to provide water supply and cover the maximum rural population. These Multi village scheme have been proposed to capture the economics of scale and facilitate the higher level of water service and offer a long term solutions to acute water scarcity face by many regions of rural areas.

## **2.2 Background of the Project**

RDW&SD, Srirangapatna has taken a step to provide drinking water to 19 villages under Multi Village scheme.

Hitherto Karnataka Rural Population mainly depend on ground water resources for drinking water supply. In majority of villages, ground water is generally free from bacterial and chemical contamination when tapped from aquifers through bore wells.

The general strategy practiced in the state for the past three decades is to drill bore wells for pipes and mini water supply schemes. The Piped Water Supply Schemes (PWS) extract water by pumping to elevated Over Head tanks or in Ground Level Reservoirs situated on hillock and there after distributed through a network of pipes feeding public taps and house



MVS To Mahadevapura, Chikkanakanahalli, K Sheetyhalli & Other 16 Villages in Srirangapatna Taluk, Mandya District

connections. In Mini Water Supply Scheme (MWS), the water is pumped to the Cisterns located at the ground level and water is distributed through taps provided with cisterns.

During the past three decades, Government of Karnataka is responsible for establishing as many as about 13,700 PWS Schemes and about 13,500 MWS Schemes in addition about 1,70,000 bore wells fitted with hand pumps for providing water facilities to the villages.

As per information gathered, about 68% of rural population is provided with safe drinking water in excess of 40 LPCD. About 31% of rural population is getting water between 10 to 40 LPCD and the balanced percentage does not have well established sources for drinking water.

#### Rural Water Supply Status in the State of Karnataka

No of Mini Water Supply Schemes (IN Use)	66700
No of Mini Water Supply Schemes (Not in Use)	47742
No of Piped Water Supply Schemes (IN Use)	56150
No of Piped Water Supply Schemes (Not in Use)	347820
No of Public taps	243259
No of House hold Taps	862818
No of Open Wells (In use)	114657
No of Open Wells (Not in use)	50585
No of Bore Wells (In Use)	138194
No of Bore Wells (Not in Use)	72185

In spite of the above substantial achievement, many villages have been very frequently facing scarcity of drinking water due to presence of high fluoride, TDS and other harmful chemicals. In order to provide safe drinking water to such villages affected with water quality problems are proposed under Rajiv Gandhi National Drinking Water Mission – Rural Water Supply Scheme by utilizing surface water as a sustainable source.

### 2.3 Objective of the Project

This Multi Village Water supply scheme (MVS), aims at improving the quality of life in rural areas. The overall project will assist the local government in improving the quality of water supply service delivery to achieve sustainability. As most parts of Srirangapatna Taluk is facing an acute shortage of drinking water, RDW&SD of GOK identifies Cauvery River near Mahadevpura as the source of water supply to the Project Area. The objectives of the project are to improve the quality of rural water supply service delivery and to achieve Sustainable development. The preparation of DSR will identify the existing water supply situation of these villages and design a complete system based on future demand for drinking water supply.

### 2.4 Scope

The scope of the Project involves preparation of Detailed Scheme Report for complete water supply scheme for 19 villages. The study will involve analysis of the existing infrastructure and demographic trend. The design will cater to the water needs of the projected population for the year 2050. The scope of the design is restricted from intake well to MBR and further from MBR to OHT through gravity mains.

### 2.5 Approach and Methodology

Approach and methodology for the preparation of DPR will involve collection of data and analysis of data provided by the client Koushik Consultants reviews the existing water condition of the project area and adopts the approach and methodology for the preparation of DSR. The preparation of DSR involves the collection and analysis of the data from the client. The DSR includes the design of whole water infrastructure from the river source to the distribution pipelines. The detailed engineering and design of the whole water infrastructure is in compliance with the best practices, technology and will be in compliance with standards. The design of the distribution system from MBR to OHT will be designed based on the population projections for 2051. The infrastructure design for each village from intake to the storage tank and supply of water shall adopt following steps:

- 1 Population Projection for 2051.
- 2 Demand calculation for Present and future population.

7

MVS To Mahadevapura, Chikkanakanahalli, K Sheetyhalli & Other 16 Villages in Srirangapatna Taluk, Mandya  
District

- 3 Design of intake structures.
- 4 Design of Pump station.
- 5 Design of transmission mains.
- 6 Design of OHT.
- 7 Design of Water Treatment Unit.
- 8 Design of Pipeline Distribution network.
- 9 Preparation of relevant Drawings for all structures, transmission main, pump stations.
- 10 Layout plan for transmission main, pump station.

The detailed cost estimates for each item will be done in compliance with the latest schedule of rates of RDW&SD, PWD and KWS&DB. The documentation (DSR) consists of feasible analysis for the planned water supply for all 19 villages. The conveyance for the drinking water supply from the river source at intake point will be done through pump. The water shall further treated through chlorination and stored in OHT. The treated water from the OHT will be further distributed to distribution line through gravity.

### **3 District and Taluk Profile**

#### **3.1 Mandya District**

Mandya district is located in the southern part of Karnataka State. The District has an area of 4,961 Sqkm lying between latitudes 12° 13' N to 13° 04' N and longitudes 76° 19'E to 77° 20'E. The district is bounded on the Northwest by Hassan District, on the east by Bangalore Rural district and on the south and southwest by Mysore District. It has 7 taluks, 104 mandals and 1,354 inhabited villages.

Mandya is mainly an agricultural district. Ragi and Paddy is the two most important crops followed by pulses, sugarcane and oilseeds. Sugarcane has turned out to be veritable boon that has transformed the entire economy of the district. Mulberry plantation has gained prominence in Malavalli and Srirangapatna Taluks.

Industrially, Mandya district ranks among the few developed districts of the State. Handloom weaving and cocoon production are noteworthy economic activities of the district.

Rural Population is more or less evenly distributed in the district. The district is well endowed with good network of roads and other socio-cultural facilities. There are several tourist spots like Brindavan Gardens, Shimsha Falls, Srirangapatna and Birds sanctuary are present in this district. Mandya district has good prospects in the field of silk and mineral based industry and tourism.

#### **3.2 Socio economic profile**

As per census 2011, Mandya district has a population of 131,211.

#### **3.3 Climate**

Mandya district is endowed with comfortable climatic conditions throughout the year with an average annual temperature of 24°C and annual rainfall varying between 670-800mm.

### 3.4 Srirangapatna

Although situated a mere 15 km from Mysore city, Srirangapattana lies in the neighbouring district of Mandya. The entire town is enclosed by the river Kaveri form a river island, northern half of which is shown in the image to the right. While the main river flows on the eastern side of the island, the Paschima Vaahini segment of the same river flows to its west. The town is easily accessible by train from Bangalore and Mysore and is also well-connected by road, lying as it does just off the Bangalore-Mysore highway. The highway passes through this town and special care was taken to minimize any impact on the monuments.

#### Religious significance

---

The town takes its name from the celebrated Ranganathaswamy temple which dominates the town, making Srirangapattana one of the most important Vaishnavite centers of pilgrimage in south India. The temple was built by the Ganga dynasty rulers of the area in the 9th century; the structure was strengthened and improved upon architecturally some three centuries later. Thus, the temple is a medley of the Hoysala and Vijayanagar styles of temple architecture.

Tradition holds that all the islands formed in the Kaveri River are consecrated to Sri Ranganathaswamy, and large temples have been built in very ancient times dedicated to that deity on the three largest islands. These three towns, which constitute the main pilgrimage centers dedicated to Ranganathaswamy, are:

Adi Ranga - at Srirangapattana

Madhya Ranga - at Shivanasamudra

Antya Ranga - at Srirangam

The presence of the Kaveri River is in itself considered auspicious and sanctifying. The Paschima Vaahini section of the Kaveri at Srirangapattana is considered especially sacred; the pious come from far and wide to immerse the ashes of the departed and perform obsequies to their ancestors in these waters.

## **Geography**

---

Srirangapatna is located at 12.41°N 76.7°E. It has an average elevation of 679 metres (2227 feet).

## **History**

---

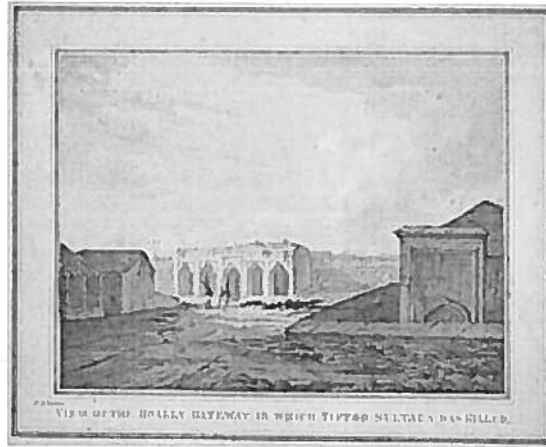
Srirangapattana has since time immemorial been an urban center and place of pilgrimage. During the Vijayanagar empire, it became the seat of a major viceroyalty, from where several nearby vassal states of the empire, such as Mysore and Talakad, were overseen. When, perceiving the decline of the Vijayanagar empire, the rulers of Mysore ventured to assert independence, Srirangapattana was their first target. Raja Wodeyar vanquished Rangaraya,[2] the then viceroy of Srirangapattana, in 1610 and celebrated the Navaratri festival in the town that year. It came to be accepted in time that two things demonstrated control and signified sovereignty over the Kingdom of Mysore by any claimant to the throne:

Successful holding of the 10-day-long Navaratri festival, dedicated to Chamundeshwari, patron goddess of Mysore;

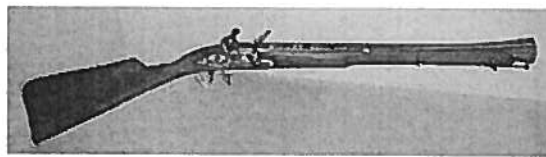
Control of the fort of Srirangapattana, the fortification nearest to the capital city of Mysore.

Srirangapattana remained part of the Kingdom of Mysore from 1610 to after India's independence in 1947; as the fortress closest to the capital city of Mysore, it was the last bastion and defence of the kingdom in case of invasion.

## Hyder and Tipu



A view of the Hoally Gateway, Srirangapatnam, where Tipu Sultan was killed. Illustration by Thomas Sydenham, c.1799



A flintlock blunderbuss, made for Tippu Sultan in Seringapatam in 1793-94. Tippu Sultan used many Western craftsmen, and this gun reflects the most up-to-date technologies of the time.[3]

Srirangapattana became the de facto capital of Mysore under Hyder Ali and Tipu Sultan.[4][5] When Tipu finally dispensed with the charade of deference to the legitimate Wodeyar Maharaja who was actually his captive, and proclaimed the "Khudadad State" under his own kingship, Srirangapattana became de jure the capital of that short-lived political entity. In that heady period, the state ruled by Tipu extended its frontiers in every direction, encompassing a major portion of South India. Srirangapattana flourished as the cosmopolitan capital of this powerful state. Various Indo-Islamic monuments that dot the town, such as Tipu Sultan's palaces, the Darya Daulat and the Jumma Maseedi (Friday congregational mosque),

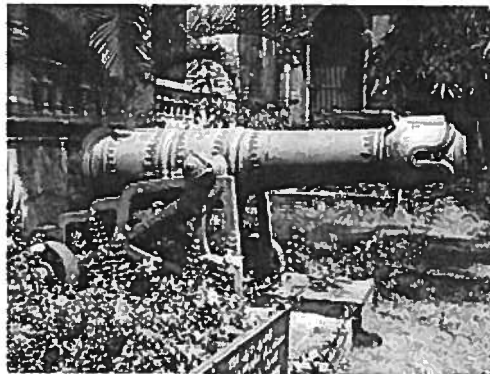
MVS To Mahadevapura, Chikkanakanahalli, K Sheetyhalli & Other 16 Villages in Srirangapatna Taluk, Mandya District

date from this period.

### **Battle of Srirangapatam, 1799**

---

Main article: Siege of Seringapatam (1799)



Cannon used by Tippu Sultan in the battle of Srirangapatam 1799

Srirangapattana was the scene of the last and decisive battle fought between Tipu Sultan and a combined force of 50,000 men provided equally by the Nizam of Hyderabad and the East India Company under the overall command of General George Harris. This battle was the last engagement of the Fourth Anglo-Mysore War. The Battle of Seringapatam, 1799, was truly momentous in its historic effects.

At the battle's climax, Tipu Sultan was killed within the fort of Seringapatam, betrayed by one of his own confidants; the spot where he ultimately fell is marked by a memorial. For the last time in history, Seringapatam had been the scene of political change in the Sultanate of Mysore. The joint forces of the victorious army proceeded to plunder Seringapatam and ransack Tipu's palace. Apart from the usual gold and cash, innumerable valuables and objets d'art, not excepting even the personal effects of Tipoo Sultan, his rich clothes and shoes, sword and firearms, were shipped to England.

While most of this is now to be found in the British Royal Collection and in the Victoria and Albert Museum, some articles have occasionally become available at auctions and have been retrieved for their native land. The sword of Tipu Sultan has been acquired by Vijay Mallya, a



MVS To Mahadevapura, Chikkanakanahalli, K Sheetyhalli & Other 16 Villages in Srirangapatna Taluk, Mandya District

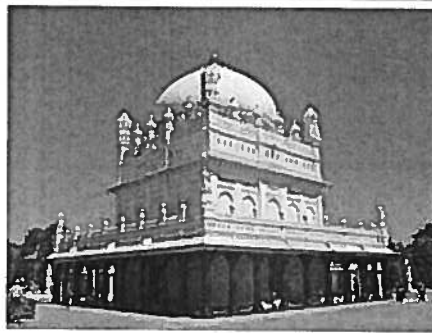
liquor baron from Karnataka, who purchased the same at a Sotheby's auction.

Much of the site of the Battle is still intact including the ramparts, the Water Gate, the place where the Tippu Sultan's body was found, the area where the British prisoners were held and the site of the destroyed palace.

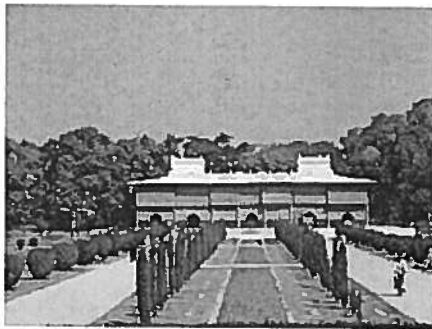
Tipu's Tiger, an automaton in the Victoria & Albert Museum, was captured at the battle.

### Places of interest

---

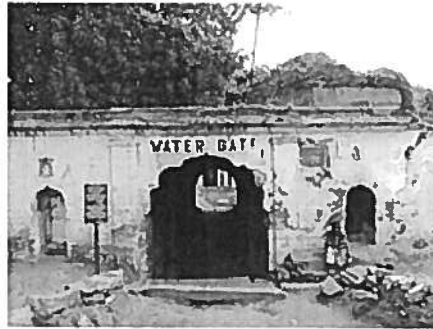


The Mausoleum of Tipu Sultan



Daria Daulat, The Palace of Tipu Sultan

MVS To Mahadevapura, Chikkanakanahalli, K Sheetyhalli & Other 16 Villages in Srirangapatna Taluk, Mandya District



Water Gate, Srirangapatana



"Sangama" the amalgamation of 3 holy rivers Kaveri River, Kabini River, Hemavati River

The town is famous for a very ancient temple dedicated to Sri Ranganathaswamy, a form of Lord Vishnu. There is also Kalyani Siddhi vinayaka temple in front of the Sri Ranganathaswamy Temple. Other temples in Srirangapatna include the Lakshminarasimha Swamy Temple, Jyothi Mahaswara Temple, Bidhcotta Ganesha Temple, Panduranga Swamy Temple, the Sathyanarayana Swamy Temple, the Anjunaya Swamy Temple, the Ayyapa Temple, the Gangadhareswara Swamy Temple, and Raganatha Nagara Ganesha Temple, surrounding Srirangapatna in fort 8 Ganesh & Anjunaya temples. The Karighatta (Black Hill) and its temple of Lord Srinivasa is situated a few kilometres from the town. The deity is that of Kari-giri-vasa (one who resides on the black hill). The renowned Nimishambha Temple is located in the nearby district of Ganjam.

Other attractions in Srirangapatna include the Jumma Masjid (a Mosque) and the Daria Daulat Gardens. Near the town is the Rangantittu Bird Sanctuary, which is the breeding site for

several bird species, including the Painted Stork, Open-billed Stork, Black-headed Ibis, River Tern, Great Stone Plover and Indian Shag. Located 27 km upstream from the town is the spectacular Shivanasamudra Falls, the second biggest waterfall in India and the 16th largest in the world. Srirangapatna also hosts the summer palace of Tipu Sultan.

## In Literature<sup>[edit]</sup>

- Bernard Cornwell's *Sharpe's Tiger* is a fictionalised account of the Battle of Seringapatam. It concentrates on the exploits of the fictional character of Richard Sharpe, and the historic Arthur Wellesley, later the Duke of Wellington.
- Wilkie Collins' *The Moonstone* includes a prologue that takes place during the Battle of Srirangapatna, entitled "The Storming of Seringapatam (1799)," during which a British officer steals a sacred Hindu diamond that becomes the mystery at the centre of the novel.
- John Forster mentions in "The Life of Charles Dickens" that in a childhood playground of C.D., "he had been... delivered from the dungeons of Seringapatam, an immense pile ('of haycock'), by the victorious British ('boy next door and his two cousins')..." See pg. 10 of the Everyman edition published in 1969. First published: London; Chapman and Hall, 1872-1874 in 3 volumes.

The location of the villages in the project area is shown in the table:

Villages	Latitude (N)	Longitude (E)
Mahadevapura	12°23'26.09"N	76°46'31.57"E
Krishnapura	12°23'45.92"N	76°44'45.94"E
Bidarahalli	12°21'4.98"N	76°47'27.03"E
Channahalli	12°21'34.71"N	76°46'48.64"E
Taripura	12°22'6.05"N	76°45'34.95"E
Chikkanakanahalli	12°20'6.47"N	76°44'57.98"E
Bonthagahalli	12°20'6.47"N	76°44'57.98"E
Kokkarehundi	12°18'48.20"N	76°44'55.37"E
Huralikyathanahalli	12°19'48.39"N	76°44'1.19"E

MVS To Mahadevapura, Chikkanakanahalli, K Sheetyhalli & Other 16 Villages in Srirangapatna Taluk, Mandya District

Villages	Latitude (N)	Longitude (E)
Sugganahalli	12°19'38.19"N	76°45'9.16"E
Kemmannupura	12°21'23.80"N	76°45'25.22"E
Hampapura	12°20'56.65"N	76°43'42.13"E
Chinnenahalli	12°28'35.11"N	76°43'46.94"E
Garudana Ukkada	12°26'31.37"N	76°43'42.46"E
Gowripura	12°26'26.24"N	76°43'24.46"E
K. Shettyhalli	12°26'21.16"N	76°42'44.89"E
M. Shettyhalli	12°27'17.79"N	76°43'17.15"E
Mallegowdanakoppalu	12°28'12.20"N	76°44'10.84"E
Sabbanakuppe	12°27'46.17"N	76°43'59.12"E

Source: Google Map

## 4 Population Projection and Design

### 4.1 Population Projection

Based on the growth of past decades, the future population of the villages has been projected using four methods. As the village is located in a remote area, these villages are hardly influenced by major growth factors and hence have very slow growth rate. As the growth rate is slow, National Average method has been considered for the calculation of water demand for the future. The calculated National average method shows that the population for the all villages for the year 2020 to 2050. The methods for population projections are as follows are:

Village Name	Population details as per						
	2011	2019	2021	2031	2036	2041	2051
Mahadevapura	1510	1571	1586	1666	1708	1750	1838
Krishnapura	71	74	75	79	81	83	88
Bidarahalli	2129	2215	2236	2348	2407	2466	2590
Channahalli	1618	1683	1699	1784	1829	1874	1968
Taripura	664	691	698	733	752	770	809
Chikkanakanahalli	1385	1441	1455	1528	1567	1605	1686
Bonthagahalli	1406	1463	1477	1551	1590	1629	1711
Kokkarehundi	938	976	985	1035	1061	1087	1142
Huralikyathanahalli	879	915	923	970	995	1019	1070

MVS To Mahadevapura, Chikkanakanahalli, K Sheetyhalli & Other 16 Villages in Srirangapatna Taluk, Mandya  
District

Sugganahalli	639	665	671	705	723	741	779
Kemmannupura	229	239	241	254	261	267	281
Hampapura	858	893	901	947	971	995	1045
Chinnenahalli	1054	1097	1107	1163	1193	1222	1284
Garudana Ukkada	818	851	859	902	925	948	996
Gowripura	566	589	595	625	641	657	690
K. Shettyhalli	1733	1803	1820	1911	1959	2007	2108
M. Shettyhalli	1824	1897	1916	2012	2063	2113	2219
Mallegowdanakoppalu	172	179	181	191	196	201	212
Sabbanakuppe	227	237	239	251	258	264	278
	<b>18720</b>	<b>19479</b>	<b>19664</b>	<b>20655</b>	<b>21180</b>	<b>21698</b>	<b>22794</b>

### 4.3 Water Demand calculation

The demand calculation for 19 villages is calculated based on the need for the projected year 2050. The drinking water supply to all the villages is considered at a rate of 85 LPCD as per RDW&SD norms. 20% system loss is considered as per the client advised. The projected demand for 2051 is 2.60 MLD of water.

MVS To Mahadevapura, Chikkanakanahalli, K Sheetyhalli & Other 16 Villages in Srirangapatna Taluk, Mandya  
District

Village Name	Population details as per							Demand @ 85LPCD	Daily Demand including 20% Losses (For WTP)	Daily Demand including 15% Losses (For Distribution)
	2011	2019	2021	2031	2036	2041	2051			
Mahadevapura	1510	1571	1586	1666	1708	1750	1838	156230	187476	179665
Krishnapura	71	74	75	79	81	83	88	7480	8976	8602
Bidarahalli	2129	2215	2236	2348	2407	2466	2590	220150	264180	253173
Channahalli	1618	1683	1699	1784	1829	1874	1968	167280	200736	192372
Taripura	664	691	698	733	752	770	809	68765	82518	79080
Chikkanakanahalli	1385	1441	1455	1528	1567	1605	1686	143310	171972	164807
Bonthagahalli	1406	1463	1477	1551	1590	1629	1711	145435	174522	167250
Kokkarehundi	938	976	985	1035	1061	1087	1142	97070	116484	111631
Huralikyathana halli	879	915	923	970	995	1019	1070	90950	109140	104593
Sugganahalli	639	665	671	705	723	741	779	66215	79458	76147
Kemmannapura	229	239	241	254	261	267	281	23885	28662	27468

MVS To Mahadevapura, Chikkanakanahalli, K Sheetyhalli & Other 16 Villages in Srirangapatna Taluk, Mandya  
District

Hampapura	858	893	901	947	971	995	1045	88825	106590	102149
Chinnenahalli	1054	1097	1107	1163	1193	1222	1284	109140	130968	125511
Garudana Ukkada	818	851	859	902	925	948	996	84660	101592	97359
Gowripura	566	589	595	625	641	657	690	58650	70380	67448
K. Shettyhalli	1733	1803	1820	1911	1959	2007	2108	179180	215016	206057
M. Shettyhalli	1824	1897	1916	2012	2063	2113	2219	188615	226338	216907
Mallegowdanak oppalu	172	179	181	191	196	201	212	18020	21624	20723
Sabbanakuppe	227	237	239	251	258	264	278	23630	28356	27175
	18720	19479	19664	20655	21180	21698	22794	1937490	2324988	2228117

#### 4.2 Design norms

The design norms are based on the specification of the following institution/ Department.

- 1 The Technical Specifications of RDW&SD
- 2 Central Public Health and Environmental Engineering Organization (CPHEEO)
- 3 Indian Standard Institution
- 4 Schedule of rates of Rural Development Engineering Department
- 5 Schedule rates of Public Works Department (PWD), Mysore Circle
- 6 Schedule rates of KUWS&DB, Karnataka Board.



MVS To Mahadevapura, Chikkanakanahalli, K Sheetyhalli & Other 16 Villages in Srirangapatna Taluk, Mandya  
District

Sl No	Components	Design Norms
1	Source	Cauvery River near Mahadevpura
2	Design Period of the Project	30years
3	Population Projection	Trend of population Growth in the previous decade(2001-2011) 5%.
4	Per capita water supply	85 lpcd
5	System Loss (20%)	5% transmission loss 15% distribution loss
6	Storage Capacity	Tank of Capacity for half day requirement
7	Gravity main and distribution pipes	HDPE PN8, PN10, PN 12.5, PN 16
7	Water requirement per hr (20 hrs/day)	130000 Ltr/hr
8	Type of Filter	Rapid sand filter
9	Operation and maintenance of water Supply-5 year ( in Lakhs)	423.13
10	Total Cost of the Project (Rs in Lakhs)	2800.00

## 5 Details of Existing Water Supply and proposed water infrastructure

However, river Shimsha and Cauvery rivers flow in the Taluk of Srirangapatna , the project area has no perennial water supply at present. The water supply for all the villages in the project area is through ground water source. As per Preliminary Scheme report, the investigation carried out by RDW&SD and Irrigation department reveals that Cauvery River has been proposed for the water supply scheme for Mahadevapura, Chikkanakanahalli, K Sheetyhalli & Other 16 Villages of Srirangapatna Taluk.

### 5.1 Existing Water Supply

The existing water supply situation in these villages has been briefed below based on the data provided by the department and the same is enclosed vide Annexure IV. The DSR ensures the water supply scheme in Village Mahadevapura, Chikkanakanahalli, K Sheetyhalli & Other 16 Villages. The design for this water supply scheme considered is economical and easy for operation and Maintenance.

## 6 Abstract

Providing Water supply to Mahadevapura, Chikkanakanahalli, K Shettyhalli and other 16 villages of Mandya district			
ABSTRACT			
No.	Particulars	Quantity	Amount
	A) CIVIL WORKS		
1	Construction of Intake Chamber & connecting Pipe	1 No	1446000.00
2	Construction of Jack Well cum pump house	1 No	5155000.00
3	Pumping Machinery JW to WTP	2 No	6968400.00
4	Rising Main from JW to WTP	4350 Mtrs	14546000.00
5	Construction of Aerator	1 No	430000.00
6	Providing DI Unit	1 No	600000.00
7	Construction of Flash Mixer	1 No	525500.00
8	Construction of Clarifloculator	1 No	4240000.00
9	Construction of Rapid Sand filter	1 No	5600000.00
10	Pure Water Sump	1 No	1603000.00
11	Construction of Backwash tank for RSF	1 No	999500.00

MVS To Mahadevapura, Chikkanakanahalli, K Sheetyhalli & Other 16 Villages in Srirangapatna Taluk, Mandya  
District

12	Construction of Wash Water sump for RSF	1 No	639000.00
13	Construction of Main Pump House (Near P.W Sump)	1 No	685000.00
14	Construction of Pump House (Back Wash)	1 No	264000.00
15	Pumping Machinery PW sump to Back Wash Tank	2 No	118700.00
16	Rising Main From PW sump to Back Wash Tank	100 Mtrs	165000.00
17	Pumping Machinery WW sump to Aerator	2 No	118700.00
18	Rising Main From WW sump to Aerator	100 Mtrs	165000.00
19	Providing Fencing to WTP & Road, Drain Inside WTP	350 Mtrs	3421000.00
20	Rising main from Pure Water Sump to MBT	545 Mtrs	2417000.00
21	Pumping Machinery PW Sump to MBR NEAR VADIYANDAHALLI	2 No	6928100.00
22	MBT(GLSR)2.5 Lakh ltrs capacity	1 No	1545000.00
23	ZBT (GLSR) 1.5 Lakh ltrs capacity	1 No	1075000.00
24	Providing Fencing to MBT	80 Mtrs	304000.00
25	Providing Fencing to ZBT	40 Mtrs	167000.00
26	Gravity Distribution Main from MBT	66240 Mtrs	69825000.00
27	Anchor Blocks and Encasing pipe at Road Cross Drain	500 Nos	7676000.00
28	O&M Charges for 5 years ( Excluding Energy Charges)		20647380.24
28	Household Connections		16000000.00
29	SCADA		27891593.20
30	Providing Dedicated Electric supply line	9.00 Kms	8800000.00
31	Cescom Deposit		2000000.00
32	O&M Charges for 5 years ( Energy Charges)		21665867.52
	TOTAL		234631740.95
	Add PMC Charges @ 3%	3%	7038952.00
	Add Price variation Charges @ 15%	15%	35194761.00
	Miscellaneous and rounding charges		3134546.05
	TOTAL		280000000.00

*L.R. Hanumanth*

*[Signature]*  
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

## Population Projection and Demand calculation

Village Name	Population details as per						Demand @ 85LPCD	Daily Demand Including 20% Losses	Daily Demand Including 15% Losses (For Distribution)	Existing Storage capacity (with 2 Fillings)			Total Existing Storage Capacity	Balance	Remarks
	2011	2019	2021	2031	2036	2041	2051			2 OHT's x 50KL x 2 filling	200000	1 OHT's x 200KL x 2 filling			
Mahadevpura	1510	1571	1586	1666	1708	1750	1838	156230	187476	179665		400000	600000		Existing Capacity of reservoir is sufficient
Krishnapura	71	74	75	79	81	83	88	7480	8976	8602				8602	-
Bidarahalli	2129	2215	2236	2348	2407	2466	2590	220150	264180	253173	100000		100000	153173	100 KL OHT Proposed
Channahalli	1618	1683	1699	1784	1829	1874	1968	167280	200736	192372	100000		100000	92372	50 KL OHT Proposed
Taripura	664	691	698	733	752	770	809	68765	82518	79080	100000		100000		Existing Capacity of reservoir is sufficient
Chikkakanahalli	1385	1441	1455	1528	1567	1605	1686	143310	171972	164807	200000	1 OHT's x 25KL x 2 filling	250000		Existing Capacity of reservoir is sufficient
Bonthagahalli	1406	1463	1477	1551	1590	1629	1711	145435	174522	167250	100000		100000	67250	50 KL OHT Proposed
Kokkarehundi	938	976	985	1035	1061	1087	1142	97070	116484	111631	100000		100000	11631	-
Huralikythanahalli	879	915	923	970	995	1019	1070	90950	109140	104593	100000		100000	4593	-
Sugganahalli	639	665	671	705	723	741	779	66215	79458	76147				76147	50 KL OHT Proposed
Kemmannapura	229	239	241	254	261	267	281	23885	28662	27468				27468	-
Hampapura	858	893	901	947	971	995	1045	88825	106590	102149	100000		100000	2149	-
Chinnenahalli	1054	1097	1107	1163	1193	1222	1284	109140	130968	125511	100000		100000	25511	-
Garudana Ukkada	818	851	859	902	925	948	996	84660	101592	97359				97359	50 KL OHT Proposed
Gowripura	566	589	595	625	641	657	690	58650	70380	67448	100000		100000		Existing Capacity of reservoir is sufficient
K. Shettyhalli	1733	1803	1820	1911	1959	2007	2108	179180	215016	206057	200000		200000	6057	-
M. Shettyhalli	1824	1897	1916	2012	2063	2113	2219	188615	226338	216907	200000		200000	16907	-
Mallegowdanakoppalu	172	179	181	191	196	201	212	18020	21624	20723	100000		100000		Existing Capacity of reservoir is sufficient
Sabbanakuppe	227	237	239	251	258	264	278	23630	28356	27175	100000		100000		Existing Capacity of reservoir is sufficient
	18720	19479	19664	20655	21180	21698	22794	1937490	2324988	2228117					

**Providing Water Supply to Mahadevpura, Chikkankannahalli, K Shettyhalli & Other 16 Villages in  
Shrirangapatna Taluk  
DESIGN NORMS**

1	Per Capita Supply	:	85 LPCD
2	Transmission Losses , Treatment losses & distribution losses	:	20%
4	Pumping hours	:	
	a) From Jack well to WTP		20 Hours
	b) From PW GLSR to Storage reservoirs		20 Hours
5	Project Population 2051	:	Trend of population Growth in the previous decade(2001-2011) 5%.
6	Storage Capacity	:	100 % of the total demand.
7	Staging	:	Minimum 7.50 mtrs.

**PROPOSED WATER SUPPLY SCHEME**

1	Population for 2011	:	<b>18720</b>
2	Intermediate Population for 2036	:	<b>21180</b>
3	Prospective Population for 2051	:	<b>22794</b>

**REQUIREMENT OF WATER FOR PROSPECTIVE POPULATION (30 YEARS POPULATION)**

1	Water Required @ 85 LPCD (P2051)x85 LPCD	:	1937490 Ltrs /day
2	Transmission Losses , Treatment losses & distribution losses 20%		2324988 Ltrs /day
4	Wash water requirement @ the rate 600 ltr/min/Sqm		171000 Ltrs /day
5	<b>Say</b>	:	<b>2600000 Ltrs /day</b>
6	Requirement of Water per Hour (20 Hrs Pumping)	:	130000 Ltrs / Hrs
7	Requirement of Water per Minute	:	2166.67 Ltrs / Mnt
8	Requirement of Water per Second	:	36.111 Ltrs / Sec.
		=	0.036 cum / Sec.
9	Source	:	Cauvery River Near Mahadevpura Bridge

**REQUIREMENT OF WATER FOR PROSPECTIVE POPULATION (15 YEARS POPULATION)**

1	Water Required @ 85 LPCD (P2036)x85 LPCD	:	1800300 Ltrs /day
2	Transmission Losses , Treatment losses & distribution losses 20%		2160360 Ltrs /day
4	Wash water requirement @ the rate 600 ltr/min/Sqm		300000 Ltrs /day
5	<b>Say</b>	:	<b>2500000 Ltrs /day</b>
6	Requirement of Water per Hour (20 Hrs Pumping)	:	125000 Ltrs / Hrs
7	Requirement of Water per Minute	:	2083.33 Ltrs / Mnt
8	Requirement of Water per Second	:	34.722 Ltrs / Sec.
		=	0.035 cum / Sec.
9	Source	:	Cauvery River Near Mahadevpura Bridge

**INTAKE PIPE :-**

Bed Level		RL 658.160 M
Water Demand at Source point	=	130.00 Cum/hr
Design requirement for intake Structure	=	2 x 130
	=	260 Cum/hr
	=	0.07222 Cum/sec
	=	4333.33 LPM
Assuming velocity of Flow of water in intake window	=	1.2 M/SEC
Dia of pipe	$\sqrt{\frac{0.07222 \times 4}{1.2 \times 3.142}}$	
	=	0.277 m
	Say	0.40 m
Proposed Slope of the pipe	=	1 in 300
Velocity	=	1.20 m/sec



ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸ್ವಚ್ಛತೆ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**DESIGN OF JACK WELL :-**

Water Demand at Source point	=	130.00	Cum/hr
Location of Jack well			
Diameter of Jack Well Proposed, considering future expansion	=	6 M	(Internal dia)
HFL Reservoir	=	RL 666.540 M	
MWL of reservoir	=	RL 661.160 M	
Proposed Deck level of Jack Well (666.54 + 1)	=	RL 667.540 M	
Ground level at Proposed Jack Well (Average)	=	RL 664.240 M	
Length of Intake Pipe	=	50 M	
Proposed Bed Floor level of Jack Well	=	RL 658.160 M	
Considering Slope of intake Pipe as 1 in 300 with 1.2 M/Sec Velocity for 400 mm dia pipe with discharge 4333.33 LPM for 50 m long Intake Pipe Invert level of Intake pipe at Jack well point for 50 m long Intake Pipe Invert level of intake pipe at intake well be.,	=	$658.16 + 1/300 \times 50$	
	=	RL 658.327 M	
Floor Level of Jack well			
Bed Floor level of Jack well - 2.5 m below intake point	=	$658.327 - 2.5.00$	
	=	655.83	
Say	=	RL 655.800 M	
Pump Fixing level	=	RL 667.540 M	

Design Population	22794	
Per Capital Demand	85	
Daily Demand	2324988	
Withdrawal of water	2600000	
Total requiremnt (lph)	130000	
Number of Hours of Pumping	20.00	
Safe Yield of the Source (lps)	36.111	
Value of HWC for pipe	140.00	
Initial Approximation of Pipe	200	3
Type & Class of pipe	DI, K9	
Length of rising main, (m)	4350	m
RL of suction Level	656.800	m
RL of Pumpset	667.540	m
RL of Delivery Head	732.05	m
Energy Charges	4.50	per kw
Proposed dia of Pipe	200.00	mm
Type & Class of pipe	DI, K9	
Frictional Losses	6.123	mm
Cost of Pipe / Rmt	2152.000	
Internal Dia	200.000	

Capacity of  
Balancing Tank  
150 KL  
Staging  
9

#### DESIGN OF RAW WATER RISING MAIN FROM JW TO WTP TANK

		22862252.16	23971946.92	27029586.81
SL NO	Description	200	250	300
1	Discharge in( LPS)	36.111	36.111	36.111
2	Pumping Hours(hrs)	20.00	20.00	20.00
3	Value of HWC for pipe	140	140	140
4	Length of rising main, (m)	4350	4350	4350
5	Designed length of rising main, (m)	4785	4785	4785
6	Loss per 1000m length, (m)	6.1230	2.0651	0.8497
7	Total friction loss, (m) & 10% Losses for Turns, Bends	29.2987	9.8815	4.0658
8	Delivery Head, (m) (pump level to FSL)	64.5100	64.5100	64.5100
9	Suction Head, (m)	10.7400	10.7400	10.7400
10	Residual Head, (m)	3.0000	3.0000	3.0000
11	Total Head, (m)	107.5487	88.1315	82.3158
12	BHP (70% EFFICIENCY)	73.9751	60.6194	56.6192
13	KW Required	55.1854	45.2220	42.2379
14	Cost of pumping machinery at Rs. 4000 per BHP	295900.31	242477.47	226476.75
15	Total Energy charges per year = (0.746 x 20 x 365 x hp x Energy Charges)	1812840.66	1485544.29	1387515.45
16	M&R Depreciation Charges (at 7.5% of item 14)	22192.52	18185.81	16985.76
17	Total O&M Charges	1835033.18	1503730.10	1404501.21
18	Capitalised value of O&M Charges (6.686*O&M)	12269031.85	10053939.45	9390495.07
19	Cost of pipe Rs/per m	2152.00	2858.00	3639.00
20	Total cost of pipes	10297320.00	13675530.00	17412615.00
21	Grand total of capitalised cost for 10 years	22862252.16	23971946.92	27029586.81

From the table it is seen that the most economical size of rising main is 200 mm dia



## WATER HAMMER DESIGN FOR RISING MAIN

SL NO	DESCRIPTION	200	250	300
1	Dia(mm)(inner dia)	200.00	250.00	300.00
2	Class of pipe	DI, K9	DI, K9	DI, K9
3	Length(m)	4350	4350	4350
4	Discharge(Cumecs)	0.0361	0.0361	0.0361
5	RL at Ground Level	667.54	667.54	667.54
6	Fullsupply level	732.05	732.05	732.05
7	Ground level - FSL	64.51	64.51	64.51
8	Thickness(mm)	6.30	6.80	7.20
9	Area of pipe(sqm)	0.0314	0.0491	0.0707
10	Velocity(m/s)	1.15	0.74	0.51
11	Bulk Modulus of Water	2.07E+08	2.07E+08	2.07E+08
12	Youngs Modulus of pipe	1.70E+10	1.70E+10	1.70E+10
13	Pressure wave velocity(m/s)	1210.1700	1184.3523	1160.6663
14	Water hammer pressure(m)	141.7822	88.8048	60.4366
WATER HAMMER DESIGN FOR RISING MAIN				
15	(1) Design Pressure= StaticHead+ Water Hammer Head	209.29	156.31	127.95
16	Design Head (m)	209.29	156.31	127.95
17	Total Pressure (Ksc)	20.93	15.63	12.79
18	Required Pressure Class of Pipe	DI, K9	DI, K9	DI, K9

Based on economical &amp; Water hammer analysis Provide 200 dia DI, K9 Pipe




ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸ್ವ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

Design Population	21180	
Per Capital Demand	85	
Daily Demand	2160360	
Withdrawl of water for Intermediate year	2500000	
Total requiremwnt (lph)	125000	
Number of Hours of Pumping	20.00	
Safe Yield of the Source (lps)	34.722	
Value of HWC for pipe	140.00	
Initial Approximation of Pipe	200	3
Type & Class of pipe	DI, K9	
Length of rising main,(m)	4350	m
RL of suction Level	656.800	m
RL of Pumpset	667.540	m
RL of Delevery Head	732.05	m
Energy Charges	4.50	per kw
Proposed dia of Pipe	200.00	mm
Type & Class of pipe	DI, K9	
Frictional Losses	5.694	mm
Cost of Pipe / Rmt	2152.000	
Internal Dia	200.000	

Capacity of Balancing Tank
150 KL
Staging

## DESIGN OF RAW WATER RISING MAIN FROM JW TO WTP

28732228.61

SL NO	Description	200		
1	Discharge in( LPS)	34.722		
2	Pumping Hours(hrs)	20.00		
3	Value of HWC for pipe	140		
4	Length of rising main,(m)	4350		
5	Designed length of rising main,(m)	4785		
6	Loss per 1000m length,(m)	5.6940		
7	Total friction loss,(m) & 10%Loss for Turns,Bends	27.2458		
8	Delivery Head,(m)(pump level to FSL)	64.5100		
9	Suction Head,(m)	10.7400		
10	Residual Head,(m)	3.0000		
11	Total Head,(m)	105.4958		
12	BHP (45% EFFICIENCY)	108.5341		
13	KW Required	80.9665		
14	Cost of pumping machinery at Rs. 4000 per BHP	434136.46		
15	Total Energy charges per year = (0.746 x 20 x 365 x hp x Energy Charges)	2659747.89		
16	M&R Depreciation Charges(at 7.5%of item14)	32560.23		
17	Total O&M Charges	2692308.13		
18	Capitalised value of O&M Charges (6.686*O&M)	18000772.15		
19	Cost of pipe Rs/per m	2152.00		
20	Total cost of pipes	10297320.00		
21	Grand total of capitalised cost for 10 years	28732228.61		

From the table it is seen that the most economical size of rising main is 200 mm dia

**DESIGN OF PUMPING MACHINERY JW TO WTP****Static Head**

1	R.L. of Pump house	= 667.540	
2	F.S.L.	= 732.050	
3	R.L. at Suction level	= 656.800	
4	Total Static Head = (I.No.3 - I.No.4)	= 75.250	m

**Frictional Losses**

1	Length of Rising Main (L)	= 4350.00	m
2	Design Length	4785.00	m
3	Dia of Pipe	= 200	DI, K9
4	Frictional Losses / 1000 m (f)	= 5.694	
5	Total Frictional Head Loss	= 27.246	m

**Head Loss**

1	Static Head	= 75.25	m
2	Frictional Losses	= 27.25	m
3	Residual head	= 3.00	m
Total Head Loss		= <u>105.496</u>	m

**Pumping Machinery**

Yield from Source	= 34.722	LPS
-------------------	----------	-----

$$\text{Horse Power of Pumping machinery} = \frac{(Q \times H)}{(75 \times n)}$$

Where Q = Discharge in LPS

H = Total Head

n = Efficiency of pump = 75%

$$= \frac{34.722 \times 105.496}{75 \times 75\%}$$

$$= 65.12$$

Add Cushion as per CPHEEO Manual

$$1.15 \times 65.12 = 74.89$$

**Hence Provide 80.00**

*Dr. Allamjyoth*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ ಇಲಾಖೆ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**WATER HAMMER DESIGN FOR RISING MAIN**

SL NO	DESCRIPTION	200		
1	Dia(mm)(inner dia)	200.00		
2	Class of pipe	DI, K9		
3	Length(m)	4350		
4	Discharge(Cumecs)	0.0347		
5	RL at Ground Level	667.54		
6	Fullsupply level	732.05		
7	Ground level - FSL	64.51		
8	Thickness(mm)	6.30		
9	Area of pipe(sqm)	0.0314		
10	Velocity(m/s)	1.11		
11	Bulk Modulus of Water	2.07E+08		
12	Youngs Modulus of pipe	1.70E+10		
13	Pressure wave velocity(m/s)	1210.1700		
14	Water hammer pressure(m)	136.3286		
<b>WATER HAMMER DESIGN FOR RISING MAIN</b>				
15	(1) Design Pressure= StaticHead+ Water Hammer Head	203.84		
16	Design Head (m)	203.84		
17	<b>Total Pressure (Ksc)</b>	<b>20.38</b>		
18	<b>Required Pressure Class of Pipe</b>	<b>DI, K9</b>		

Based on economical &amp; Water hammer analysis Provide 200 dia DI, K9 Pipe

**Design Of Aerator**

Total demand	=	2600	Cum/Day
No. of pumping hours	=	20	Hrs
With 20 hrs pumping	=	130	Cum/hour
Surface Area of Loading (0.015 to 0.045 m <sup>2</sup> /m <sup>3</sup> /hr)	=	0.03	m <sup>2</sup> /m <sup>3</sup> /hr
No. of steps (4 to 6)	=	4	
Rise of steps	=	0.30	m
Tread of Step	=	0.30	m

Area required for the Aerator	=	Surface Loading x Raw water requirement
	=	0.03 x 130
	=	3.9 Sqm

**Design of Central Shaft**

Innter Diamater of the Central Shaft	=	0.90	m
Thickness of the Central shaft	=	0.15	m

Outer Diamater of the Central Shaft	=	0.9 + 2 x 0.15
	=	1.20 m
Area of the Central Shaft	=	(3.142 x 1.2 x 1.2) / 4
	=	1.13 Sqm
Total Surface Area required	=	5.03 Sqm

Diameter of the Bottom Step	=	3.00	m
Therefore Area Provided	=	$(3.142 \times 3 \times 3) / 4$	
	=	7.07	>5.030
		Hence Safe	

**Design of Out flow channel**

Discharge	=	130	Cum/hour
	=	0.04	Cum/sec

Area of the Channel		
Velocity in the Channel	=	0.60 m/sec
Assumed depth of flow in Channel	=	0.20 m
Width of the channel	=	0.04 / (0.6 x 0.2)
	=	0.33 m
Say		0.40 m

Total Depth of Channel	=	0.2 + 0.30m Free Board
	=	0.50 m

Proposed Section of the Channel	=	0.40 m x 0.50 m
---------------------------------	---	-----------------

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ನಿರ್ದೇಶನ, ಬೀದರ್ ಜಿಲ್ಲಾ

**DESIGN OF FLASHMIXER**

Design Flow ( from Mass balance)	=	2.6	mld
Number of units	=	1	nos.
Design Flow in each unit	=	130	m <sup>3</sup> /hr
	= 130 / 3600	=	0.04 m <sup>3</sup> /sec
Detention period	=	30	secs
Volume of flash mixer chamber required	0.04 x 30	=	1.2 m <sup>3</sup>
Side water depth provided	=	1.8	m
Freeboard	=	0.5	m
Area of chamber required	1.2 / 1.8	=	0.67 m <sup>2</sup>
Inner Diameter of Flash Mixer	=	0.92	m
Say	=	1.00	m
Ratio of depth to side	1.8 / 1	=	1.800
Outlet pipes to Clariflocculators - dia		200	mm
Velocity for normal flow			
0.04 / (pi x 0.25 x ( 200/ 1000)^2 )		0.57	m/sec
Power requirement considered	=	2	watt/cum/hr
Efficiency factor considered	=	0.6	
Motor power required	=	0.58	HP
	Say	1.00	HP

*G. Kallanaynath*

*[Signature]*  
 ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
 ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸ್ವ  
 ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

## DESIGN OF CLARIFLOCCULATOR

### PLANT PARAMETERS

	<u>Intermediate</u>	<u>Ultimate</u>
CAPACITY OF WTP =	2.50 ML	2.60 ML
OPERATING HOURS =	20 Hours	20 Hours

### DISCHARGE

PER HOUR	125.00 Cu.M	130.00 Cu.M
PER MINUTE	2.083 Cu.M	2.167 Cu.M
PER SECOND	0.035 Cu.M	0.036 Cu.M

### 1. FLOCCULATOR

SIDE WATER DEPTH =	2500	TO	4000	MM
DETENTION TIME =	30	MINUTES		
PADDLE AREA =	10	TO	25	PERCENT OF TANK AREA
PADDLE REVOLUTION =	1	TO	5	REVOLUTION PER MINUTE
VELOCITY GRADIENT =	20	TO	75	SEC
POWER CONSUMPTION =	0.75	TO	2	KWH / MLD

TOTAL VOLUME OF FLOCCULATOR =	65.00 Cu.M	DETENTION TIME X DISCHARGE
SIDE WATER DEPTH =	3 M	ASSUMED PARAMETER
AREA OF FLOCCULATOR REQUIRED =	21.67 Sq.M	VOLUME/DEPTH
DIA. OF INLET CHAMBER =	750 MM	FROM AREA
THICKNESS OF INLET CHAMFER =	150 MM	
TOTAL DIA. OF INLET CHAMBER =	1050 MM	
AREA OF INLET CHAMBER =	0.87 Sq.M	
TOTAL AREA REQUIRED =	22.53 Sq.M	
DIA. OF FLOCCULATOR REQUIRED =	5371 MM	
DIA. OF FLOCCULATOR PROVIDED =	5400 MM	

### POWER REQUIREMENTS

C/S AREA OF FLOCCULATOR =	13.05 Sq.M	
GRADIENT VALUE = G =	40	
MU =	0.0009	
POWER REQUIRED = $MU \times G^2 \times VOL.$ =	93.6 WATTS	
POWER SPENT/UNIT VOLUME =	1.44 WATTS	RANGE : 0.75 TO 2 WATTS/Cu.M/Hr
MOTOR EFFICIENCY FACTOR =	0.75	
POWER OF MOTOR REQUIRED =	0.17 HP	
PROVIDE 1.50 HP MOTOR FOR PADDLE DRIVING		

### PADDLE REQUIREMENTS

VELOCITY AT TIP OF BLADE =	0.4 MPS	
VELOCITY OF WATER AT BLADE TIP =	0.1 MPS	0.25 x VELOCITY OF BLADE TIP
Cd =	1.8	
GAMMA =	1000	
RELATIVE VELOCITY OF BLADE =	0.3 MPS	
AREA OF PADDLES REQUIRED =	3.85 Sq.M	
PADDLE AREA / FLOCCULATOR AREA =	29.52 PERCENT	
PADDLE AREA PROVIDED AS % OF C/S AREA OF FLOCCULATOR =		25
PADDLE AREA ADOPTED =	3.26 Sq.M	
PADDLE REVOLUTION =	1 RPM	
VERTICAL EDGE OF BLADE =	3841 MM	

**2. CLARIFIER**

DETENTION TIME =	2	TO	2.5	HOURS
SIDE WATER DEPTH =	2.5	TO	4	M
SURFACE LOADING =	30	TO	40	Cu.M/DAY/M
WEIR LOADING =			300	Cu.M/DAY/M
BOTTOM SLOPE =	1	IN	12	
SCRAPING SYSTEM=	30	TO	40	MIN / REVOLUTION
SHAPE =	CIRCULAR			
VOLUME OF TANK =			260 Cu.M	DISCHARGE X DETENTION TIME
VOLUME OF TANK WITH 10 % OVERLOADING=			286 Cu.M	
SIDE WATER DEPTH =			3250 MM	
SIDE WATER DEPTH ADOPTED =			3300 MM	
SURFACE AREA REQUIRED =			86.67 Sq.M	VOLUME / SIDE WATER DEPTH
AREA OF FLOCCULATOR WITH INLET CHAMBER =			22.53 Sq.M	
AREA OF FLOCCULATOR +CLARIFIER =			109.20 Sq.M	
COMBINED DIA. OF FLOCCULATOR+CLARIFIER=			11791 MM	
DIA. ADOPTED =			11800 MM	
COMB. AREA. OF FLOC.+CLARIFIER PROVIDED =			108.7464 Sq.M	
AREA OF CLARIFIER PROVIDED =			86.21 Sq.M	

**SURFACE LOADING**

SURFACE LOADING / HOUR=	1.45 Cu.M /Sq.M
SURFACE LOADING / DAY =	34.80 Cu.M/Sq.M < 40 Cu.M / Sq. M

**WEIR LOADING**

WEIR LENGTH =	37.08 M
WEIR LOADING =	80.92 Cu.M / M /DAY < 300 Cu.M / M / DAY

**DESIGN OF LAUNDER**

VELOCITY OF FLOW =	0.4 M / SEC	M/SEC
DEPTH OF LAUNDER =	500 MM	
WIDTH OF LAUNDER =	750 MM	
PERIMETER OF LAUNDER = P =	1750 MM	
AREA OF LAUNDER = A =	375000 Sq.MM	
HYDRAULIC RADIUS =	214.29 MM	= 0.21 M
N-VALUE IN MANNINGS FORMULA =	0.013	
SLOPE REQUIRED =	0.00021	SLOPE 1 IN 4840.657573 (NEGLIGIBLE)

**OPENING FROM FLOCCULATOR TO CLARIFIER**

VELOCITY OF FLOW =	1 CM/SEC	0.01 M/SEC
PERIMETER OF FLOCCULATOR WALL =	16.97 M	
CONSIDER 50 % OPENINGS		
LENGTH OF OPENINGS =	8.48 M	
AREA OF OPENING REQUIRED =	3.47 Sq.M	
DEPTH OF OPENING =	409 MM	
PROVIDE 1000 MM OPENING FOR 50 % OF PERIPHERAL LENGTH		

**SLUDGE PIPE**

SLUDGE VOLUME =	2.5 Cu.M / MLD
VOLUME OF SLUDGE =	6.25 Cu.M
DESLUDGING PERIOD =	10 HOURS
SLUDGE VOLUME / PERIOD =	2.604167 Cu.M
SLUDING DURATION =	10 MINUTES
DISCHARGE =	0.00434 Cu.M / SEC
VELOCITY OF FLOW =	1.2 MPS
AREA OF PIPE REQUIRED =	0.003617
DIA, OF SLUDGE PIPE REQUIRED =	68 MM
PROVIDED SIZE OF DI PIPE FOR DESLUDGING =	100 MM

*G. R. Narayana*

*[Signature]*  
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ



### Design of Rapid Sand Filter

1	Daily demand	: 2600000	Ltrs /day
		or 2600.00	Cum
2	Period of Operation of Filters	: 20	Hrs
3	Rate of Filtration	: 5.00	cum/Hr/sqm
4	Area of Filterbed required	: 26	Sqm
5	No. of Filter Units required	: 3	Nos
6	No. of Units proposed for Maintenance	: 1	No.
7	Total No. of Units Proposed	: 4	Nos
8	Filter Sand Depth	: 0.60	m
9	Effective size of sand	: 0.15	mm
10	Uniformity coefficient	: <3	m
11	Height of Underdrain including gravel layer	: 1.20	m
12	Height of Supernatant	: 1.00	m
	<b>Proposed Dimensions of Rapid Sand Filters</b>		
	Length	3.30	m
	Width	2.70	m
	Free board	: 0.30	m
	Over all depth including free board	: 3.10	m

*G. K. Lakshminath*

*G. K. Lakshminath*  
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

### Design of Back Wash Tank

1	Rate of Back wash	:	600	Ltrs/m/sqm
2	Duration of Back wash	:	10	mins
3	Area of Filter bed (One component	:	8.91	Sqm
4	Qty of water to wash one compartment only at a time	:	53460.00	Ltrs
5	No of beds provided	:	3	Nos
6	No of beds washed at a time	:	1	Nos
7	Qty of water to wash	:	53460	Ltrs
	Say	:	50000	Ltrs

### Design of Wash water gutter

1	Qty of Wash water	:	53460	Ltrs
2	Duration of Back wash	:	10	mins
3	Outlet Discharge	:	89.1	Ltrs / sect
		or	0.089	cum / sect
4	Width of Gutter proposed	:	0.7	mins
5	Head loss $HL = (Q^1 / 1.376 \times b)^{2/3}$		0.091	mtr
6	Add for Free Board		0.1	mtr
7	Total Depth of gutter		0.191	mtr
		or	0.2	mtr

*G. S. Hanjra*

*[Signature]*  
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

### Design of Wash Water Storage Sump

1	Capacity of tank Required	50.00	Cum
2	Assumed Depth of Tank	: 4.50	m
3	Below GL	3.50	
4	Surface area of tank	: 11.20	Sqm
5	Diameter of tank	: 3.78	m
		Say 4.00	m
6	Free Board	: 0.50	m
7	Total Depth of Storage Tank	5.00	m
8	GL	710.790	m
9	Bottom Level	707.29	m
10	Top level	712.29	m

*G.ellayyiah*

*G.ellayyiah*  
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

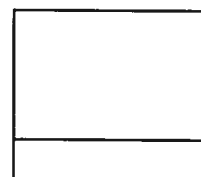
**Design of Pure water Storage Sump**

1	Prospective Population for 2051 Census	: 22794	souls
2	Daily demand	: 2600000	Ltrs /day
3	Hours of pumping	: 20.00	Hrs
	Discharge	130000.00	Ltrs /Hrs
		<b>or 130.00</b>	<b>Cum /Hrs</b>
4	Detention period	2.00	Hrs
5	Capacity of tank Required	<b>260.00</b>	<b>Cum</b>
6	Assumed Depth of Tank	: 5.00	m
8	Surface area of tank	: 52.00	Sqm
9	Diameter of tank	: 8.14	m
		<b>Say 9.00</b>	<b>m</b>
10	Free Board	: 0.50	m
11	Total Depth of Storage Tank	<b>5.50</b>	<b>m</b>
12	GL	<b>708.220</b>	<b>m</b>
13	Bottom Level	708.22	m
14	Top level	713.92	m

*G.R. Hanjirath*

*G.R. Hanjirath*  
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

Total Demand Considering losses	50000
Safe Yield of the Source (lph)	2500
Number of Hours of Pumping	20.00
Safe Yield of the Source (lps)	0.694
Value of HWC for pipe	145.00
Initial Approximation of Pipe	90
Type & Class of pipe	HDPE, PE100, PN10
Length of rising main,(m)	100 m
RL of starting point	709.220 m
RL of suction Level	705.720
RL of Delevery Head	730.10 m
Energy Charges	4.50 per kw
Proposed dia of Pipe	90.00 mm
Type & Class of pipe	HDPE, PE100, PN10
Frictional Losses	0.432
Cost of Pipe / Rmt	285.000 mm
Internal Dia	75.700



**DESIGN OF RAW WATER RISING MAIN FROM Washwater Tank to Aerator**

SL NO	Description	90	110	125
1	Discharge in( LPS)	0.694	0.694	0.694
2	Pumping Hours(hrs)	20.00	20.00	20.00
3	Value of HWC for pipe	145	145	145
4	Length of rising main,(m)	100	100	100
5	Designed length of rising main,(m)	110	110	110
6	Loss per 1000m length,(m)	0.4318	0.1610	0.0861
7	Total friction loss,(m) & 10% Losess for Turns,Bends	0.0475	0.0177	0.0095
8	Delivery Head,(m)(pump level to FSL)	20.8800	20.8800	20.8800
9	Suction Head,(m)	3.5000	3.5000	3.5000
10	Residual Head,(m)	3.0000	3.0000	3.0000
11	Total Head,(m)	27.4275	27.3977	27.3895
12	BHP (70% EFFICIENCY)	0.3626	0.3622	0.3621
13	KW Required	0.2705	0.2702	0.2701
14	Cost of pumping machinery at Rs. 4000 per BHP	1450.26	1448.69	1448.25
15	Total Energy charges per year = (0.746 x 20 x 365 x hp x Energy Charges)	8885.07	8875.41	8872.75
16	M&R Depreciation Charges(at 7.5%of item14)	108.77	108.65	108.62
17	Total O&M Charges	8993.84	8984.07	8981.37
18	Capitalised value of O&M Charges (6.686*O&M)	60132.78	60067.46	60049.41
19	Cost of pipe Rs/per m	285.00	400.00	501.00
20	Total cost of pipes	31350.00	44000.00	55110.00
21	Grand total of capitalised cost for 10 years	92933.05	105516.15	116807.66

From the table it is seen that the most economical size of rising main is 90 mm dia

**WATER HAMMER DESIGN FOR RISING MAIN**

SL NO	DESCRIPTION	90	110	125
1	Dia(mm)(inner dia)	75.70	92.70	105.40
2	Class of pipe	HDPE, PE100, PN10	HDPE, PE100, PN10	HDPE, PE100, PN10
3	Length(m)	100	100	100
4	Discharge(Cumecs)	0.0007	0.0007	0.0007
5	RL at Ground Level	709.22	709.22	709.22
6	Fullsupply level	730.10	730.10	730.10
7	Ground level - FSL	20.88	20.88	20.88
8	Thickness(mm)	7.15	8.65	9.80
9	Area of pipe(sqm)	0.0045	0.0067	0.0087
10	Velocity(m/s)	0.15	0.10	0.08
11	Bulk Modulus of Water	2.07E+08	2.07E+08	2.07E+08
12	Youngs Modulus of pipe	9.00E+07	9.00E+07	9.00E+07
13	Pressure wave velocity(m/s)	283.0199	281.3736	280.8912
14	Water hammer pressure(m)	4.4482	2.9490	2.2773
<b>WATER HAMMER DESIGN FOR RISING MAIN</b>				
15	(1) Design Pressure= StaticHead+ Water Hammer Head	28.33	26.83	26.16
16	(2) Design Pressure = 2 * Static Head	41.76	41.76	41.76
17	Design Head (m)	41.76	41.76	41.76
18	Total Pressure (Ksc)	4.18	4.18	4.18
19	Required Pressure Class of Pipe	HDPE, PE100, PN10	HDPE, PE100, PN10	HDPE, PE100, PN10

Based on economical & Water hammer analysis Provide 90 dia HDPE, PE100, PN10 Pipe

**DESIGN OF PUMPING MACHINERY FROM WASHWATER TANK TO AERATOR****Static Head**

1	R.L. of Suction Level	=	705.720	
2	Lowest RL in LS	=	709.220	
3	Full Supply Level	=	730.100	
4	R.L. at Pumpset	=	709.670	
5	Total Static Head = (I.No.3 - I.No.4)	=	24.380	m

**Frictional Losses**

6	Length of Rising Main (L)	=	100.00	
7	Designed Length	=	110.00	
8	Dia of Pipe	=	90	6kg/sqcm
9	Frictional Losses / 1000 m (f)	=	0.432	
10	Total Frictional Losses (110 / 1000) x 0.432		0.048	

**Head Loss**

11	Static Head		24.380	m
12	Frictional Losses		0.048	m
13	Residual head		3.000	m
	Total Frictional Head Loss		<u>27.428</u>	m

**Pumping Machinery**

Yield from Source = 0.694 LPS

Horse Power of Pumping machinery =  $\frac{(Q \times H)}{(75 \times n)}$

Where Q = Discharge in LPS

H = Total Head

n = Efficiency of pump = 60%

$$= \frac{0.694 \times 27.428}{75 \times 60\%}$$

$$= 0.42$$

Add Cushion as per CPHEEO Manual

$$1.50 \times 0.42 = 0.63$$

**5.00 HP**

*G. R. Hanjra*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

Total Demand Considering losses	50000
Safe Yield of the Source (lph)	6250
Number of Hours of Pumping	8.00
Safe Yield of the Source (lps)	1.736
Value of HWC for pipe	145.00
Initial Approximation of Pipe	90
Type & Class of pipe	HDPE, PE100, PN10
Length of rising main, (m)	100 m
RL of starting point	708.220 m
RL of suction Level	704.720
RL of Delivery Head	721.82 m
Energy Charges	4.50 per kw
Proposed dia of Pipe	90.00 mm
Type & Class of pipe	HDPE, PE100, PN10
Frictional Losses	2.359
Cost of Pipe / Rmt	285.000 mm
Internal Dia	75.700

Capacity of Tank

50 KL

## DESIGN OF PURE WATER RISING MAIN FROM PW SUMP TO Back wash tank

119154.43

SL NO	Description	90		
1	Discharge in( LPS)	1.736		
2	Pumping Hours(hrs)	8.00		
3	Value of HWC for pipe	145		
4	Length of rising main, (m)	100		
5	Designed length of rising main, (m)	110		
6	Loss per 1000m length, (m)	2.3593		
7	Total friction loss, (m) & 10% Loss for Turns, Bends	0.2595		
8	Delivery Head, (m) (pump level to FSL)	17.1000		
9	Suction Head, (m)	3.5000		
10	Residual Head, (m)	3.0000		
11	Total Head, (m)	23.8595		
12	BHP (45% EFFICIENCY)	1.2273		
13	KW Required	0.9155		
14	Cost of pumping machinery at Rs. 4000 per BHP	4909.05		
15	Total Energy charges per year = $(0.746 \times 8 \times 365 \times \text{hp} \times \text{Energy Charges})$	12030.17		
16	M&R Depreciation Charges (at 7.5% of item 14)	368.18		
17	Total O&M Charges	12398.35		
18	Capitalised value of O&M Charges $(6.686 \times \text{O&M})$	82895.38		
19	Cost of pipe Rs/per m	285.00		
20	Total cost of pipes	31350.00		
21	Grand total of capitalised cost for 10 years	119154.43		

From the table it is seen that the most economical size of rising main is 90 mm dia



## WATER HAMMER DESIGN FOR RISING MAIN

SL NO	DESCRIPTION	90		
1	Dia(mm)(inner dia)	75.70		
2	Class of pipe	HDPE, PE100, PN10		
3	Length(m)	100		
4	Discharge(Cumecs)	0.0017		
5	RL at Ground Level	704.72		
6	Full supply level	721.82		
7	Ground level - FSL	17.1		
8	Thickness(mm)	7.15		
9	Area of pipe(sqm)	0.0045		
10	Velocity(m/s)	0.39		
11	Bulk Modulus of Water	2.07E+08		
12	Youngs Modulus of pipe	9.00E+07		
13	Pressure wave velocity(m/s)	283.0199		
14	Water hammer pressure(m)	11.1268		
WATER HAMMER DESIGN FOR RISING MAIN				
15	(1) Design Pressure= Static Head+ Water Hammer Head	31.23		
16	(2) Design Pressure = 2 * Static Head	34.20		
17	Design Head (m)	34.20		
18	Total Pressure (Ksc)	3.42		
19	Required Pressure Class of Pipe	HDPE, PE100, PN10		

Based on economical &amp; Water hammer analysis Provide 90 dia HDPE, PE100, PN10 Pipe




ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸ್ವಚ್ಛ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**DESIGN OF PUMPING MACHINERY FROM PW SUMP TO BACK WASH TANK****Static Head**

1	R.L. of Suction Level	=	704.720	
2	Lowest RL in LS	=	704.720	
3	Full Supply Level	=	721.820	
4	R.L. at Pumpset	=	708.670	
5	Total Static Head = (I.No.3 - I.No.4)	=	17.100	m

**Frictional Losses**

6	Length of Rising Main (L)	=	100.00	
7	Designed Length	=	110.00	
8	Dia of Pipe	=	90	6kg/sqcm
9	Frictional Losses / 1000 m (f)	=	2.359	
10	Total Frictional Losses (110 / 1000) x 2.359		0.259	

**Head Loss**

11	Static Head		17.100	m
12	Frictional Losses		0.259	m
13	Residual head		3.000	m
Total Frictional Head Loss			<u>20.359</u>	<u>m</u>

**Pumping Machinery**

Yield from Source = 1.736 LPS

Horse Power of Pumping machinery =  $\frac{(Q \times H)}{(75 \times n)}$

Where Q = Discharge in LPS

H = Total Head

n = Efficiency of pump = 60%

$$= \frac{1.736 \times 20.359}{75 \times 60\%}$$

$$= 0.79$$

Add Cushion as per CPHEEO Manual

$$1.50 \times 0.79 = 1.19$$

**5.00 HP**

*G. S. Hanumanth*

*[Signature]*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸ್ವಚ್ಛತೆ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**Design of MBT(GLSR)**

5	Capacity of tank Required	250.00	Cum
6	Assumed Depth of Tank	: 5.00	m
7	Surface area of tank	: 50.00	Sqm
8	Diameter of tank	: 7.99	m
		Say 8.00	m
	Free Board	: 0.50	m
	Total Depth of Storage Tank	5.50	m
8	GL	825.000	m
	Bottom Level	821.50	m
	Top level	827.20	m

*G.E. Hanyath*

*mm*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸ್ವಚ್ಛತ್ವ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**Design of ZBT( GLSR)**

5	Capacity of tank Required	150.00	Cum
6	Assumed Depth of Tank	: 5.00	m
7	Surface area of tank	: 30.00	Sqm
8	Diameter of tank	: 6.19	m
		Say 7.00	m
	Free Board	: 0.50	m
	Total Depth of Storage Tank	5.50	m
8	GL	752.250	m
	Bottom Level	748.75	m
	Top level	754.45	m

*L. S. Shetty*

*Shetty*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**WATER BALANCE TABLE OF VADIYANDAHALLI MBT (24 Hr out flow)**

<b>Population Served (2051)</b>	15220	
<b>Daily Demand</b>	1522000	Ltrs
<b>Inflow</b>		
Hours of Pumping	20	Hrs
Rate of Pumping	76100	LPH
<b>Out flow</b>		
Hours of Pumping	24	Hrs
Rate of Pumping	63417	LPH
Assumed dead storage	152200	LTRS

Time (Hour)		Opening balance	In Flow to Tank	Cumulative storage	Out flow	Capacity of Tank
From	To					250 KL
12:00 AM	1:00 AM	152200	76100	228300	63417	164883
1:00 AM	2:00 AM	164883	76100	240983	63417	177567
2:00 AM	3:00 AM	177567	76100	253667	63417	190250
3:00 AM	4:00 AM	190250	76100	266350	63417	202933
4:00 AM	5:00 AM	202933	76100	279033	63417	215617
5:00 AM	6:00 AM	215617	76100	291717	63417	228300
6:00 AM	7:00 AM	228300		228300	63417	164883
7:00 AM	8:00 AM	164883		164883	63417	101467
8:00 AM	9:00 AM	101467	76100	177567	63417	114150
9:00 AM	10:00 AM	114150	76100	190250	63417	126833
10:00 AM	11:00 AM	126833	76100	202933	63417	139517
11:00 AM	12:00 PM	139517	76100	215617	63417	152200
12:00 PM	1:00 PM	152200	76100	228300	63417	164883
1:00 PM	2:00 PM	164883	76100	240983	63417	177567
2:00 PM	3:00 PM	177567	76100	253667	63417	190250
3:00 PM	4:00 PM	190250	76100	266350	63417	202933
4:00 PM	5:00 PM	202933		202933	63417	139517
5:00 PM	6:00 PM	139517		139517	63417	76100
6:00 PM	7:00 PM	76100	76100	152200	63417	88783
7:00 PM	8:00 PM	88783	76100	164883	63417	101467
8:00 PM	9:00 PM	101467	76100	177567	63417	114150
9:00 PM	10:00 PM	114150	76100	190250	63417	126833
10:00 PM	11:00 PM	126833	76100	202933	63417	139517
11:00 PM	12:00 AM	139517	76100	215617	63417	152200
			<b>1522000</b>		<b>1522000</b>	

**WATER BALANCE TABLE OF VADIYANDAHALLI ZBT (24 Hr out flow)**

<b>Population Served (2050)</b>	7574	
<b>Daily Demand</b>	758000	Ltrs
<b>Inflow</b>		
Hours of Pumping	20	Hrs
Rate of Pumping	37900	LPH
<b>Out flow</b>		
Hours of Pumping	24	Hrs
Rate of Pumping	31583	LPH
<b>Assumed dead storage</b>	75800	LTRS

Time (Hour)		Opening balance	In Flow to Tank	Cumulative storage	Out flow	Capacity of Tank
From	To					150 KL
12:00 AM	1:00 AM	75800	37900	113700	31583	82117
1:00 AM	2:00 AM	82117	37900	120017	31583	88433
2:00 AM	3:00 AM	88433	37900	126333	31583	94750
3:00 AM	4:00 AM	94750	37900	132650	31583	101067
4:00 AM	5:00 AM	101067	37900	138967	31583	107383
5:00 AM	6:00 AM	107383	37900	145283	31583	113700
6:00 AM	7:00 AM	113700		113700	31583	82117
7:00 AM	8:00 AM	82117		82117	31583	50533
8:00 AM	9:00 AM	50533	37900	88433	31583	56850
9:00 AM	10:00 AM	56850	37900	94750	31583	63167
10:00 AM	11:00 AM	63167	37900	101067	31583	69483
11:00 AM	12:00 PM	69483	37900	107383	31583	75800
12:00 PM	1:00 PM	75800	37900	113700	31583	82117
1:00 PM	2:00 PM	82117	37900	120017	31583	88433
2:00 PM	3:00 PM	88433		88433	31583	56850
3:00 PM	4:00 PM	56850		56850	31583	25267
4:00 PM	5:00 PM	25267	37900	63167	31583	31583
5:00 PM	6:00 PM	31583	37900	69483	31583	37900
6:00 PM	7:00 PM	37900	37900	75800	31583	44217
7:00 PM	8:00 PM	44217	37900	82117	31583	50533
8:00 PM	9:00 PM	50533	37900	88433	31583	56850
9:00 PM	10:00 PM	56850	37900	94750	31583	63167
10:00 PM	11:00 PM	63167	37900	101067	31583	69483
11:00 PM	12:00 AM	69483	37900	107383	31583	75800
			<b>758000</b>		<b>758000</b>	

TITLE: Gravity Main Design

Sl No	Node		Length		Population served by the pipe	Required Flow		0.6	Proposed Pipe Dia			Velocity of flow in pipe (m/sec)	Hazens William Constant	Frictional Slope (s)	Frictional Loss in Line	HMG at Previous Node	HMG at Next Node	DHRL Required @ OHT / GLSR	Residual Pressure	MBT Outlet RL	Lowest GL RL in L-S	Working Pressure duly considering Water Hammer	Class of Pipe or Working Pressure in KSC	Type of Pipe	Remarks
	From	To	Actual	Designed		Peak Factor	1		Ext Dia	Wall Thickness	Internal Dia			(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)			
			(m)	(m)		LPH	CUMECS		(mm)	(mm)	(mm)														
1	2	3	4	5	6	7	8		9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
OUTLET-1 [MBT TO CHIKKANAKANAHALLI & OTHER 5 VILLAGES]																									
1	MBT	JN-C1	183	201.30	7433	30971	0.0086	140	180	11.45	157.1	0.44	145	0.0013	0.26	825.30	825.04			825.30	747.80	77.50	PN8	HDPE	
2	JN-C1	JN-C2	9434	10377.40	7433	30971	0.0086	140	180	22.6	134.8	0.60	145	0.0028	28.57	825.04	796.47			825.30	667.83	157.21	PN16	HDPE	
3	JN-C2	JN-C3	3786	4164.60	2115	8813	0.0024	75	90	7.15	75.7	0.54	145	0.0045	18.58	796.47	777.89			825.30	713.81	82.66	PN10	HDPE	
4	JN-C3	Hampapura	15	16.50	1045	4354	0.0012	50	75	3.8	67.4	0.34	145	0.0021	0.04	777.89	777.85	741.60	36.25	825.30	726.75	51.14	PN6	HDPE	Provide PRV and Flow Meter
5	JN-C3	Huralikyathanahalli	2648	2912.80	1070	4458	0.0012	63	75	4.85	65.3	0.37	145	0.0026	7.56	777.89	770.33	741.00	29.33	825.30	702.04	75.85	PN8	HDPE	Provide PRV and Flow Meter
6	JN-C2	JN-C4	3730	4103.00	5318	22158	0.0062	125	140	13.45	113.1	0.61	145	0.0035	14.28	796.47	782.18			825.30	686.13	110.34	PN12.5	HDPE	
7	JN-C4	JN-C5	200	220.00	1348	5617	0.0016	63	75	4.85	65.3	0.47	145	0.0040	0.88	782.18	781.31			825.30	703.10	79.08	PN8	HDPE	
8	JN-C5	Chikkanakanahalli OHT1	13	14.30	674	2808	0.0008	40	75	4.85	65.3	0.23	145	0.0011	0.02	781.31	781.29	727.51	53.78	825.30	712.64	68.67	PN8	HDPE	Provide PRV and Flow Meter
9	JN-C5	Chikkanakanahalli OHT2	51	56.10	674	2808	0.0008	40	75	4.85	65.3	0.23	145	0.0011	0.06	781.31	781.25	728.07	53.18	825.30	712.64	68.67	PN8	HDPE	Provide PRV and Flow Meter
10	JN-C4	JN-C6	510	561.00	3970	16542	0.0046	110	110	8.65	92.7	0.68	145	0.0053	2.99	782.18	779.19			825.30	701.92	80.26	PN10	HDPE	
11	JN-C6	Chikkanakanahalli OHT3	16	17.60	338	1408	0.0004	40	75	4.85	65.3	0.12	145	0.0003	0.01	779.19	779.18	731.80	47.38	825.30	717.53	61.66	PN8	HDPE	Provide PRV and Flow Meter
12	JN-C6	JN-C7	941	1035.10	3632	15133	0.0042	110	110	8.65	92.7	0.62	145	0.0045	4.69	779.19	774.50			825.30	696.52	82.67	PN10	HDPE	
13	JN-C7	Sugganahalli	85	93.50	779	3246	0.0009	50	75	4.85	65.3	0.27	145	0.0014	0.13	774.50	774.37	715.61	58.76	825.30	701.35	73.15	PN8	HDPE	Provide PRV and Flow Meter
14	JN-C7	JN-C8	1616	1777.60	2853	11888	0.0033	90	90	5.8	78.4	0.68	145	0.0065	11.64	774.50	762.86			825.30	703.08	71.42	PN8	HDPE	
15	JN-C8	Bonthagahalli	481	529.10	1711	7129	0.0020	75	75	3.8	67.4	0.56	145	0.0053	2.81	762.86	760.06	741.18	18.88	825.30	726.02	36.84	PN6	HDPE	Provide PRV and Flow Meter
16	JN-C8	Kokkarehundi	224	246.40	1142	4758	0.0013	63	75	3.8	67.4	0.37	145	0.0025	0.62	762.86	762.25	750.52	11.73	825.30	725.96	36.90	PN6	HDPE	Provide PRV and Flow Meter
OUTLET-2 [ZBT TO MAHADEVAPURA & OTHER 5 VILLAGES]																									
1	ZBT	JN-M1	4544	4998.51	7574	25989	0.0072	125	160	12.5	135	0.50	145	0.0020	9.87	752.55	742.68			752.55	667.80	84.75	PN10	HDPE	
2	JN-M1	Krishnapura	3252	3577.20	88	302	0.0001	40	75	4.85	65.3	0.03	145	0.0000	0.06	742.68	742.61	705.58	37.03	752.55	673.58	69.10	PN8	HDPE	Provide PRV and Flow Meter
3	JN-M1	JN-M2	617	678.70	7486	25687	0.0071	125	140	8.95	122.1	0.61	145	0.0032	2.14	742.68	740.54			752.55	679.80	62.88	PN8	HDPE	
4	JN-M2	JN-M3	19	20.90	612	2100	0.0006	40	75	3.8	67.4	0.16	145	0.0006	0.01	740.54	740.53			752.55	689.14	51.40	PN6	HDPE	
5	JN-M3	Mahadevapura OHT1	7	7.70	306	1050	0.0003	40	75	3.8	67.4	0.08	145	0.0002	0.00	740.53	740.52	704.09	36.43	752.55	689.41	51.12	PN6	HDPE	Provide PRV and Flow Meter
6	JN-M3	Mahadevapura OHT2	22	24.20	306	1050	0.0003	40	75	3.8	67.4	0.08	145	0.0002	0.00	740.53	740.52	704.55	35.97	752.55	689.44	51.09	PN6	HDPE	Provide PRV and Flow Meter
7	JN-M2	JN-M4	721	793.10	6874	23587	0.0066	125	125	6.1	112.8	0.66	145	0.0040	3.14	740.54	737.40			752.55	689.13	51.41	PN6	HDPE	
8	JN-M4	Mahadevapura OHT3	223	245.30	1226	4207	0.0012	50	75	3.8	67.4	0.33	145	0.0020	0.49	737.40	736.91	724.06	12.85	752.55	697.44	39.96	PN6	HDPE	Provide PRV and Flow Meter
9	JN-M4	JN-M5	129	141.90	5648	19380	0.0054	110	110	5.35	99.3	0.70	145	0.0051	0.73	737.40	736.67			752.55	697.49	39.91	PN6	HDPE	
10	JN-M5	JN-M6	3201	3521.10	4558	15640	0.0043	110	110	7.05	95.9	0.60	145	0.0041	14.36	736.67	722.31			752.55	666.09	70.58	PN8	HDPE	
11	JN-M6	Channahalli	562	618.20	1968	6753	0.0019	63	75	3.8	67.4	0.53	145	0.0048	2.97	722.31	719.34	689.45	29.89	752.55	666.05	56.26	PN6	HDPE	Provide PRV and Flow Meter
12	JN-M6	Bidarahalli	1572	1729.20	2590	8887	0.0025	75	75	3.8	67.4	0.69	145	0.0080	13.80	722.31	708.51	694.79	13.72	752.55	664.69	57.62	PN6	HDPE	Provide PRV and Flow Meter
13	JN-M5	JN-M7	2286	2514.60	1090	3740	0.0010	50	75	4.85	65.3	0.31	145	0.0019	4.71	736.67	731.96			752.55	675.86	60.81	PN8	HDPE	
14	JN-M7	Taripura	241	265.10	809	2776	0.0008	40	75	3.8	67.4	0.22	145	0.0009	0.25	731.96	731.71	721.64	10.07	752.55	699.58	32.38	PN6	HDPE	Provide PRV and Flow Meter
15	JN-M7	Kemmannapura	2650	2915.00	281	964	0.0003	40	75	3.8	67.4	0.08	145	0.0001	0.38	731.96	731.58	719.69	11.89	752.55	697.55	34.41	PN6	HDPE	Provide PRV and Flow Meter

TITLE: Gravity Main Design

Sl No	Node		Length		Population served by the pipe	Required Flow		0.6	Proposed Pipe Dia			Velocity of flow in pipe (m/sec)	Hazens William Constant	Frictional Slope (s)	Frictional Loss in Line	HMG at Previous Node	HMG at Next Node	DHRL Required @ OHT / GLSR	Residual Pressure	MBT Outlet RL	Lowest GL RL in L-S	Working Pressure duly considering Water Hammer	Class of Pipe or Working Pressure in KSC	Type of Pipe	Remarks
	From	To	Actual	Designed		Peak Factor	1		Ext Dia	Wall Thickness	Internal Dia														
			(m)	(m)		LPH	CUMECS		(mm)	(mm)	(mm)														
1	2	3	4	5	6	7	8		9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
OUTLET-3 [MBT TO K-SHETTYHALLI & OTHER 6 VILLAGES]																									
1	MBT	JN-K1	14329	15761.74	7787	26720	0.0074	125	180	22.6	134.8	0.52	145	0.0021	33.01	825.30	792.29			825.30	670.01	155.29	PN16	HDPE	
2	JN-K1	K Shettyhalli OHT1	161	177.10	958	3287	0.0009	50	75	6	63	0.29	145	0.0018	0.31	792.29	791.98	714.71	77.27	825.30	698.99	93.30	PN10	HDPE	Provide PRV and Flow Meter
3	JN-K1	JN-K2	104	114.43	6829	23433	0.0065	125	125	9.8	105.4	0.75	145	0.0054	0.62	792.29	791.66			825.30	698.01	94.28	PN10	HDPE	
4	JN-K2	K Shettyhalli OHT2	32	34.81	1150	3946	0.0011	50	75	6	63	0.35	145	0.0025	0.09	791.66	791.58	712.22	79.36	825.30	697.99	93.67	PN10	HDPE	Provide PRV and Flow Meter
5	JN-K2	JN-K3	162	177.74	5679	19487	0.0054	110	125	9.8	105.4	0.62	145	0.0039	0.69	791.66	790.98			825.30	698.00	93.66	PN10	HDPE	
6	JN-K3	JN-K4	862	948.11	1686	5785	0.0016	63	75	6	63	0.52	145	0.0050	4.75	790.98	786.23			825.30	698.32	92.66	PN10	HDPE	
7	JN-K4	Gowripura	32	34.86	690	2368	0.0007	40	75	4.85	65.3	0.20	145	0.0008	0.03	786.23	786.20	725.67	60.53	825.30	710.32	75.91	PN8	HDPE	Provide PRV and Flow Meter
8	JN-K4	Garudana Ukkada	599	658.86	996	3418	0.0009	50	75	4.85	65.3	0.28	145	0.0016	1.04	786.23	785.19	729.15	56.04	825.30	708.73	77.50	PN8	HDPE	Provide PRV and Flow Meter
9	JN-K3	JN-K5	2333	2566.07	3993	13701	0.0038	90	110	10.6	88.8	0.61	145	0.0046	11.91	790.98	779.06			825.30	685.26	105.72	PN12.5	HDPE	
10	JN-K5	M Shettyhalli OHT1	17	19.02	1009	3462	0.0010	50	75	4.85	65.3	0.29	145	0.0016	0.03	779.06	779.03	717.04	61.99	825.30	702.94	76.12	PN8	HDPE	Provide PRV and Flow Meter
11	JN-K5	JN-K6	50	54.68	2984	10239	0.0028	90	90	5.8	78.4	0.59	145	0.0050	0.27	779.06	778.79			825.30	703.26	75.80	PN8	HDPE	
12	JN-K6	M Shettyhalli OHT2	11	12.54	1210	4152	0.0012	50	75	4.85	65.3	0.34	145	0.0023	0.03	778.79	778.76	719.30	59.46	825.30	704.70	74.09	PN8	HDPE	Provide PRV and Flow Meter
13	JN-K6	JN-K7	1252	1376.73	1774	6087	0.0017	63	75	4.85	65.3	0.50	145	0.0046	6.36	778.79	772.43			825.30	705.29	73.50	PN8	HDPE	
14	JN-K7	Sabbanakuppe	12	13.66	278	954	0.0003	40	75	3.8	67.4	0.07	145	0.0001	0.00	772.43	772.43	732.31	40.12	825.30	717.59	54.84	PN6	HDPE	Provide PRV and Flow Meter
15	JN-K7	JN-K8	945	1040.00	1496	5133	0.0014	63	75	4.85	65.3	0.43	145	0.0034	3.50	772.43	768.93			825.30	707.76	64.67	PN8	HDPE	
16	JN-K8	Mallegowdanakoppalu	270	297.05	212	727	0.0002	40	75	3.8	67.4	0.06	145	0.0001	0.02	768.93	768.91	739.57	29.34	825.30	719.45	49.48	PN6	HDPE	Provide PRV and Flow Meter
17	JN-K8	Chinnenahalli	1091	1199.57	1284	4406	0.0012	50	75	4.85	65.3	0.37	145	0.0025	3.04	768.93	765.88	727.77	38.11	825.30	705.38	63.55	PN8	HDPE	Provide PRV and Flow Meter

*[Signature]*

*[Signature]*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ



**ANNEXURE - FORMAT - 1  
ABSTRACT OF PROPOSALS**

Sl. No.	District	Taluk	Name of Scheme	No. of Habitation	No. of W.Q. Habitations	Population as per 2011	Source	Provisional Project Cost in lakh excluding O&M	Per capita cost in Rs. Excluding O&M	Water Quality Parameters as per IMIS (As on 01/04/2016)						Details of Coverage of No. of Habitations as per I.M.I.S. As on 01/04/2016) 55 LPCD					Scheme Recommended by Sriyuths
										As	F	Fe	NO <sub>3</sub>	TDS / Salinity	0% to 25%	25% to 50%	50% to 75%	75% to 100%	100%		
1	2	3	4	5	6	7	8	9	10	11	64.2	13	14	15	16	17	18	19	20	21	
1	Mandya	Srirangapatna	Water Supply to Mahadevapura, Chikkanakanahalli, K. Sheethyhalli & Other 16 Villages	19	0	18720	Cauvery River Near Mahadev pura	2376.87	12202.00		0	2	12	0	0	2	10	1	6		
Total Number of Habitations:										19											
Number of quality affected habitations:										13											
Total Number of Quality affected Habitations & Number of Habitations below 50% coverage:										13											
Percentage of Quality affected Habitations & Habitations below 50% coverage										68.42%											

*S. K. Lingappa*

*S. K. Lingappa*  
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**FORMAT - 2**  
**SALIENT FEATURES**

1	NAME OF THE SCHEME	Water Supply to Mahadevapura, Chikkanakanahalli, K. Sheethyhalli & Other 16 Villages
2	TALUK	Srirangapatna
3	DISTRICT	Mandya
4	NUMBER OF VILLAGES BENEFITED	19
5	W.Q. CONTAMINATED VILLAGES	0
6	POPULATION AS PER 2011	18720
7	TYPE OF CONTAMINATION	Flourid,iron & Nitrate.
8	PROJECTED POPULATION 2021	19664
9	PROJECTED POPULATION 2051	22,794
10	PROPOSED SUPPLY LEVEL	85 LPCD
11	DETAILS OF SOURCE	Cauvery River Near Mahadevpura
12	TOTAL REQUIREMENT OF WATER (MLD)	2.6
13	PROPOSED SCHEME (Components)	Intake well, Jack Well, Raw water Rising main, Raw water Balancing Tank, Aerator, Flash Mixer, Clariflocculator, Rapid Sand Filter, Pure Water sump, Pure Water rising Main, Raw Water Pumping Machinery, Clear Water Pumping Machinery, Master Balancing Tank, Zonal Balancing Tank, Gravity Main.
14	WATER TREATMENT PLANT CAPACITY (MLD)	2.5
15	O & M COST FOR 5 YEARS INCLUDING ENERGY CHARGES	Rs.423.13 Lakhs
16	PROJECT COST	(a) Including 5 Yrs O&M Cost - Rs.2800 Lakhs (b) Excluding 5 Yrs O&M Cost - Rs.2376.87 Lakhs
17	PER CAPITA COST FOR 2019 POPULATION EXCLUDING O & M CHARGES	Rs.12202
18	PRODUCTION COST OF WATER PER K.L. AS PER 2017 POP	Rs.5.10

**FORMAT - 3**  
**ABSTRACT ESTIMATE**  
**Water Supply to Mahadevapura, Chikkanakanahalli,**  
**K. Sheethyhalli & Other 16 Villages**

DISTRIC Mandya

TALUK: Srirangapatna

SI.No.	Description	Amount (Rs. in lakhs)
1	Head Works	66.01
2	Raw Water Rising / Gravity Main & Pumping Machinery	215.14
3	Water Treatment Plant - Capacity MLD	180.25
4	Pure Water Rising / Gravity Main and Pumping Machinery etc.	1028.46
5	Master Balancing Tanks & ZBTs	30.91
6	Chemical Rooms, Laboratory, Staff Quarters	15.49
7	Express Feeder Line	386.92
8	O&M charges for 5 Years including Energy charges	423.13
	<b>Sub-Total</b>	<b>2346.31</b>
10	Add PMC Charges @ 3%	70.39
11	Add Price variation Charges @ 15%	351.95
	Miscellaneous and rounding charges	31.35
	<b>GRAND TOTAL</b>	<b>2800.00</b>

*S. S. Srinivas*

*S. S. Srinivas*  
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**FORMAT - 4**

**Water Supply to Mahadevapura, Chikkanakanahalli, K. Sheethyhalli & Other 16 Villages**

Sl. No.	G.P.	Name of Village/ Habitation	Population as per 2011 IMIS (Total & SC/ST Population)	Existing Water Supply System			Population Coverage Category of the Habitations as per entry made in I.M.I.S. Web site (As on 01/04/2016)55 LPCD	Water Quality Parameters as per IMIS (As on 01/04/2016)					Remarks
				P.W.S.	M.W.S.	Borewells		As	F	Fe	NO <sub>3</sub>	TDS / Salinity	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	<b>Mahadevapura</b>	Mahadevapura	1510				50% to 75%	-	-	-	64.15	-	
2		Taripura	664	0	1	1	50% to 75%	-	-	-	65.24	-	
3		Channahalli	1618	6	10	25	50% to 75%	-	-	-	64.24	-	
4		Bidarahalli	2129				50% to 75%	-	-	-	75	-	
5		Krishnapura	71				25% to 50%	-	-	-	75	-	
6	<b>Melapura</b>	Hampapura	858			2	50% to 75%	-	-	1.9	63.18	-	
7	<b>Chikkankannahalli</b>	Chikkankannahalli	1385	3	2	10	100%	-	-	-	75	-	
8		Huralikyathanahalli	879				50% to 75%	-	-	-	-	-	
9		Sugganahalli	639	1	1	1	100%	-	-	-	50	-	
10		Kokkarehundi	938		1	3	100%	-	-	2	-	-	
11		Bonthagahalli	1406			2	50% to 75%	-	-	-	53.14	-	
12		Kemmannapura	229				25% to 50%	-	-	-	75	-	

Sl. No.	G.P.	Name of Village/ Habitation	Population as per 2011 IMIS (Total & SC/ST Population)	Existing Water Supply System			Population Coverage Category of the Habitations as per entry made in I.M.I.S. Web site (As on 01/04/2016)55 LPCD	Water Quality Parameters as per IMIS (As on 01/04/2016)					Remarks
				P.W.S.	M.W.S.	Borewells		As	F	Fe	NO <sub>3</sub>	TDS / Salinity	
13	K SHETTIHALLI	Garudana Ukkada	818	2	1	1	100%	-	-	-	-	-	
14		Gowripura	566	1	-	2	50% to 75%	-	-	-	46.23	-	
15		K. Shettyhalli	1733	2	4	5	100%	-	-	-	60	-	
16	SABBANAKUP PE	Chinnenahalli	1054	-	-	-	75% to 100%	-	-	-	-	-	
17		M. Shettyhalli	1824	-	-	-	50% to 75%	-	-	-	-	-	
18		Mallegowdanakoppalu	172	1	-	-	50% to 75%	-	-	-	-	-	
19		Sabbanakuppe	227	9	-	39	100%	-	-	-	-	-	

**ESTIMATE FOR OPERATION & MAINTENANCE OF MULTI VILLAGE WATER  
SUPPLY SCHEME TO MAHADEVAPURA, CHIKKANAKANAHALLI, K SHETTYHALLI  
AND OTHER 16 VILLAGES OF MANDYA DISTRICT**

**(I) Abstract O & M Budget (Including Energy Charges)**

Sl. No.	Components	Total Annual Cost in Rs for 2021-22	Total Annual Cost in Rs for 2022-23	Total Annual Cost in Rs for 2023-24	Total Annual Cost in Rs for 2024-25	Total Annual Cost in Rs for 2025-26
I	Establishment charges	1279592.64	1343572.27	1410750.89	1481288.43	1555352.85
II	Electricity Charges	3920976.00	4117024.80	4322876.04	4539019.84	4765970.83
III	Maintenance of Civil Works	348732.50	366169.13	384477.58	403701.46	423886.53
IV	Maintenance of Electro- mechanical components	1320637.33	1386669.20	1456002.66	1528802.79	1605242.93
V	Consumables	756493.00	794317.65	834033.53	875735.21	919521.97
VI	Transportation and communication charges	24000.00	25200.00	26460.00	27783.00	29172.15
VII	Cost of water quality testing, Report generation & other Stationery	7200.00	7560.00	7938.00	8334.90	8751.65
Total Rs.		7657631.47	8040513.04	8442538.70	8864665.63	9307898.91
Water charge/KL =		( 7645868.97 x 1000 ) ( 365 Days x 2005728 )			Rs.	10.46
Rate per litres of pure water including power charges 2021-22					Rs.	10.46
Rate per litres of pure water including power charges 2022-23					Rs.	10.98
Rate per litres of pure water including power charges 2023-24					Rs.	11.53
Rate per litres of pure water including power charges 2024-25					Rs.	12.11
Rate per litres of pure water including power charges 2025-26					Rs.	12.71

  
Section Officer

  
Asst. Executive Engineer,  
RWS & S Sub Division,  
Srirangapattana

**ESTIMATE FOR OPERATION & MAINTENANCE OF MULTI VILLAGE  
WATER SUPPLY SCHEME TO MAHADEVAPURA,  
CHIKKANAKANAHALLI, K SHETTYHALLI AND OTHER 16 VILLAGES OF  
MANDYA DISTRICT**

**(II) Abstract O & M Budget (excluding Energy charges)**

Sl. No.	Components	Total Annual Cost in Rs for 2021-22	Total Annual Cost in Rs for 2022-23	Total Annual Cost in Rs for 2023-24	Total Annual Cost in Rs for 2024-25	Total Annual Cost in Rs for 2025-26
I	Establishment charges	1279592.64	1343572.27	1410750.89	1481288.43	1555352.85
II	Electricity Charges	0.00	0.00	0.00	0.00	0.00
III	Maintenance of Civil Works	348732.50	366169.13	384477.58	403701.46	423886.53
IV	Maintenance of Electro- mechanical components	1320637.33	1386669.20	1456002.66	1528802.79	1605242.93
V	Consumables	756493.00	794317.65	834033.53	875735.21	919521.97
VI	Transportation and communication charges	24000.00	25200.00	26460.00	27783.00	29172.15
VII	Cost of water quality testing, Report generation & other Stationery	7200.00	7560.00	7938.00	8334.90	8751.65
Total Rs.		3736655.47	3923488.24	4119662.66	4325645.79	4541928.08
Water charge/KL =	(3724892.97 x 1000)				Rs.	5.10
	( 365 Days x 2005728 )					
Rate per litres of pure water including power charges 2021-22					Rs.	5.10
Rate per litres of pure water including power charges 2022-23					Rs.	5.36
Rate per litres of pure water including power charges 2023-24					Rs.	5.63
Rate per litres of pure water including power charges 2024-25					Rs.	5.91
Rate per litres of pure water including power charges 2025-26					Rs.	6.20

  
Section Officer

  
Asst. Executive Engineer,  
RWS & S Sub Division,  
Srirangapattana

**ESTIMATE FOR OPERATION & MAINTENANCE OF MULTI VILLAGE WATER SUPPLY SCHEME TO  
MAHADEVAPURA, CHIKKANAKANAHALLI, K SHETTYHALLI AND OTHER 16 VILLAGES OF MANDYA DISTRICT**

Year			Base year considered for projected population 2011	Year considered for projected population 2051	Population for 2021		
Population			18720	22794	19664		
Service considered for design (LPCD)			85	85	85		
Water Demand, Litres/day including System losses @ 20%			1909440	2324988	2005728		
As per the Estimate Total required water= 2.60 MLD							
Designed Hours of Pumping			20.00	Hrs			
Design Discharge (LPH)			125000	for 19664 population			
Present requirement of water per day			2005728	Litres/day for 2018			
Hours of pumping actually required for 2018 population			16.05				
Say			16.50 hrs				
<b>A. Cost calculations of Routine Operation and Maintenance</b>							
<b>HP Required:</b>							
a) Head Works	80	HP	----- CONNECTION				
b) Treatment plant	10	HP	----- CONNECTION				
c) Intermediate sump/MBR/ZBR/Pure water pumping mains	90	HP	-----CONNECTION				
d) Others							
Total		180 HP or 134.28 KVA					
Power tariff / KWH for the year 2018-19 (As per HT -1 of BESCOM)		Rs.5.00 Normal tariff rate					
Billing demand / fixed monthly charges / KVA /Month for the year 2018-19 (As per HT - 1 of BESCOM)		Rs.200					
<b>I). Establishment Charges</b>							
<b>Required O&amp; M Personnel</b>							
Sl. No.	Components	Pump operators	Helpers	Valve man	AE / JE	Electrician /Mechanic	Helper cum Watchman
1	Head works	1	-	1	-	-	1
2	Water Treatment Plant	1	-	1	-	-	1
3	Raw Water Rising Main	-	-	0	-	-	-
4	Intermediate Sump/MBR/ZBR/Pure water pumping & gravity mains	0	-	1	-	-	-
5	Service reservoir (MBR/OHTs/GLSRs)	0	-	1	-	-	-
Total		2	0	4	-	0	2
<b>Annual Cost of establishment</b>							
Sl. No.	Components	Operating Staff	Salary / Day (Rs.) As per wages of the employees of concerned CSR of PRED/PWD		Months	Total (Rs.)	
1	Pump operators	2	14304.39		12	343305.36	
2	Helpers	0	0		0	0.00	
3	Valve man	4	13003.99		12	624191.52	
4	AE / JE	-	-		0	-	
5	Electrician / Mechanic	-	-		12	-	
6	Helper cum Watchman	2	13003.99		12	312095.76	
		8	Total Rs.			1279592.64	



II). Annual Electricity Charges								
Sl. No.	Components	HP	Hrs. of pumping	KVA/HP	Total KVA	Days	Energy charges (At normal tariff rates)	Total (Rs.)
1	Head works,	80	16.00	0.746	59.68	365	5.00	1742656.00
2	Treatment plant	10	16.00	0.746	119.36	365	5.00	217832.00
3	Intermediate sump/MBR/ZBR/Pure water pumping mains	90	16.00	0.746	67.14	365	5.00	1960488.00
4	Others		16.00	0.746	0	365	5.00	0.00
5	Fixed monthly charges	35					200.00	0.00
		25					200.00	0.00
Total Annual power consumption charges Rs.								3920976.00
Total annual expenditure towards power charges								3920976.00
III). Maintenance of Civil Works								
Sl. No.	Components			Estimated Cost of work (CV)	Annual rate of Maintenance Cost % age estimate cost of work (For theSecond 3 Years after defect liability period)		Maintenance Cost per annum ( in Rs.)	Total Maintainace cost for 1 year days (In Rs.)
1	Head works, WTP, Raw water & Pure water rising mains, Feeder mains, Pure water sump, Master/Zonal balancing tank, Pump houses/Control Rooms, D I Unit rooms (all civil components & pipe lines)			139493000.00	0.25		348732.50	348732.50
Total Rs.				139493000	Total per annum Rs.			348732.50
IV). Operation and maintenance of Mechanical and Electrical Works								
1	Mechanical and Electrical Works Viz. Pumping Machinery/Valves/Chlorinating unit and etc.,				52825493	2.50	1320637.33	1320637.33
								1320637.33
Total quantity of treated water from WTP				2600000 LPD or 2.6 MLD				
1	Bleaching powder 5kg/MLD @ Rs 80.00/kg			2.6*5*80.00*365=			379600.00	
2	Alum @ 11kg/MLD/Day at Rs. 27.00/Kg			2.6*11*27.00*365=			281853.00	
3	Transformer Oil 0.10 lit/day/unit @ Rs 350.00/Ltr (0.50*2*365*200)			0.10*2*350*365=			25550.00	
4	SAE-40 grade oil for VT pumps 0.1 Kg/day for 365 days at Rs.260.00/ltr			0.10*260*365=			9490.00	
5	Supplying of Consumbels Grease, Cotton waste, Rubber packing & etc.,5000/ Month			Lump Sum			60000.00	
				Total Rs.			756493.00	
V) Transportation and communication								
Annual cost of Transportation (approx. 2 two-wheelers & 4 Bicycles as required for work), Uniform for staff and mobile communication charge @ Rs. 2000/Month ie 2000*12							24000.00	
Total Rs.							24000.00	
VI) Cost of water quality testing, Report generation & other Stationery Annual cost @ Rs. 600/Month ie 600*12								
Total Rs.							7200.00	

  
Section Officer

  
Asst. Executive Engineer,  
RWS & S Sub Division,  
Srirangapattana






RDW Division

Providing Water supply to Mahadevpura, Chikkanahalli, K Shettyhalli and other 16 villages of Mandya district			
ABSTRACT			
No.	Particulars	Quantity	Amount
	A) CIVIL WORKS	1 No	1461000.00
1	Construction of Intake Chamber & connecting Pipe	1 No	4805000.00
2	Construction of Jack Well cum pump house	2 No	6968400.00
3	Pumping Machinery JW to WTP	4350 Mtrs	14546000.00
4	Rising Main from JW to WTP	1 No	475000.00
5	Construction of Aerator	1 No	600000.00
6	Providing DI Unit	1 No	475000.00
7	Construction of Flash Mixer	1 No	3580000.00
8	Construction of Clarifloculator	1 No	5670000.00
9	Construction of Rapid Sand filter	1 No	1659000.00
10	Pure Water Sump	1 No	1463000.00
11	Construction of Backwash tank for RSF	1 No	883000.00
12	Construction of Wash Water sump for RSF	1 No	650000.00
13	Construction of Main Pump House (Near P.W Sump)	1 No	263000.00
14	Construction of Pump House (Back Wash)	2 No	308000.00
15	Pumping Machinery PW sump to Back Wash Tank	100 Mtrs	130000.00
16	Rising Main From PW sump to Back Wash Tank	2 No	208000.00
17	Pumping Machinery WW sump to Aerator	100 Mtrs	130000.00
18	Rising Main From WW sump to Aerator	350 Mtrs	1225000.00
19	Providing Fencing to WTP and Road, Drains inside WTP	545 Mtrs	2364000.00
20	Rising main from Pure Water Sump to MBT	2 No	9463000.00
21	Pumping Machinery PW Sump to MBR NEAR VADIYANDAHALLI	1 No	1887000.00
22	MBT(GLSR)2.5 Lakh ltrs capacity	1 No	1168000.00
23	ZBT (GLSR) 1.5 Lakh ltrs capacity	80 Mtrs	304000.00
24	Providing Fencing to MBT	40 Mtrs	168000.00
25	Providing Fencing to ZBT	66240 Mtrs	97574000.00
26	Gravity Distribution Main from MBT	4 No LS	4652000.00
27	HOUSE HOLD CONNECTIONS	1000 LS	553000.00
28	CESCOM DEPOSIT	500 Nos	7935000.00
29	Anchor Blocks and Encasing pipe at Road Cross Drain		5400000.00
30	SCADA	9.00 Kms	10800000.00
31	Providing Dedicated Electric supply line		42313247.6
32	O&M Charges for 5 years including Electric charges	TOTAL	234631740.95
	Add PMG Charges @ 3%		7038952.00
	Add Price variation Charges @ 15%		35194761.00
	Miscellaneous and rounding charges	TOTAL	3134546.94
			280000000.00
		19664	12202
	Per capita cost for 2021 without O & M	19664	14374
	Per capita cost for 2021 with O & M		14239

G. R. Hanjirath

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

Koushik Consultant

C E's Reg. No. CE / RDW&ED / TA-4 / AE-3 / 27/2019-20  
Administratively approved Vide No. RDP/26/RWS (5) 2018  
Technically Sanctioned for Rs. 28.00 (xvii)  
Rupees in Words. Twenty eight (xviii)  
Under Head of Account. NRDPWP (40)  
AE /  TA   SF  CE 

DT: 04/02/19

Providing Water supply to Mahadevpura, Chikkankannahalli, K Shettyhalli and other 16 villages of Mandya district			
ABSTRACT			
No.	Particulars	Quantity	Amount
	<b>A) CIVIL WORKS</b>		
1	Construction of Intake Chamber & connecting Pipe	1 No	1446000.00
2	Construction of Jack Well cum pump house	1 No	5155000.00
3	Pumping Machinery JW to WTP	2 No	6968400.00
4	Rising Main from JW to WTP	4350 Mtrs	14546000.00
5	Construction of Aerator	1 No	430000.00
6	Providing DI Unit	1 No	600000.00
7	Construction of Flash Mixer	1 No	525500.00
8	Construction of Clarifloculator	1 No	4240000.00
9	Construction of Rapid Sand filter	1 No	5600000.00
10	Pure Water Sump	1 No	1603000.00
11	Construction of Backwash tank for RSF	1 No	999500.00
12	Construction of Wash Water sump for RSF	1 No	639000.00
13	Construction of Main Pump House (Near P.W Sump)	1 No	685000.00
14	Construction of Pump House (Back Wash)	1 No	264000.00
15	Pumping Machinery PW sump to Back Wash Tank	2 No	118700.00
16	Rising Main From PW sump to Back Wash Tank	100 Mtrs	165000.00
17	Pumping Machinery WW sump to Aerator	2 No	118700.00
18	Rising Main From WW sump to Aerator	100 Mtrs	165000.00
19	Providing Fencing to WTP & Road, Drain Inside WTP	350 Mtrs	3421000.00
20	Rising main from Pure Water Sump to MBT	545 Mtrs	2417000.00
21	Pumping Machinery PW Sump to MBR NEAR VADIYANDAHALLI	2 No	6928100.00
22	MBT(GLSR)2.5 Lakh ltrs capacity	1 No	1545000.00
23	ZBT (GLSR) 1.5 Lakh ltrs capacity	1 No	1075000.00
24	Providing Fencing to MBT	80 Mtrs	304000.00
25	Providing Fencing to ZBT	40 Mtrs	167000.00
26	Gravity Distribution Main from MBT	66240 Mtrs	69825000.00
27	Household Connections	LS	16000000.00
28	CESCOM Deposit	LS	2000000.00
29	Anchor Blocks and Encasing pipe at Road Cross Drain	500 Nos	7676000.00
30	SCADA		27891593.00
31	Providing Dedicated Electric supply line	9.00 Kms	8800000.00
32	O&M Charges for 5 years ( Energy Charges)		42313247.76
	<b>TOTAL</b>		<b>234631740.76</b>
	Add PMC Charges		7,038,952.00
	Add Price variation Charges @		35,194,761.00
	Miscellaneous and rounding charges		3,134,546.24
	<b>TOTAL</b>		<b>280000000.00</b>
	Per capita cost for 2019 without O & M	19664	12202
	Per capita cost for 2019 with O & M	19664	14374

**SUB ESTIMATE : CONSTRUCTION INTAKE CHAMBER & CONNECTING PIPE**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
1	Earthwork excavaton including shoring, strutting,baricading, danger lighting, bailing out water wherever necessary with stacking the materials as directed upto a lead of 50 M and lift of 1.5 Mtr etc complete								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.41 Item No.8..1 )</b>									
	Pipe	Cum	1	50.00	3.40	1.45	246.50		
	Inlet Chamber	Cum	0.7854	4.40	4.40	1.50	22.81		
							269.31		
a	<b>0 to 1.50 meter depth</b>								
	1. In soil,clay,sand,shedu soil,soft murrum (50% of the Total Qty)			269.31	x	50%	134.66	144.00	19391.00
	2. In Hard murrum,boulders,hard Katak (50% of the Total Qty)			269.31	x	50%	134.66	174.00	23431.00
b	<b>1.50 to 3.00 meter depth</b>	Cum	1	50.00	2.20	0.70	77.00		
		Cum	0.7854	4.40	4.40	1.00	15.21		
							92.21		
	1. In soil,clay,sand,shedu soil,soft murrum (60% of the Total Qty)			92.21	x	60%	55.33	210.00	11619.00
	2. In Hard murrum,boulders,hard Katak (40% of the Total Qty)			92.21	x	40%	36.88	444.00	16375.00
2	Diversion of water course by providing coffer dams or ring bunds or islands as may be necessary for intake well, connecting pipe lline, Jackwell etc. for foundation bailing out by pumping water during excavation and until completion of foundation and dismantling of coffer dam or ring bund or Island after completion of work etc., complete with all lead & lifts.								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.45 Item No.IV.1.1 )</b>									
<b>Total Volume Up to 2.0m depth</b>									
	Curve portion	Sqm	1	17.28	9.50		164.15		
	Straight portion	Sqm	1	25.00	5.75		143.75		
							307.90	621.60	191391.00
<b>Total Volume 2.0 to 4.0m depth</b>									
	Curve portion	Sqm	1	17.28	9.50		164.15		
	Straight portion	Sqm	1	25.00	1.44		35.94		
							200.09	1233.12	246735.00
<b>Total Volume 5m depth</b>									
	Curve portion	Sqm	1	17.27876	4.75		82.07	1849.12	151757.00



Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
3	Providing and laying granite or trap or basalt jelly Cement concrete using 40 mm and down size jelly for foundation laid in 15 cm thick layers and well compacted including machine mixing, curing etc. complete as per specifications. Cement concrete M10								

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.6 Item No.2.2 )****Levelling Course**

Cum	0.7854	4.40	4.40	0.20	3.04			
					3.04	3984.00	12111.00	

- 4 Providing and laying vibrated cement concrete of design mix M-30 proportion for RCC work excluding cost of reinforcement with 20 mm and down size of granite of trap or basalt or any other approved hard jelly with Super plasticiser @ 3ltrs confirming to IS 9103-1999 Reaffirmed - 2008 including cost and conveyance of all materials including form work centering scaffolding, cement mortar plastering 1:3 proportion, 20 mm thick for inside including machine mixing, vibrating, curing making construction joint wherever necessary and giving satisfactory water proof testing etc. (Exclusive of cost of steel & fabrication charges).For flat or floor slab (M-30)

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.9 Item No.2.10.1 )**

Cum	0.7854	4.00	4.00	0.30	3.77	5774.00	21768.00	
-----	--------	------	------	------	------	---------	----------	--

- 5 Providing and laying Vibrated M30 design mix using 20mm and down size of approved gradation hard granite, trap or basalt broken metal including weigh batch plant mixing, shoring, strutting, plywood/steel form work, curing etc., complete with all lead for all materials, for well curb or RCC cutting edge (Cement @ 400 Kgs).

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.48 Item No.IV.3.12.a )**

Side walls of channel	Cum	3.1416	3.30	0.30	5.00	15.55		
Haunch	Cum	3.1416	3.00	0.05		0.42		
Deduct openings	Cum	-4	0.60	0.30	0.30	-0.22		
pipe protion	Cum	-2	0.13		0.30	-0.08		
						15.67	11032.00	172871.00

- 6 Providing and laying Reinforced cement concrete of mix design of M-30 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3ltrs confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in CM.1:3 proportion wherever necessary etc., complete as per design and specifications etc., complete for top rib and top dome or top slab (exclusive cost of steel and fabrication charges)

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.28 Item No.4.4C )**

Covering Slab	Cum	0.7854	3.60	3.60	0.15	1.53		
deduct opening	Cum	-0.7854	0.60	0.60	0.15	-0.04		
						1.49	9525.00	14192.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
7	Providing and fixing 60x60 cms M.S. inspection door with necessary M.S. frame made out of M.S. angle 50x50x6mm and M.S. shutters of 31.5mm or B.G.10 thick with hinges on top and locking arrangement,painting etc., complete (for RCC overhead tank and G.L.S.R.)								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.30 Item No.4.9 )</b>									
	Inspection door 0.6*0.6	Nos	1				1	1787.00	1787.00
8	Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required,placing in position and tying with binding wire of approved quality and guage including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 &amp; 2.11 )</b>									
	Qty of Item No 3		20.93	@	120	Kg/Cum	2511.60		
				Say		Kg	2512.00		
						Mt	2.512	56697.50	142424.00
9	Providing and laying reinforced cement concrete pipe NP3 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No.1000 / 2300 (450mm. dia)								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.263 Item No.34.6.2 )</b>									
	450 mm dia	Rmt	2	50.00			100.00	2767.00	276700.00
10	Providing & fixing Weld mesh 75mm x 25mm of 6g x 10g								
<b>PWD SR 2016-17 P.No XXIX SL No.845</b>									
	Basic Rate			230.00					
	Add for over heads			23.00					
	Add for Contractor's profit			23.00					
				<u>276.00</u>					
		Sqm	4	0.75		0.45	1.35	276.00	373.00
11	Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vaccum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 10								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.18 Item No.II.2.10.1 )</b>									
	300 mm dia	No.	2				2.00	71491.84	142984.00
12	Miscellaneous and rounding charges								91.00

*K.R. Hanumanth*

ಸಹಾಯಕ ಕಾರ್ಯದರ್ಶಿ, ಇಂಜಿನಿಯರ್

ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮೆಟ್ರೋಪಾಲಿಟನ್ ಸಂಸ್ಥೆ

ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

Total

1446000.00

Koushik Consultant

**2 .ESTIMATE FOR CONSTRUCTION OF 6 M DIA JACK WELL CUM PUMP HOUSE**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
1	Earthwork excavaton including shoring, strutting,baricadIng, danger lighting, bailing out water wherever necessary with stacking the materials as directed upto a lead of 50 M and lift of 1.5 Mtr etc complete								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.41 Item No.8..1 )</b>									
	Jack well	Cum	0.785	16.50	16.50	1.50	320.57		
							<b>320.57</b>		
a	Upto 1.50 M								
	1. In soil,clay,sand,shedu soil,soft murrum (85% of the Total Qty)			320.57	x	85%	272.48	144.00	39237.00
	2. In Hard murrum,boulders,hard Katak (15% of the Total Qty)			320.57	x	15%	48.09	174.00	8368.00
b	1.50 to 3.00 M	Cum	0.785	15.30	15.30	1.50	275.64		
	2. In Hard murrum,boulders,hard Katak (10% of the Total Qty)			275.64	x	10%	27.56	210.00	5788.00
	3. In soft rock (90% of the Total Qty)			275.64	x	90%	248.08	444.00	110148.00
c	3.00 to 4.50 meter depth		0.785	14.10	14.10	1.50	234.10		
	2. In Hard murrum,boulders,hard Katak (10% of the Total Qty)			234.10	x	10%	23.41	246.00	5759.00
	3. In soft rock (90% of the Total Qty)			234.10	x	90%	210.69	498.00	104924.00
d	4.50 to 6.00 meter depth		0.785	12.90	12.90	1.50	195.95		
	2. In Hard murrum,boulders,hard Katak (10% of the Total Qty)			195.95	x	10%	19.60	282.00	5527.00
	3. In soft rock (90% of the Total Qty)			195.95	x	90%	176.36	552.00	97351.00
e	6.00 to 7.50 meter depth		0.785	11.70	11.70	1.50	161.19		
	3. In soft rock (90% of the Total Qty)			161.19	x	90%	145.07	606.00	87912.00
	4. In hard rock requiring blasting (10% of the Total Qty)			161.19	x	10%	16.12	976.00	15733.00
f	7.50 to 9.0meter depth		0.785	10.50	10.50	1.50	129.82		
	3. In soft rock (90% of the Total Qty)			129.82	x	90%	116.84	660.00	77114.00
	4. In hard rock requiring blasting (10% of the Total Qty)			129.82	x	10%	12.98	1066.00	13837.00
g	9.0 to 10.5 meter depth		0.785	9.30	9.30	0.19	12.90		
	3. In soft rock (80% of the Total Qty)			12.90	x	80%	10.32	714.00	7368.00
	4. In hard rock requiring blasting (20% of the Total Qty)			12.90	x	20%	2.58	1156.00	2982.00



Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
2	Providing and laying granite or trap or basalt jelly Cement concrete using 40 mm and down size jelly for foundation laid in 15 cm thick layers and well compacted including machine mixing, curing etc. complete as per specifications. Cement concrete M10								

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.6 Item No.2.2 )**

Levelling Course

Jackwell	Cum	0.785	8.10	8.10	0.15	7.73			
						<u>7.73</u>	3984.00	30796.00	

- 3 Providing and laying vibrated cement concrete of design mix M-30 proportion for RCC work excluding cost of reinforcement with 20 mm and down size of granite or trap or basalt or any other approved hard jelly with Super plasticiser @ 3ltrs confirming to IS 9103-1999 Reaffirmed - 2008 including cost and conveyance of all materials including form work centering scaffolding, cement mortar plastering 1:3 proportion, 20 mm thick for inside including machine mixing, vibrating, curing making construction joint wherever necessary and giving satisfactory water proof testing etc. (Exclusive of cost of steel & fabrication charges).For flat or floor slab (M-30)

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.9 Item No.2.10.1 )**

Landing Platform	Cum	4	1.00	1.00	0.15	0.60			
Raft Slab	Cum	0.785	7.80	7.80	0.60	28.66			
						<u>29.26</u>	5774.00	168947.00	

- 4 Providing and laying Vibrated M30 design mix using 20mm and down size of approved gradation hard granite, trap or basalt broken metal including weigh batch plant mixing, shoring, strutting, plywood/steel form work, curing etc., complete with all lead for all materials, for well curb or RCC cutting edge (Cement @ 400 Kgs).

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.48 Item No.IV.3.12.a )**

(2) -do- for RCC steining below ground level.

Side wall	Cum	3.142	6.60	0.60	2.00	24.88			
		(3.142 x 1/2)							
Haunch	Cum	1.571	6.45	0.45	0.45	2.05			
Side wall	Cum	3.142	6.30	0.30	6.44	38.24			
						<u>65.17</u>	11032.00	718955.00	

(3) -do- for R.C.C steining above ground level upto 3.50M height

a	Cum	3.14	6.23	0.23	3.50	15.75			
						<u>15.75</u>	11135.04	175377.00	
c	3.50m to 7.00 m Height	Cum	3.14	6.23	0.23	3.50	15.75		
	<b>Deduction</b>								
	windows	Cum	-5	1.20	0.30	1.35	-2.43		
	Rolling Shutter	Cum	-1	3.00	0.30	2.40	-2.16		
	Ventilators	Cum	-5	1.20	0.30	0.45	-0.81		
						<u>10.35</u>	11238.08	116314.00	

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
d	7.00m to 10.00 m Height	Cum	3.14	6.23	0.23	2.30	10.35		
	Deduction	Cum	-3.14	6.23	0.23	0.45	-2.02		
							8.33	11341.12	94472.00

- 5 Providing and laying Reinforced cement concrete of mix design of M-30 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in C.M.1:3 proportion wherever necessary etc., complete as Per design and specification and giving satisfactory water proof test including construction joints wherever necessary as per the directions of the departmental Officers complete for ring beam, side walls, bottom dome or bottom slab, shell portion and bottom ribs (exclusive of cost of steel and fabrication charges and jointing materials)

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.26 Item No.4.3C )**

$$(0.23+0.53)/2 \times 0.45$$

Cantilever ring beam,	Cum	3.14	6.23	0.17	3.35	12291.00	41175.00
-----------------------	-----	------	------	------	------	----------	----------

- 6 Providing and laying Reinforced cement concrete of mix design of M-30 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in C.M.1:3 proportion wherever necessary etc., complete as per design and specifications etc., complete for top rib and top dome or top slab (exclusive cost of steel and fabrication charges)

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.28 Item No.4.4c.1 )**

$$2 \times 4.413$$

Dome	Cum	3.142	8.83	0.125	1.200	4.16	
Floor Projection	Cum	3.142	7.36	0.900	0.150	3.12	
Roof projection	Cum	3.142	7.06	0.600	0.125	1.66	
						8.94	9525.00 85154.00

- 7 KSRB 4.2.10 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 24kgs, with 12mm and down size graded granite metal coarse aggregates @ 0.5175cum and fine aggregates @ 0.345cum, with superplasticiser @ 0.225lts, machine mixed, well compacted for plain chejja of 7.5 cms. average thickness, upto ground floor level, including cost of all materials, labour, HOM of machinery, finishing, curing, complete as per specifications (Excluding cost of steel, fabrication and plastering charges). Specification No. KBS 4.1, 4.6

**Schedule Of Rates PWD, Mysore Circle 2016-17 ( Page No.14 Item No.4.19 )**

Windows	Sqm	5	1.20	0.60	3.60	
Rolling Shutter	Sqm	1	3.00	1.35	4.05	
					7.65	456.00 3488.00

- 8 Providing and fixing MS chequered plate of 8mm thickness for Jack well flooring including fabrication, welding, etc., complete etc., complete

Kg	MR	325.00	130.00	42250.00
----	----	--------	--------	----------

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
9	Providing and fixing MS girder of ISMB 250 250 x 200 x 10 mm for flooring of pump house including fabrication, welding, etc., complete.	Kg			MR		725.00	130.00	94250.00

- 10 KSRB 7.5 : Providing and fixing pull and push type rolling shutters of approved make out of 18 guage, 75mm wide cold rolled steel laths of convex corrugation, with side guides and bottom rail, with interlocking arrangements for steel laths by means of alternate clips, suspension shaft with High tension coil type springs two numbers, mounted on specially designed pipe shaft, with bracket plates, guide channels, ball bearing arrangements, for inside & outside locking with push & pull operations complete including pulling hooks, 4Nos. handles with all fittings and accessories, painted with a coat of red lead paint (without top cover) cost of materials, labour, HOM of machinery complete as per specifications. Shutter size 3mx2.8 m Specification No. KBS 7.10 / 7.12

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.34 Item No.7.5 )**

		Sqm	1	3.00		2.40	7.20	2862.00	20606.00
11	KSRB 7.6 : Providing and fixing top covers made out of 20 guage M.S. sheet over pull and push rolling shutters bent to shape including cost of red lead primer coat of painting , materials, labour, HOM of machinery complete as per specifications. Specification No. KBS 7.10.6 / 7.12								

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.35 Item No.7.6 )**

		Rmt	1	3.00			3.00	473.00	1419.00
12	KSRB 7.7 : Providing and fixing in position in cement concrete 1:3:6 steel glazed windows and ventilators side hung/top hung fully openable as per approved drawings using Z angles of 25x33x3mm, weighing 1.419 Kg/m both for outer and inner frames and central mullion section of size 25x46x3mm. weighing 2.28Kg/m duly providing T section 19x19x3mm weighing 0.839 kg/m for glazing of windows not more than 34 cms. c to c including providing and fixing 4mm. thick reeded glass with teakwood beading of required size, all steel sections should confirm to I.S 7452:1990, 4nos. of holdfasts of approved size, section should be cut to length welded and electrically grinded subdividing frames of unit shall be tenonned and revetted into the frames electrically. All the steel surface shall be thoroughly cleaned free of rust and painted with one coat of anti-corrosive paint and finishing with two coats of ready mix paint of approved colour and make including cost of materials, fixtures, labour and HOM of machinery complete as per specifications. Specification No. KBS 7.12.1 / 7.12.2 / 7.12.3 / 7.12								

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.35 Item No.7.7 )**

a	Windows	Sqm	5	1.20		1.35	8.10		
b	Ventilators	Sqm	5	1.20		0.45	2.70		
							<u>10.80</u>	3530.00	38124.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
13	Ladder inside the container : Providing and Anodised Aluminium ladder, using 65 mm x 32 mm (approx.) "C" Section x 3.0 mm of ladder side channels in to 25mm dia fluted pipe for rungs at 250 mm C/C ladder fixed at an angle of 70 degrees to horizontal including necessary 25mm dia., G.I. shutters with necessary G.I. fasteners for bracing the ladders to the Tank walls to prevent buckling of the ladder with necessary C.C. (M15) bed for embedding the ladder bottom complete								

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.29 Item No.4.6 b )**

Mtr	1	12.00	12.00	2609.00	31308.00
-----	---	-------	-------	---------	----------

- 14 Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required, placing in position and tying with binding wire of approved quality and gauge including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.VIII Item No.79 & 2.11 )**

For Raft concrete	Kgs	1	29.26	100.00 Kg/Cum	2926.00			
For Steining wall	Kgs	1	99.60	130.00 Kg/Cum	12948.00			
For Roof slab	Kgs	1	12.29	120.00 Kg/Cum	1475.00			
Chejja	Kgs	1	0.65	80.00 Kg/Cum	52.00			
				Kg	17401.000			
				MT	17.401	56697.50	986593.00	

- 15 Supplying & fixing 40 mm dia G.I. medium duty pipes hand railing 3 rows fixed to 1:2:4 vibrated R.C.C. post of size 100 x 150 mm at top and 150 x 150 mm at bottom placed at 2 Mtr. intervals for a height of 750 mm including curing, painting G.I. pipes with two coats of anticorrosive steel paint over a primer coat with all lead and lift etc., complete. (Rate per Mtr. is for 3 rows of G.I. pipes.)

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.43 Item No.III.1.18 )**

Per Mtr of 3rows	1	23.12	23.12	1020.32	23590.00
------------------	---	-------	-------	---------	----------

- 16 KSRB 15-14.1 : Providing and applying two coats with oil bound washable distemper of approved brand and shade on wall surface including priming coat with distemper primer after thoroughly brooming the surface free from mortar drops and other foreign matter including preparing the surface even and sand paper smooth, cost of materials, labour, complete as per specifications.

**Schedule Of Rates PWD, Mysore Circle 2016-17 ( Page No.119 Item No.15.49.1 )**

In side wall	Sqm	3.142	6.00	6.00	113.11			
			2 x 4.413					
Celling	Cum	3.142	8.83	1.20	33.28			
Qty as per vide item No. 7				Co efficient				
<b>Deduction</b>			Co-efficient					
Rolling shutter	Sqm	0.5	-1	3.00	2.40	-3.60		
Windows	Sqm	0.5	-5	1.20	1.35	-4.05		
Ventilators	Sqm	0.5	-5	1.20	0.45	-1.35		
					137.39	71.00	9755.00	

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
17	KSRB 15-16.1 : Providing and finishing external walls in two coats with waterproof cement paint of approved brand and shade to give an even shade after thoroughly brooming the surface to remove all dirt and loose powdered material, free from mortar drops and other foreign matter cost of materials, labour, complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.120 Item No.15.53.1 )</b>									
	Out side wall	Sqm	3.142	6.46		9.30	188.77		
				2 x 4.413					
	Dome	Cum	3.142	8.83		1.20	33.28		
	Slab Projection	Sqm	3.142	7.06	0.60		13.31		
	Qty as per vide item No.								
	Chejja	Sqm	1	7.65	x	1.5	11.48		
	Deduction			Co-efficient					
	Rolling shutter	Sqm	0.5	-1	3.00	2.40	-3.60		
	Windows	Sqm	0.5	-5	1.20	1.35	-4.05		
	Ventilators	Sqm	0.5	-5	1.20	0.45	-1.35		
							<b>237.84</b>	69.00	16411.00
18	KSRB 2.3 : Filling available excavated earth ( excluding rock ) in sides of foundations upto plinth in layers not exceeding 20 cms. in depth, compacting each deposited layer by ramming after watering with lead upto 50 m. and lift upto 1.5 m. including cost of all labour complete as per specifications. specification. No. KBS 2.9								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.6 Item No.2.10 )</b>									
	Total qty =		320.57+275.64+234.1+195.95+161.19+ .				1330.17		
	Deduct qty =		7.73+29.26+68.4238879951857+200.750597997777				306.16449		
		Cum					<b>1636.33</b>	127.00	207814.00
19	Supplying and fixing lightening arrestor of aluminium strip 25mm x 3 mm size including finial and grounding, aluminium strip is to be embeded in one of the columns in an independent GI conduit of 40 mm dia pipe suitably jointed by collars with all specials with all lead and lifts etc., complete.								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.41 Item No.III.1.16.4 )</b>									
	4) For tanks above 12 Mtr. upto 15 Mtr. Staging					each		21341.60	21341.60
20	Providing and fixing 60x60 cms M.S. inspection door with necessary M.S. frame made out of M.S. angle 50x50x6mm and M.S. shutters of 31.5mm or B.G.10 thick with hinges on top and locking arrangement,painting etc., complete (for RCC overhead tank and G.L.S.R.)								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.30 Item No.4.9 )</b>									
		No.	2				2.00	1787.00	3574.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
21	Supplying & Fixing CI puddle flanges conforming to IS 7181-1986 with latest amendments, in position for R.C.C. walls including hoisting and conveying them to work spot with all lead and lift etc., complete.								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.40 Item No.III.1.14 )</b>									
	<b>Puddle Flanges</b>								
	250 mm dia	Each	2				2.00	10721.76	21444.00
	<b>Double Flanged Pipes</b>								
	250 mm dia	Each	30				30.00	7666.40	229992.00
22	Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vacuum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 10								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.18 Item No.II.2.10.1 )</b>									
	250 mm dia	No.	2				2.00	50708.00	101416.00
	250 mm dia	No.	2				2.00	50708.00	101416.00
23	Gantry Girder along with railing & Chain Pulley (Sub estimate enclosed)								260000.00
23 a)	Earthen Embankment for approach (Sub estimate enclosed)								228000.00
23 b)	Staff Quarters (Sub estimate enclosed)								698000.00
24	Miscellaneous and roundingoff								970.40
								<b>Total</b>	<b>5155000.00</b>

*G. R. Hanjanna*

*[Signature]*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸ್ವಚ್ಛತ್ವ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**GANTRY GIRDER along with railing & chain pulley**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
1	Supply of 'ISMB 150' or suitable circular beam to the pumphouse of 6 m diameter suitable to carry gantry to take up the load of 5 MT (the beam will be supported on corbel including painting two coats by anti corrosive of approved colour) with all lead and lift.								
	<b>As per Prevailing Market Rates</b>								
		Kg	3.142	6.00	14.90		<b>280.89</b>	70.00	19662.00
2	Supply of gantry built up beam of 'ISMB 200' or suitable I-section to take up 5 MT load with 7 m span including painting two coats by anti corrosive paint of approved colour with all lead and lift.								
	<b>As per Prevailing Market Rates</b>								
	Levelling Course	Kg	1	6.00	25.40		<b>152.40</b>	70.00	10668.00
3	Supply of channels of size 'ISLB 125' of 4 numbers or suitable channel section (1.0 m length) with all lead and lift.								
	<b>As per Prevailing Market Rates</b>								
		Kg	1	3.50	11.90		<b>41.65</b>	70.00	2916.00
4	Supply of 25x25 mm square bar to suit the 6 m diameter wet well with all lead and lift.								
	<b>As per Prevailing Market Rates</b>								
		Kg					<b>33.00</b>	70.00	2310.00
5	Supply of stiffner plate 8 mm or suitable thick to be welded on both flanges to girder and channels, jointing of ends, end carriage base plate, end carriage end plate, ring girder jointing and for fixing in the concrete and plate welded with all lead and lift.								
	<b>As per Prevailing Market Rates</b>								
		Kg					<b>180.00</b>	70.00	12600.00
6	Fabrication including welding, levelling, making holes etc., complete with two coats of red oxide paint with all lead and lift.								
	<b>As per Prevailing Market Rates</b>								
		Kg					<b>310.00</b>	50.00	15500.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
7	Supply of CI wheels with ball bearings, gears pinions, universal joints (double set) the long shaft and with gear mechanisam for operation, cross trolley 3 MT or of suitable capacity with accessories with all lead and lift.								
<b>As per Prevailing Market Rates</b>									
		Job	1				1.00	90000.00	90000.00
8	Supply of 5 MT capacity super geared indef make chain pully block with 6 mtr lighting chain.								
		Job	1				1.00	65000.00	65000.00
9	Transportation, errection, commisioning of complete unit with all lead and lift.								
		Job	1				1.00	40000.00	40000.00
10	Miscellaneous and roundingoff								1344.00
								<b>Total</b>	<b>260000.00</b>




ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸ್ವಚ್ಛ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ



**SUB ESTIMATE : EARTHEN EMBANKMENT FOR APPROACH**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
1	KSRRB M300- Construction of Embankment with Material Gravel/ Murrum. KSRRB M300-53. Construction of embankment with approved material Gravel/Murrum with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirement Table 300- 2 complete as per specifications.(which includes cost of gravel / murrum, watering charges & compaction by vibratory roller) MORTH Specification No. 305								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.152 Item No.19.6 )</b>									
Volume of fill to embankment									
	Circular Portion	Cum	3.1416	7.96	10.40		259.95		
	Straight Portion	Cum	1	118.16		3.30	389.94		
	Deduction well portion	Cum	-0.5	32.78		3.30	-54.08		
							<u>595.81</u>	302.00	179935.00
KSRRB M2500-4.1. Providing and laying Pitching on slopes laid over prepared filter media including boulder apron laid dry in front of toe of embankment complete as per drawing and Technical specifications A. Stone / Boulder MORTH Specification No. 2504									
2									
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.250 Item No.30.5 )</b>									
	Circular Portion	Cum	0.5	138.70		0.30	20.80		
	Straight Portion	Cum	2	22.50		0.30	13.50		
							34.30	1375.00	47163.00
3	Miscellaneous & rounding off								902.00
<b>Total</b>									<b>228000.00</b>




ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**SUB ESTIMATE : CONSTRUCTION OF STAFF QUATERS**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
---------	-----------------------	------	-----	---	---	---	-----	------	---------

- 1 KSRB 2-2.2 : Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in hard soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(b) / 2.3.5

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No. 5  
Item No.2.4 )**

Allround	cum	1	22.42	0.90	1.05	21.19		
Partition Wall	cum	1	4.25	0.75	0.60	1.91		
Front Steps	cum	1	1.30	1.05	0.15	0.20		
Ramp	cum	2	2.65	0.60	0.15	0.48		
Columns	cum	6	1.50	1.50	1.50	20.25		
Deduction for columns								
	cum	-6	1.50	0.90	1.05	-8.51		
						35.52	283.00	10052.00

- 2 KSRB 4-1.3 : Providing and laying in position plain cement concrete of mix 1:4:8 with OPC cement @ 180kgs, with 40mm and down size graded granite metal coarse aggregates @0.85cum and fine aggregates @ 0.57cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2 ( Page No.12 Item No.4.3 )

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.12  
Item No.4.3 )**

Allround	cum	1	22.42	0.90	0.15	3.03		
Partition Wall	cum	1	4.25	0.75	0.15	0.48		
Plinth beam middle	cum		4.03	0.45	0.15	0.00		
Front Steps	cum	1	1.30	1.05	0.15	0.20		
Ramp	cum	2	2.65	0.60	0.15	0.48		
Columns	cum	6	1.50	1.50	0.15	2.03		
Flagging alround	cum	1	25.34	1.00	0.10	2.53		
						8.75		
Deduct for columns								
	cum	-6	0.90	1.50	0.15	-1.22		
						-1.22		
Net Qty =	cum		8.75	-	-1.22	7.53	4867.00	36648.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
3	KSRB 4-6.1 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for foundations, footings, bases of columns for mass concrete including cost of all materials, labour complete as per specificaitons. Specification No. KBS 4.6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.15 Item No.4.28 )</b>									
	Columns	Sqm	6	5.40		0.45	14.58		
							14.58	231.00	3367.00
4	KSRB 4.2.2 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machline mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machlinery, curing, complete as per specifications. Specification No. KBS 4.1, 4.6								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.13 Item No.4.11 )</b>									
	Columns	Cum	6	1.35	1.35	0.45	4.92		
							4.92	6011.00	29574.00
5	KSRB 4-6.5 : Providing and removing centering, shuttering, strutting, propping etc., for columns, pillars, piers, abutments, post and struts, square / rectangular / polygon in plan including cost of all materials, labour complete as per specificaiton. Specification No. KBS 4.6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.16 Item No.4.32 )</b>									
	Columns	Sqm	6	0.92		4.40	24.29		
							24.29	366.00	8890.00
6	KSRB 4-6.7 :Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for sides and soffits of beams, beam haunchings, cantilever girders, bressumers and lintels not exceeding 1m in depth including cost of all materials, labour complete as per specificaitons. Specification No. KBS 4.6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.16 Item No.4.34 )</b>									
	Plinth beam	Sqm	1 x 2	22.42		0.15	6.72		
	Middle beam	Sqm	1 x 2	4.25		0.15	1.28		
	Lintels	Sqm	1 x 2	22.42		0.15	6.72		
	Partition beam	Sqm	1 x 2	4.25		0.15	1.28		
	Main Beams	Sqm	3 x 2	4.25		0.30	7.66		
	Secondary Beams	Sqm	2 x 2	6.27		0.23	5.76		
							29.42	256.00	7531.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
7	KSRB 4.2.3 : Providing and laying in position reinforced cement concrete of mix M15 with OPC cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications.(Excluding cost of steel fabrication & plastering charges) Specification No. KBS 4.1, 4.6								

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.14 Item No.4.12 )**

<b>a Columns</b>									
Columns	Cum	6	0.23	0.23	4.40	1.40			
						<b>1.40</b>			
<b>b Plinth Beam</b>	cum	1	22.42	0.45	0.15	1.51			
<b>Middle</b>	cum	1	4.25	0.45	0.15	0.29			
						<b>1.80</b>			
<b>c Lintel beam</b>	cum	1	22.42	0.23	0.15	0.77			
<b>Partition wall</b>	cum	1	4.25	0.12	0.15	0.08			
						<b>0.85</b>			
<b>d Beams</b>									
Main Beams	cum	3	4.25	0.23	0.30	0.88			
Secondary Beams	cum	2	6.27	0.23	0.23	0.66			
						<b>1.54</b>			
Net Quantity =						5.59	6367.00	35591.00	

- 8 KSRB 5.2-3 : Providing and constructing granite / trap / basalt size stone masonry in foundation cement mortar 1:6, stone hammered dressed in courses not less than 20 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.13

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.25 Item No.5.6 )**

1st step	cum	1	22.42	0.75	0.45	7.57			
2nd	cum	1	22.42	0.60	0.45	6.05			
Partition wall	cum	1	4.25	0.60	0.45	1.15			
Deduct for columns	cum	-6	0.23	0.23	0.90	-0.29			
						<b>14.48</b>	4187.00	60627.00	

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
9	KSRB 5.3-3 : Providing and constructing granite / trap / basalt size stone masonry in basement with cement mortar 1:6, edges of stones chistle dressed in courses not less than 15 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.13								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.25 Item No.5.9 )</b>									
		cum	1	22.42	0.45	0.45	4.54		
						(0.45)/2			
	Ramp	cum	2	2.50	0.45	0.23	0.51		
	Partition Wall	cum	1	4.25	0.45	0.45	0.86		
	Deduct for columns	cum	-6	0.23	0.23	0.45	-0.14		
							5.77	5005.00	28878.00
10	KSRB 2.3 : Filling available excavated earth ( excluding rock ) in sides of foundations upto plinth in layers not exceeding 20 cms. in depth, compacting each deposited layer by ramming after watering with lead upto 50 m. and lift upto 1.5 m. including cost of all labour complete as per specifications. specification. No. KBS 2.9								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.6 Item No.2.10 )</b>									
		CUM					35.52	127.00	4511.00
11	KSRB 6-2.3 : Providing and constructing burnt brick masonry with approved quality of non-modular bricks of standard size of class designation 50 (table moulded) with cement mortar 1:6 for basement and superstructure including cost of materials, labour charges, scaffolding, curing complete as per specifications. Specification No. KBS 6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.29 Item No.6.6 )</b>									
	Alround	cum	1	22.42	0.23	3.30	17.02		
	Parapet wall	cum	1	22.42	0.23	0.45	2.32		
	Front Steps	cum	1	1.30	0.30	0.60	0.23		
		cum	1	1.30	0.30	0.40	0.16		
		cum	1	1.30	0.30	0.20	0.08		
							19.81		
	Deductions								
	D	cum	1	1.00	0.23	2.10	0.48		
	W	cum	1	1.50	0.23	1.20	0.41		
	W1	cum	3	0.90	0.23	1.20	0.75		
	RS	cum	1	2.40	0.23	2.40	1.32		
	Columns	cum	6	0.23	0.23	3.30	1.05		
	Lintel	cum	1	22.42	0.23	0.15	0.77		
	Main Beams	cum	2	4.25	0.23	0.30	0.59		
	Secondary beams	cum	2	6.27	0.23	0.23	0.66		
							6.03		
	Net Quantity =			19.81	-	6.03	13.78	6685.00	92119.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
12	KSRB 6-7.4 :Construction of partition wall 11.2 cms thick with non modular table moulded burnt bricks of class designation 50 with cement mortar 1:4 including cost of materials, labour charges, scaffolding, curing complete as per specifications. Specification No. KBS 6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.31 Item No.6.26 )</b>									
		sqm	1	4.25		3.15	13.39		
							13.39	891.00	11930.00
13	KSRB 4-6.7 :Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for sides and soffits of beams, beam haunchings, cantilever girders, bressumers and lintels not exceeding 1m in depth including cost of all materials, labour complete as per specifcations. Specification No. KBS 4.6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.16 Item No.4.34 )</b>									
	Door	Sqm	2	1.15	0.60		1.38		
	W	Sqm	1	1.65	0.60		0.99		
	W1	Sqm	3	1.05	0.60		1.89		
	Rolling shutter	Sqm	1	2.55	0.60		1.53		
							5.79	256.00	1482.00
14	KSRB 4.2.10 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 24kgs, with 12mm and down size graded granite metal coarse aggregates @0.5175cum and fine aggregates @ 0.345cum, with superplastisiser @0.225lts, machline mixed, well compacted for plain chejja of 7.5 cms. average thickness, upto ground floor level, including cost of all materials, labour, HOM of machlinery, finishing, curing, complete as per specifications (Excluding cost of steel, fabrication and plastering charges). Specification No. KBS 4.1, 4.6								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.14 Item No.4.19 )</b>									
	Door	sqm	2	1.15	0.60		1.38		
	W	sqm	1	1.65	0.60		0.99		
	W1	sqm	3	1.05	0.60		1.89		
	Rolling shutter	sqm	1	2.55	0.60		1.53		
							5.79	456.00	2640.00
15	KSRB 4-6.2 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for flat surface such as suspended floors, roofs, landings, balconies and likes, thickness upto 200 mm including cost of all materials, labour complete as per specifcations. Specification No. KBS 4.6.2 Rates for centering height more than 3.5 mtrs.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.15 Item No.4.29.2 )</b>									
	Roof Slab	Sqm	1	6.50	4.25		27.63		
							27.63	550.00	15196.00
16	KSRB 4-6.9 :Providing and removing centering, shuttering, strutting, propping etc., for edges of slabs and breaks in floor, cills, plinth including cost of all materials, labour complete as per specifcaiton. Specification No. KBS 4.6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.17 Item No.4.36 )</b>									
	Roof Slab	Sqm	1	23.34		0.15	3.50		
							3.50	678.00	2373.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
---------	-----------------------	------	-----	---	---	---	-----	------	---------

- 17 KSRB 4.2.3 : Providing and laying in position reinforced cement concrete of mix M15 with OPC cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications.(Excluding cost of steel fabrication & plastering charges) Specification No. KBS 4.1, 4.6

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.14 Item No.4.12 )**

Roof Slab	cum	1	6.96	4.71	0.15	4.92		
						4.92	6367.00	31325.00

- 18 Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required,placing in position and tying with binding wire of approved quality and gauge including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 & 2.11 )**

Column Footing	Kgs	4.92Cum	@ 80.00 kg/cum	393.600		
Columns	Kgs	1.40Cum	@ 120.00 kg/cum	168.000		
Plinth Beam	Kgs	1.80Cum	@ 80.00 kg/cum	144.000		
Lintel	Kgs	0.85Cum	@ 80.00 kg/cum	68.000		
Chejja	Kgs	0.43Cum	@ 80.00 kg/cum	34.740		
Beams	Kgs	1.54Cum	@ 120.00 kg/cum	184.800		
Roof	Kgs	4.92Cum	@ 120.00 kg/cum	590.400		
				<b>1583.54</b>		
				OR		
				<b>1.58 MT</b>	56697.50	89782.00

- 19 KSRB 7.5 : Providing and fixing pull and push type rolling shutters of approved make out of 18 gauge, 75mm wide cold rolled steel laths of convex corrugation, with side guides and bottom rail, with interlocking arrangements for steel laths by means of alternate clips, suspension shaft with High tension coil type springs two numbers, mounted on specially designed pipe shaft, with bracket plates, guide channels, ball bearing arrangements, for inside & outside locking with push & pull operations complete including pulling hooks, 4Nos. handles with all fittings and accessories, painted with a coat of red lead paint (without top cover) cost of materials, labour, HOM of machinery complete as per specifications. Shutter size 3mx2.8 m Specification No. KBS 7.10 / 7.12

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.34 Item No.7.5 )**

RS	Sqm	1	2.40	2.400	5.76		
					5.76	2862.00	16485.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
20	KSRB 7.6 : Providing and fixing top covers made out of 20 guage M.S. sheet over pull and push rolling shutters bent to shape including cost of red lead primer coat of painting , materials, labour, HOM of machinery complete as per specifications. Specification No. KBS 7.10.6 / 7.12								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.35 Item No.7.6 )</b>									
RS		Rmt	1	2.70			2.70		
							2.70	473.00	1277.00
21	KSRB 9.4-3 : Providing Mathi / Nandi wood frames of doors, windows, clerestory windows, ventilators and other frames, wrought, framed or assembled including making plaster groves ( excluding cost of cement concrete and side clamps ), but including cost of materials, labour, HOM of machineries complete as per specifications. Specification No. KBS 9.33								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.54 Item No.9.12 )</b>									
D		Cum	2	6.50	0.100	0.075	0.10		
							0.10	80792.00	8079.00
22	KSRB 9.5-3 : Providing and fixing in position fully panelled Mathi/Nandi wood shutters for doors, styles and rails of 40mm. thick with bottom and lock rails 180mm wide top rail and styles 100mm wide as per drawing and panels of 25mm thick including cost of materials, labour, HOM of machineries complete as per specifications. ( excluding cost of fixtures) Specification No. KBS 9.34								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.54 Item No.9.16 )</b>									
D		sqm	2	0.90		2.10	3.78		
							3.78	3925.00	14836.00
23	KSRB 7.7 : Providing and fixing in position in cement concrete 1:3:6 steel glazed windows and ventilators side hung/top hung fully openable as per approved drawings using Z angles of 25x33x3mm, weighing 1.419 Kg/m both for outer and inner frames and central mullion section of size 25x46x3mm. weighing 2.28Kg/m duly providing T section 19x19x3mm weighing 0.839 kg/m for glazing of windows not more than 34 cms. c to c including providing and fixing 4mm. thick reeded glass with teakwood beading of required size, all steel sections should confirm to I.S 7452:1990, 4nos. of holdfasts of approved size, section should be cut to length welded and electrically grinded subdividing frames of unit shall be tenonned and revetted into the frames electrically. All the steel surface shall be thoroughly cleaned free of rust and painted with one coat of anti-corrosive paint and finishing with two coats of ready mix paint of approved colour and make including cost of materials, fixtures, labour and HOM of machinery complete as per specifications. Specification No. KBS 7.12.1 / 7.12.2 / 7.12.3 / 7.12								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.35 Item No.7.7 )</b>									
W		sqm	1	1.50		1.20	1.80		
W1		sqm	3	0.90		1.20	3.24		
							5.04	3530.00	17791.00



Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
24	KSRB15-3-13 : Providing 12mm thick cement plaster in single coat with cement mortar 1:3, to ceiling including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.116 Item No.15.21 )</b>									
	Pump room	sqm	1	4.39	4.25		18.64		
	Room	sqm	1	2.00	4.25		8.50		
	Beam sides	sqm	1 x 2	4.25		0.30	2.56		
							29.70	193.00	5732.00
25	KSRB15-3.3 : Providing 12mm thick cement plaster in single coat with cement mortar 1:6, to brick masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.115 Item No.15.11 )</b>									
	For Inside Walls								
	Pump room	sqm	1	17.27		3.30	56.99		
	Room	sqm	1	12.50		3.30	41.25		
							98.24		
	Deductions								
	D	sqm	-1	1.00		2.10	-2.10		
	W	sqm	-1	1.50		1.20	-1.80		
	W1	sqm	-3	0.90		1.20	-3.24		
	RS	sqm	-1	2.40		2.40	-5.76		
							85.34	150.00	12801.00
26	KSRB15-7 : Providing lime rendering for plastering to wall and ceiling, including cost of materials, labour, curing complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.124 Item No.15.33 )</b>									
	Ceiling	sqm	Quantity vide Item No. 24				29.70		
	Inside Walls	sqm	Quantity vide Item No. 25				85.34		
							115.04	25.00	2876.00
27	KSRB15-3.9 :Providing 18mm thick cement plaster in single coat with cement mortar 1:6, to brick masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.116 Item No.15.17 )</b>									
	Out Side Walls								
	Qty as per item No.14	sqm		1.50	x	5.79	8.69		
	Alround	sqm	1	23.34		3.45	80.52		
	Parapet	sqm	1	22.42		1.13	25.33		
							114.54		
	Deduction								
	D	sqm	-1	1.00		2.10	-2.10		
	W	sqm	-1	1.50		1.20	-1.80		
	W1	sqm	-3	0.90		1.20	-3.24		
	RS	sqm	-1	2.40		2.40	-5.76		
							101.64	198.00	20124.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
28	KSRB 14.9-2 : Providing and laying M-15 cement concrete flooring 60 mm thick with metallic concrete hardner topping, under layer of 45mm thick M-15 cement concrete using broken granite metal of 20mm and down size and top layer of 15mm thick metallic cement hardner consisting of mix 1:2 ( 1 cement hardner mix : 2 granite metal 10mm nominal size ) by volume, with metalic hardening compound of approved quality mix in the ratio of 4:1 ( 4 part of cement = 1 part of metallic floor hardening compound of approved quality by wt ) , including finishing, cost of materials, labour, curing, complete as per specifications. Specification No. KBS 14.4								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.104 Item No.14.14 )</b>									
	Pump room	sqm	1	4.39	4.250		18.64		
							18.64	673.00	12544.00
29	KSRB 14.7-3 : Providing and laying flooring 40 mm thick, with an under layer of 30mm thick M-15 cement concrete, using broken granite metal of 12.5mm nominal size and top layer of 10mm thick plaster with cement mortar 1:3, finished with floating coat of neat cement , including cost of materials, labour, curing, complete as per specifications. Specification No. KBS 14.3								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.104 Item No.14.10 )</b>									
	Room	sqm	1	2.00	4.250		8.50		
							8.50	517.00	4394.00
30	KSRB 10-3 : Providing and laying integral cement based water proofing treatment including preparation of surfaces as required application. (a) Applying and grouting a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with proprietary water proofing compound conforming to IS:2645 over the RCC slab after cleaning the surface before treatment. (b) Laying cement concrete using broken brick bats 25mm to 100mm size with 50% of cement mortar 1:5 admixed with proprietary water proofing compound conforming IS:2645 over 20mm thick layer of cement mortar 1:5 admixed with proprietary water proofing compound to required slope and treating similarly the adjoining walls upto 300mm height including rounding off junctions of walls and slabs. (c) After two days of proper curing, applying a second coat of cement slurry admixed with proprietary water proofing compound (d) Finishing the surface with 20mm thick jointless cement mortar of mix 1:4 admixed with proprietary water proofing compound and finally finishing the surface with trowel and neat cement slurry and making of 300x300mm square. (e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test including cost of materials, labour complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.67 Item No.10.2 )</b>									
		Sqm	1	6.50	4.25		27.63		
							27.63	904.00	24977.00
31	KSRB 15-14.1 : Providing and applying two coats with oil bound washable distemper of approved brand and shade on wall surface including priming coat with distemper primer after thoroughly brooming the surface free from mortar drops and other foreign matter including preparing the surface even and sand paper smooth, cost of materials, labour, complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.119 Item No.15.49.1 )</b>									
	Ceiling	sqm	Quantity vide item NO.24				29.70		
	Inside Plastering	sqm	Quantity vide item NO.25				85.34		
							115.04	71.00	8167.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
32	KSRB 15-16.1 : Providing and finishing external walls in two coats with waterproof cement paint of approved brand and shade to give an even shade after thoroughly brooming the surface to remove all dirt and loose powdered material, free from mortar drops and other foreign matter cost of materials, labour, complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.120 Item No.15.53.1 )</b>									
	Quantity vide item NO.27	Sqm					101.64		
							101.64	69.00	7013.00
33	KSRB 15.1.3 -do- Providing ruled pointing to coursed stone masonry with cement mortar 1:3, 20mm deep, after raking joints to depth of 20mm nicely lining, including cost of materials, labour, curing complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.115 Item No.15.3 )</b>									
		Sqm	1	23.34		0.450	10.50		
							10.50	98.00	1029.00
34	KSRB 8.6-3 : Providing and fixing on wall surface asbestos cement rain down water pipes 75mm dia including filling the joints with spun yarn soaked in neat cement slurry 1:2 with necessary specials like shoes, bends and offsets fixed with iron clamps, wall plugs, screws, including cost of materials, labour, curing complete as per specifications. Specification No. KBS 8.27, 8.28								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.50 Item No.8.14 )</b>									
		Rmt	2	4.18			8.36		
							8.36	409.00	3419.00
35	KSRB 15-17.6 : Providing and applying painting two coats ( excluding priming coat ) on new wood surface and / or wood based surface with enamel paint to give an even shade, cleaning the surface of all dirt, dust and foreign matter, sand papering including cost of materials, labour, complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.121 Item No.15.60.1 )</b>									
	D	Sqm	2.25	1	1.00	2.10	4.73		
							4.73	84.00	397.00
									<b>634457.00</b>
36	Providing Electrical services.			At	5%	of civil works			31723.00
37	Providing Sanitary services.			At	5%	of civil works			31723.00
38	Miscellaneous such as fixtures to doors & windows etc.,								97.00
<b>Total =</b>									<b>698000.00</b>



ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸೈವರ್ಜಿಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

### 3. RAW WATER PUMPING MACHINERY FROM PROPOSED JACK WELL TO WTP

Sr. No	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	<b>Vertical Turbine Pump set</b> Supplying at site of work erection and commission of <b>Vertical turbine Pump set</b> Jyothi / Kirloskar / Flow more / Mather & platt / Aqua / Worthington or any other make confirming to IS standard of pull out type with Pump and Motor Mounted on the single shaft, fitted with Mechanical seal ( Double mechanical seal should be fitted. • Primary (Inboard) : Silicon Carbide v/s Silicon Carbide or Tungsten Carbide v/s Tungsten Carbide • Secondary ( Outboard ) : Carbon v/s Cast Chrome Molybdenum Steel or Silicon Carbide or Tungsten Carbide ), Ball Bearing ( Ball / Roller / Thrust life time lubricated Anti Friction type with life time of grease filled with life cycle of 70,000 hrs. <b>Motor Specification :-</b> The motor shall be of Squirrel Cage, Induction type, Air Filled yet capable of Water Immersion upto 20mwc for S1 duty. Its winding should be of Class F "H" insulation with standing capacity up to 185°C respectively. It should be wound using Dual Coated, Super Enamelled; Copper wire with high temperature index as per I.S. 4800 Part-13. Motor and pump should be IP 68 protection. MOC of Material ( Impeller CF 8M, Shaft SS 316, Other Parts will be cast iron of FG 260 grade ) material capable of discharging 321.788 Cum /hr fixed on I section girders for erecting pumps Duty conditions (i) Discharge of any pump when working should give a discharge of <b>34.722 lps</b> (ii) Head due to all causes when working parallel and should give a combined head of <b>105.496 m</b>	Nos	2.00	2100000.00	4200000.00
4	<b>Pressure guage</b> : Supply and delivery at site Almaster/Gurusors/Forbes Marshal/Wika make glycerence filled stainless steel pressure gauge of 150mm dia suitable for the above pumpset with nipple and two way cock tubing suitable mounting on the delivery of pump (Market Rate) 150 mm dia	Nos	2.00	2000.00	4000.00
5	<b>PUMPING HEADER:</b> Manufacturing, Providing, transporting, rolling, lowering, laying and jointing, testing, commissioning of ERW (Elastic Resistant Welded) /SAW (Submerged arc Welded) MS pipes (Fe410 grade) confirming to IS 3589-2001 with latest amendments including perfect linking and welding of joints to correct position including cost and conveying of pipes and materials with all lead and lift, cost of all labour and giving satisfactory hydraulic test as per IS 3589-2001 with latest amendmensts fot test pressure and working pressure both as factory and site etc. complete as per detailed specifications. with inside lining of two coats of food grade epoxy painting of approved make with each coat of 250micron, thick(after dry) over one coat of food grade epoxy primer of approved make with minimum of 50micron thick (after dry) and out side 25 mm thick coating in CM 1:3 by providing 50x50 welded mesh including loading and unloading of pipes for the following diameters and specified thickness of plate as noted below, including bailing out of water wherever necessary. (Contractor has to make his own arrangement ofr procuring water for testing) KUWS & DB SR 2013-14 P. No.69 I. No.1.6 Rate without ED DI Pipe K-9,Class 150 mm dia	Mts	40.00	1686.72	67468.80

Sr. No	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
7	<p><b>COMBINED METER AND CONTROL PANEL BOARD UNIT</b></p> <p>1) <b>INDOOR TYPE PANEL BOARD</b> : Supply and delivery at site brand new best indigeneous make floor mounting ,free standing cubicle type control panel board unit suitable for operations on three phase 50 cycles 380/440 volts AC supply fitted with the following.</p> <p>Drawout type panel mounting manual operated trip free operating mechanism sheet steel clad 400 amps 25 MVA oil circuit breaker with fixed and moving contacts fitted with:-</p> <p>1 No. under voltage release.</p> <p>3 Nos over load trips calibrated 100% to 200% shunted by time limit fuses.</p> <p>3 Nos of current transformers of suitable ratio,burden and class of accuracy.</p> <p>1 No. neutral link.</p> <p>1 set of compression glands for PVC cables.</p> <p>1 No.earth leakage trip coil calibrated 50 to 100% or 1No earth leakage relay.</p> <p>Other required fittings and first fillings of oil make MEI/EASSEN/Siemens/Raas make.</p> <p>1 No.dual parameter to read both amps/volts panel mounting version digital type Ammeter/Voltmeter for suitable C.T. ratio with builtin selector switch of ENERCON make (0 to 500 volts of class 0.5)</p> <p>1No. of MS air insulator Bus bar chamber of 4 nos 300 Amps 25 MVA oil insulated bus bar made of high conductivity, high strength aluminium alloy complying with the requirements of grade E91,E of IS 5082 suitably braced with non-hygroscopic SMS supports provisions shall be made in the bus bar chamber for one incoming and three out going feeder.</p> <p>1No 350 heavy duty triple pole change over fuse switch comprising of two switches mounting on common chasis complete with handle assembly door interlock and pad locking with mechanical linkage shorting links and 200 Amps capacity HRC fuses in sheet metal enclosure confirming to the latest ISS 4064 controls and switches gear/L&amp;T/HPL/CGL/BCH make1No 400 heavy duty triple pole change over fuse switch comprising of two switches mounting on common chasis complete with handle assembly door interlock and pad locking with mechanical linkage shorting links and 350 Amps capacity HRC fuses in sheet metal enclosure confirming to the latest ISS 4064 controls and switches gear/L&amp;T/HPL/CGL/BCH make.1No suitably sealed KWH meter with maximum demand indicator LMP make.</p>				
8	<p>1No 250 Amps TP load break heavy duty switch fuse with suitable capacity HRC fuses in sheet metal enclosure confirming to the latest ISS 4064 for capacitor circuit of C&amp;S/CGL/L&amp;T/BCH/Siemens make.</p> <p>1No 32 Amps DP load break heavy duty switch fuse unit with Re wireable fuses in sheet metal enclosure comprising to the latest ISS 4064 for lighting circuit Siemens/L&amp;T/BCH/GE/Control and switch gear make.</p> <p>1 set of cable entries and terminals to suitable for numbers type and size of aluminium conductor power cables etc. (Market Rate)</p> <p><b>AUTO TRANSFORMER STARTERS</b>:-Supply and delivery at site brand new best indigeneous make totally enclosed sheetsteel clad,dust set and vermine proof free standing floor mounting fully automatic auto transformer starter suitable for operations on 3 ph 50 HZ 380/440 volts AC supply fitted with the following.</p> <p>3 nos 415v 450/300/300 Amps suitably rated oil break motor duty contractors for main transformers and neutral conforming to the latest ISS 2959/IEC 158-1 OF MEI/BCH/L&amp;T/GE/SIEMENS make.</p> <p>3No current transformers for suitable ratio,burden and class of accuracy confirming to the latest ISS 2705 with 15 VA output for protection(10P10) and metering.</p> <p>1No 0.5 to 60 seconds pneumatic ON and OFF delay timer for automatic change over from reduced voltage to full voltage of BCH/GE/SIEMENS Make.</p> <p>1 set start-stop push button confirming to the latest ISS 6875 of L&amp;T/BCH/GE/SIEMENS/Raas make.</p> <p>1 No motor "ON" indicating lamp of L&amp;T/BCH/GE/SIEMENS/Raas make.</p> <p>1 No dial parameter to measure volts/amps panel mounting version digital type voltmeter /ammeter for suitable CT ratio with built in selector switch of ENERCON make of class 0.5.</p> <p>1 No thermostat for protection of autotransformer of excessive heating.</p> <p>1No C.T. operated thermal over load relay of L&amp;T/BCH/GE/SIEMENS/Raas make.</p> <p>1No control transformer of ratio 415/230 volts,single phase 50 HZ 800 VA burden air cooled class-1 of C&amp;S make.</p> <p>1No single phase preventer of minilec/prokadevy's make.</p>	Each	2.00	350000.00	700000.00

Sr. No	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<p>1 No under/over voltage relay of prokadevy's/EE make with built in P.T's for each phase.</p> <p>1 set indicating lamp RED GREEN AND AMBER LAMP of rating 230 volts AC of L&amp;T/BCH/GE/SIEMENS/Raas make.</p> <p>1 No alarm bell suitable for 230v,AC,50 HZ.</p> <p>1 No cable box with compression type cable glands for INCOMING.</p> <p>1 No cable box with compression type cable glands for OUTGOING</p> <p>1 no. earth leakage relay with core balanced CT of prokadevy's make.</p> <p>1 Set of control terminals and power terminals.</p> <p>1 No oil immersed naturally oil cooled auto transformer starter for motor starting duty with 50%,60% and 80% tappings and regulations 10% seperate sheet metal enclosure with first filling of oil. (Market Rate)</p>	Each	2.00	385000.00	770000.00
9	<b>CABLES:</b>				
i	Supplying and laying LT UG cables having aluminium conductor PVC insulated, sheathed, galvanised, steel wire/steel tap armoured cable with PVC outer sheathing 1.1 KV class class A cables. SR Electrical works PWD 2013-14 Pg-67 Item-10-g 3.5 core 95 somm	Rmt	200.00	531.00	106200.00
ii	Labour charges for laying of 1.1 KV class UG cable when supplied agency in existing trench GI pipe / stoneware pipe / on wall / on pole as required. SR Electrical works PWD 2010-11 Pg-68 Item-11-b	Rmt	150.00	14.00	2100.00
iii	Digging of trench of 0.6m deep x 0.50 mtr wide refiling the trench to the required ground level and consolidating etc., complete (As per Civil SR KSRB I-2, P-7) a. In soil (Hard) SR Electrical works PWD 2010-11 Pg-68 Item-12	Rmt	150.00	50.00	7500.00
iv	Providing and filling sand in excavated trench to cover already laid UG cable to a depth of 150mm alround the cable .SR Electrical works PWD 2007-08 Pg-69 Item-13	Rmt	150.00	66.00	9900.00
v	a) Connection of Motor: 3 core 95 mm2 in parallel for the connection of motor to starters panel board IS 1554(PART-1)1998. SR Electrical works PWD 2011-12 Pg-67 Item-10-e3.5 core 25 sqmm -rate for cable Rs.215+Labour charges for laying Rs.18	Rmt	50.00	226.00	11300.00
10	<b>KVAR POWER SHUNT CAPACITOR:</b> KVAR POWER SHUNT CAPACITOR:- Supply and delivering at site brand new NGEF/SHAKTI/BAJAJ/CHITANYA/MAKE Low loss high efficient 8 KVAR or power shunt capacitor bank confirming to ISS 2834/suitable for operation on 3 phase 380/440 volts AC supply required for maintaining the power factor of the installation at not less than 0.95 lagging. 25 KVAR (Market Rate)	Each	1.00	98000.00	98000.00
22	Supplying delivery and erection at site brand new Dorot/Bermad/ Erthard mak 80 mm dia with maximum permissible pressure 18 Kg/cm2 with the following specification. Valve should have direct sealing diaphragm Activated by line pressure and controled by 2 way diaphragm operated adjustable pilot valve.				
	<p>Dorot valve should be installed on a tee junction. Which should modulate automatically to maintain preset inlet pressure and relieve the excess pressure out of the network.</p> <p>Material construction;</p> <p>1. Body &amp; Bonet- Ductile Iron ISO 1083 Grade 450-10</p> <p>2. Diaphragm- Natural rubber (N.R) (Standerd)</p> <p>3. Spring-SST 302</p> <p>4. Pilot valve- Brass ISO 426</p> <p>5. Coating - Electrically applied, oven backed polyester</p> <p>6. End connection- Flanges BS-IS</p>	Each	1.00	110000.00	110000.00
23	<b>Tool. Kit :</b> Supply and delivery at site best make or Taparia make and other required make tool sets for operation and maintenance of the above pumpsets comprising of the following a. Double end spanner 1/4" - 1 Set b. Screw driver insulated 11" - 1 No c. Screw drive insulated 8" - 1 No. d. Cutting pullar insulated 8" - 1 No. e. Hammer with handle 1 Kg - 1 No. f. Pipe wrench 18 " - 1 No. g. Pipe wrench 24 " - 1 No. h. Pipe wrench 12 " - 1 No. i. Hammer with handle 5 Kg - 1 No. j. Grease gun - 1 No. k. Ring spanners 1/4 " to 1" - 1 Set	Each	1.00	12000.00	12000.00

Sr. No	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
24	<b>Fire fighting equipment.</b> a) Supply and installation of CO <sub>2</sub> type fire estinguisher 2 Kg capacity with initial charges with wall mounting bracket, ready for use (TS 2678) -2 Nos b) Supplying and fixing of first aid box comprising of the standard medicines to be provided in the first aid box to give first aid treatment- 1 No. c) Providing shock treatment chart on the wall with inside plastic sheet cover and plywood back plate frame work complete. d) Supply one set of buckets (4 nos) with round bottom made of GI sheets 24 SWG 9 ltr. capacity painted inside white and outside red with a word 'fina' on the face of the bucket along with stand to hang the buckets. e) Supplying rubber mats tested 22 KV with ISI mark grooved of size 6'x3'x1/2" - 2 Nos. f) Supplying rubber gloves, electrical quality, tested to 22 KV - 1 Pair. g) Supplying and fixing of Danger/ No. Admission/ No. Smoking Board made out of MS sheet metal with two coats of non-corrosive enamelled paint.	Each	2.00	3500.00	7000.00
25	<b>EARTHING:</b> a) Earthing with G.I. plate 600mm X 600mm X 6mm including accessories like masonry enclosure cover plate with locking arrangement, watering pipe charcoal and salt complete as required connecting through G.I. strips. b) Earth electrode for grounding Electrical equipment by providing the earth pit using 40mm dia, 2.90mm thick G.I Pipe 2.5 mts long buried in a pit. The pit should be filled with equal proportion of salt and charcoal 150 mm around the pipe to complete depth. The connections from the pipe to the conduits etc., is to be established through G.I. wire of size as per ISI Specification 7.3.3 of IS 732 using 12 mm bolts, nuts, washers and check nuts etc., the pipe shall have 16 through holes of 12 mm dia. Gulhara SR	Job	4.00	2000.00	8000.00
26	Erection, testing, commissioning and trial running of turbine pump and motor with all accessories necessary for satisfactory running of pump including cost of all materials, machinery, labour etc., complete as per specification of contract. Including cost of running the pumping machinery successfully for 60 days (Excluding the cost of KPTCL Bill for supply of power) More than Above 50 HP with all accessories	No	1.00	15600.00	15600.00
27	Providing Solar yard lighting to WTP ( Sub Estimate Enclosed)				839250.00
TOTAL					6968318.80
					<b>6968400.00</b>



Assistant Executive Engineer  
PRE sub Division Srirangapatna

Executive Engineer  
PRE Division Mandya

Sub Estimate for Providing Solar yard lighting to WTP					
SR. NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	Supplying and fixing of solar street light system with mounting and pole (MNES specification) with following specification including cost of transporting to site fixing charges etc. complete 1x11 watts CFL bulb PV module - 74 watts battery capacity - 12 volts, 75 AH	Nos.	30	27,975.00	8,39,250.00
	GRAND TOTAL RS.				8,39,250.00

  
Assistant Executive Engineer  
PRE sub Division Srirangapatna

Executive Engineer  
PRE Division Mandya



**SUB ESTIMATE : RAISING MAIN FROM JACKWELL TO WTP**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
1	Cutting of road surface for pipeline trenches and disposing of the excavated stuff as directed including barricading, danger lighting etc. in the following classification.								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.3 Item No.1.7 )</b>									
	Cutting Macadam road surface	cum	1	50.00	0.75	0.15	5.63	174.00	980.00
	Cutting Asphaltalting surface road	cum	1	10.00	0.75	0.20	1.50	225.00	338.00
2	Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100kN static roller in stages to proper grade and camber, applying and brooming, stone screening/binding materials to fillup the interstices of coarse aggregate, watering and compacting to the required density Grading III as per Technical Specification Clause 405. By Manual Means								
<b>Schedule Of Rates PRE, Mysuru Circle II.2.5.1.6 ( Page No.25 Item No.4.7 - 3 - A )</b>									
		cum	1	50.00	0.75	0.15	5.63	2143.00	12065.00
3	Providing, laying and rolling of open-graded premix carpet of 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates either using penetration grade bitumen or emulsion to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 80-100 kN static roller capacity, finished to required level and grades to be followed by seal coat .By Mechanical Means (Bitumen (S-65)								
<b>Schedule Of Rates PRE, Mysuru Circle II.2.5.1.6 ( Page No.32 Item No.5.11 -Case-2 -Type-B II )</b>									
		cum	1	10.00	0.75	0.20	1.50	104.00	156.00
4	Earth work in excavation for water supply and sanitary lline, electrica conduits either in pits or trenches (Upto 601mm trench width) as per drawing and technical specification including setting out construction of shoring,strutting barricading,danger lighting,bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, backfilling the excavation earth to the extent required and utilising the remaining earth locally of the work in the following clasification by Mechanical Means								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.3 Item No.1.4 )</b>									
		cum	1	4350.00	0.60	1.50	3915.00		
							3915.00		
i	In Ordinary/Hard soil								
	Considering 80% of qty	cum	3915.00		x	80%	3132.00	45.00	140940.00
iii	In Ordinary rock without blasting								
	Considering 20% of qty	cum	3915.00		x	20%	783.00	60.00	46980.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
5	Providing murrum or sand bedding for the pipeline including watering and consolidation by punners etc. complete with all lead and lift, (in black cotton soil and rock reaches).								

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.4 Item No.1.9 )**

cum	1	425.00	0.60	0.10	25.50	78.00	1989.00
-----	---	--------	------	------	-------	-------	---------

- 6 Supplying Ductile Iron pipes K-9 Class conforming to IS 8329:2000 with latest amendments and conveying to worksite, rolling and lowering into trenches, laying true to line, level and perfect linking at joints, testing and commissioning, including loading and unloading at both destinations and cuts of pipes wherever necessary including jointing of DI pipes and specials, (excluding cost of specials) with rubber gaskets including cleaning the socket and spigot ends with soap solution and applying soft soap to the spigot and socket ends before insertion of rubber gaskets, jacking and fixing in perfect conditions including cost of soap solution, soft soap, waste etc. and giving necessary hydraulic test to the required pressure as per ISS with all lead and lift including cost of jointing materials. (contractor will make his own arrangements for procuring water for testing). DI Pipe rates are based on the Foundry Grade Pig Iron (Si:2%-2.5%) with WPI of 141.1 as on July-2013

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.14 Item No.II.2.5.2 )**

200 mm dia	Rmt	1	4350.00		4350.00	2410.24	10484544.00
			10% for Specials				1048454.40

- 7 Supply and fixing of Cast Steel Double flanged Dual plate check valve Class 150 Conforming to API 594 with latest amendments as detailed below of following diameters and types and conveying to work site, loading, unloading, stacking etc.,complete with all lead and lift. The rates are inclusive of cost of Bolts and Nuts Class 150

200 mm dia	Each	1			1	17413.76	17413.76
------------	------	---	--	--	---	----------	----------

- 8 Construction of Thrust blocks of required size  
(Sub estimate enclosed)

nos.	6				6	10000.00	60000
------	---	--	--	--	---	----------	-------

- 9 Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vacuum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 16

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.18 Item No.II.2.10.2 )**

200 mm dia	Each	1			1.00	33691.84	33692.00
------------	------	---	--	--	------	----------	----------

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
10	Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vacuum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 16								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.18 Item No.II.2.10.2 )</b>									
	Scour								
	150 mm dia	Each	3				3.00	21240.80	63722.00
11	Supply and fixing of single chamber triple function proof (both the orifices to be housed in the single chamber) Air valves with body and cover in ductile cast iron of grade GGG 50. all internal parts such as float, shell etc all cover bolts of austitic alloy/ SS 304 steel , DN 50 float of HOSTAFLOX /SSRAL5005. The valves Should be designed for all the three functions i.e: 1.Large orifice for venting of large air volumes on start up. 2.Large orifice for Intake of large air Volumes 3.Small orifice for Discharge of pressurized air during operation PN16								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.19 Item No.II.2.10.8 )</b>									
	80 mm dia	Each	2.00				2.00	28181.44	56363.00
12	Construction of Valve Chamber (Sub estimate enclosed)	Nos	6.00				6.00	33000.00	198000.00
13	Supplying , installing and commissioning electro-magnetic type flow meter of approved make with all accessories including display panel in the pump house . (WRD, 2018-19 P No. 119, I No. WRD 5.61, )								
		Set	2				2.00	1188000.00	2376000.00
14	Miscellaneous and rounding charges								4362.84
<b>Total</b>									<b>14546000.00</b>

*G. Allamrath*

*[Signature]*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸ್ವಚ್ಛತೆ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**SUB ESTIMATE : CONSTRUCTION OF AERATOR**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
1	Earth work excavation for foundation of structure as per drawing and technical specification including setting out, construction of shoring, strutting barricading, danger lighting, bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, backfilling the excavation earth to the extent required and utilising the remaining earth locally of the work etc, complete by Mechanical Means.								
<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.2 Item No.1.3 )</b>									
	in Hard soil								
	For Aerator column	cum	4	1.20	1.20	1.20	6.91		
	For Mixer platform	cum	1	1.50	1.50	1.20	2.70		
	For Channel	cum	1	1.50	1.50	1.20	2.70		
	Raft Beam	cum	3.14	2.70	0.60	0.45	2.29		
	Deduction for column portion	cum	-4	1.20	0.60	0.45	-1.30		
							13.30	30.00	399.00
2	Providing and laying granite or trap or basalt jelly Cement concrete using 40 mm and down size jelly for foundation laid in 15 cm thick layers and well compacted including machine mixing, curing etc. complete as per specifications. Cement concrete M10								
<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.6 Item No.2.2 )</b>									
	For Aerator column	cum	4	1.20	1.20	0.15	0.86		
	For Mixer platform	cum	1	1.50	1.50	0.15	0.34		
	For Channel	cum	1	1.50	1.50	0.15	0.34		
	Raft Beam	cum	3.14	2.70	0.60	0.15	0.76		
	Deduction for column portion	cum	-4	0.30	0.60	0.15	-0.11		
							2.19	3984.00	8725.00
3	(a) Providing and laying vibrated M25 design mix for RCC works (excluding cost of reinforcement) with 20mm and down size of approved gradation hard broken granite, trap, basalt or with any other approved hard aggregate including weigh batch plant mixing and conveyance of all materials with all lead and lift laid in 15cms thick, layers well consolidated vibrating curing smooth finishing the exposed faces wherever necessary plywood / steel form work, centering etc., complete for independent/comblined footing, raft, beams below ground								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.38 Item No.III.1.3.a )</b>									
	For Aerator column	cum	4	1.05	1.05	0.30	1.32		
	For Mixer platform	cum	1	1.35	1.35	0.30	0.55		
	For Channel	cum	1	1.35	1.35	0.30	0.55		
	Raft Beam	cum	3.14	2.70	0.30	0.30	0.76		
	Deduction for column portion	cum	-4	0.30	0.30	0.30	-0.11		
							3.07	7464.80	22917.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
4	Providing and laying vibrated cement concrete 1:1½:3 proportion for RCC columns below and above G.L. with 20 mm and down size of approved gradation hard aggregate including cost and conveyance of all materials with all lead lift. with plywood or steel form work, centering including machine mixing laying, vibrating and smooth finishing the exposed faces in cm 1:3, 12 mm thick etc., complete (excluding cost of reinforcement).								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.43 Item No.III.2.5 )</b>									
	For Aerator column	cum	4	0.30	0.30	3.45	1.24		
	For Mixer platform	cum	1	0.30	0.30	3.45	0.31		
	For Channel	cum	1	0.23	0.23	3.15	0.17		
							1.72	14173.60	24379.00
5	Providing and laying vibrated M30 design mix for RCC work with 20 mm and down size of approved gradation hard broken granite, basalt, trap or any other approved hard aggregate including cost and conveyance of all materials with all lead and lift including weigh batch plant mixing, centering plywood / steel form work, scaffolding tamping, curing, cement mortar plastering in C.M. 1:3 proportion 12 mm. thick for inside surface etc., complete (excluding cost of reinforcement) for R.C.C. covering slab (Flat slab) (Cement @ 400 Kgs).								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.43 Item No.III.2.6.2 )</b>									
	Aerator Bottom slab	cum	0.785	4.30	4.30	0.15	2.18		
	Beam	cum	3.142	2.70	0.30	0.23	0.59		
	Mixer Bottom slab	cum	1	1.80	1.80	0.15	0.49		
	Beam	cum	1	1.80	0.30	0.23	0.12		
	Channel Bottom slab	cum	1	5.85	0.40	0.15	0.35		
							0.42	0.42	
	Beam	cum	1	5.85	0.23	0.23	0.31		
							4.46	14194.88	63366.00
6	(b) Providing and laying vibrated M30 design mix for R.C.C. Works with 20 mm and down size of approved gradation hard broken granite, trap, basalt or any other approved hard aggregate, including, cost and conveyance of all materials with all lead & lift, including plywood/steel form work, centering, scaffolding, cement mortar, plastering in CM 1:3 proportion, 20mm. thick for inside with admixture of water proof compound of requisite proportion of approved quality including weigh batch plant mixing, curing, making construction joints wherever necessary and giving satisfactory water proof testing etc., complete (excluding cost of reinforcement) for for vertical side walls, around effluent channel, baffles, etc. complete with outside form finishing (Cement @ 400 Kgs).								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.43 Item No.III.2.4.b )</b>									
	Aerator side slab	cum	3.14	4.15	0.15	0.50	0.98		
		cum	3.14	1.05	0.15	1.20	0.59		
	Channel Side slab	cum	2	5.85	0.15	0.50	0.88		
		cum	2	0.15	3.87	0.50	0.58		
	Baffles	cum	14	0.30	0.10	0.40	0.17		
							3.20	14810.88	47395.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
7	KSRB 2.3 : Filling available excavated earth ( excluding rock ) in sides of foundations upto plinth in layers not exceeding 20 cms. in depth, compacting each deposited layer by ramming after watering with lead upto 50 m. and lift upto 1.5 m. including cost of all labour complete as per specifications. specification. No. KBS 2.9								
<b>Schedule Of Rates PWD, Mysore Circle 2016-17 ( Page No.6 Item No.2.10 )</b>									
		CUM					13.30	127.00	1689.00
8	KSRB 6-2.3 : Providing and constructing burnt brick masonry with approved quality of non-modular bricks of standard size of class designation 50 (table moulded) with cement mortar 1:6 for basement and superstructure including cost of materials, labour charges, scaffolding, curing complete as per specifications. Specification No. KBS 6.2								
<b>Schedule Of Rates PWD, Mysore Circle 2016-17 ( Page No.29 Item No.6.6 )</b>									
	Bottom step	cum	0.785	3.00	3.00	0.30	2.12		
	Middle step	cum	0.785	2.40	2.40	0.30	1.36		
	Top Step	cum	0.785	1.80	1.80	0.30	0.76		
	Deduct center duct	cum	-0.785	1.20	1.20	0.90	-1.02		
							3.22	6685.00	21525.00
9	KSRB15-3.9 : Providing 18mm thick cement plaster in single coat with cement mortar 1:6, to brick masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.								
<b>Schedule Of Rates PWD, Mysore Circle 2016-17 ( Page No.116 Item No.15.17 )</b>									
	Top of steps	sqm							
	Bottom step	sqm	3.142	2.70		0.30	2.55		
	Middle step	sqm	3.142	2.10		0.30	1.98		
	Top Step	sqm	3.142	1.50		0.30	1.41		
	Sides								
	Bottom step	sqm	3.142	3.00		0.30	2.83		
	Middle step	sqm	3.142	2.40		0.30	2.26		
	Top Step	sqm	3.142	1.80		0.30	1.70		
							12.73		
	Deductions								
	Central Shaft portion	sqm	-0.785	0.90		0.90	-0.64		
							12.09	198.00	2393.00
10	KSRB 14-17.2 : Providing skirting, dado, rises of steps with colour glazed tiles on 10mm thick cement plaster 1:3 and jointed with white cement slurry over rough plaster surface ( excluding cost of rough plastered surface which should be measured and paid separately) using glazed tiles of approved make and size including cost of materials, labour, complete as per specifications. Specification No.KBS 14.16, 14.17 Colour glazed tiles 30x45 cms 6mm thick with border of size 30 x 10 cms.								
	Qty Vide Item No 09	Sqm	1	12.09			12.09		
							12.09	1119.00	13528.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
11	KSRB 15-16.1 : Providing and finishing external walls in two coats with waterproof cement paint of approved brand and shade to give an even shade after thoroughly brooming the surface to remove all dirt and loose powdered material, free from mortar drops and other foreign matter cost of materials, labour, complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.120 Item No.15.53.1 )</b>									
<b>Aerator</b>									
	Bottom Slab	Sqm	0.785	4.300	4.30			14.51	
	Side wall outside	Sqm	3.14	4.300		0.65		8.78	
			(3.142x2)						
	Beam	Sqm	6.284	2.700		0.23		3.90	
	Columns	Sqm	4	1.200		2.62		12.58	
	Mixer Slab	Sqm	1	1.800	1.80			3.24	
	Beam sides	Sqm	2	1.800		0.23		0.83	
	Column	Sqm	1	1.200		4.00		4.80	
	Channel slab	Sqm	1	5.100	0.90			4.59	
	Beam sides	Sqm	1	5.850		0.23		1.35	
	Verticle wall	Sqm	2	5.100		0.65		6.63	
	Column	Sqm	1	1.200		3.50		4.20	
	Sedimentation channel	Sqm	1	0.750	8.55			6.41	
	Side wall	Sqm	1	8.550		0.65		5.56	
		Sqm	2	0.750		0.65		0.98	
							78.35	69.00	5405.00
12	Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required,placing in position and tying with binding wire of approved quality and guage including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 &amp; 2.11 )</b>									
	For Footing	Qty of Item No.3						3.07	
	For Columns	Qty of Item No.4						1.72	
	For Roof & Beam	Qty of Item No.5						4.46	
	For side Slab	Qty of Item No.5						3.20	
								12.45	
		Kgs		12.45	@120 Kg/Cum		1494.00		
		MT					1.49	56697.50	84479.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
13	Supplying & Fixing CI puddle flanges conforming to IS 7181-1986 with latest amendments, in position for R.C.C. walls including hoisting and conveying them to work spot with all lead and lift etc., complete.								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.40 Item No.III.1.14 )</b>									
a	CI Puddle Flanges								
	200 mm dia	Nos	1				1	8264.48	8264.00
c	CI double flanged pipes								
	200 mm dia	Mtr	10				10	5776.96	57770.00
14	Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vacuum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 16								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.18 Item No.II.2.10.2 )</b>									
	200 mm dia	Each	1				1.00	33691.84	33692.00
15	Construction of Thrust block (Sub estimate enclosed)	Nos	1					10000.00	10000.00
16	Providing & Constructing SSM Valve Chamber (as per Typical estimate enclosed )								
	For Cleaning purpose	Nos	1				1	24000.00	24000.00
17	Rounding off								74.00
<b>Total</b>								<b>430000.00</b>	


*G. S. Hanumanth*

*[Signature]*  
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸ್ವಚ್ಛತೆ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ



## 6. SUB ESTIMATE : DI UNIT

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
1	Providing and fixing Hypo chlorite generator for water disinfection as per standard technical specification including all lead & lift, loading and un loading charges and all other incidental charges, hire charges for machinaries and equipments used for installation, giving necessary training to the operator provided by the GP etc., complete. - for Discharge 0.036 cum /sec	Unit	1				1	600000.00	600000.00
								<b>Total</b>	<b>600000.00</b>

  
 ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
 ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸ್ವಚ್ಛತೆ  
 ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**SUB ESTIMATE : CONSTRUCTION OF FLASH MIXER**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
								i	
1	Earth work excavation for foundation of structure as per drawing and technical specification including setting out, construction of shoring, strutting, barricading, danger lighting, bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, backfilling the excavation earth to the extent required and utilising the remaining earth locally of the work etc, complete by Mechanical Means.								
<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.2 Item No.1.3 )</b>									
<b>In Hard soil</b>									
				Avg Depth					
Overall area		cum	0.785398	1.90	3.50	3.00	15.67		
Inlet pipe		cum	1	20.00	0.800	1.50	24.00		
Sludge pipe		cum	1	20.00	0.500	1.50	15.00		
							<b>54.67</b>	30.00	1640.00
2	Providing and laying granite or basalt or trap jelly cement concrete using 40 mm and down size jelly for foundation laid in 15 cm thick layers and well cum compacted including mixing by using hand mixers, curing etc. complete as per specifications. Cement concrete M10								
<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.6 Item No.2.1 )</b>									
Overall area		cum	0.785398	1.75	1.75	0.10	0.24		
							<b>0.24</b>	3864.00	927.00
3	(a) Providing and laying vibrated M30 design mix for R.C.C. Works with 20 mm and down size of approved gradation hard broken granite, trap, basalt or any other approved hard aggregate, including, cost and conveyance of all materials with all lead & lift, including plywood/steel form work, centering, scaffolding, cement mortar, plastering in CM 1:3 proportion, 20mm. thick for inside with admixture of water proof compound of requisite proportion of approved quality including weigh batch plant mixing, curing, making construction joints wherever necessary and giving satisfactory water proof testing etc., complete (excluding cost of reinforcement) for floor slab, resting on ground. (contractor will make his own arrangements for procuring water for testing) (Cement @ 400 Kgs).								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.43 Item No.III.2.4.a )</b>									
<b>M-30 for Raft</b>									
Overall area		cum	0.785398	1.45	1.45	0.20	0.33		
						(1.40+1.00)/2			
Funnel Concrete		cum	0.785398	1.00	1.00	1.20	0.94		
Deduction									
Outlet Pipe		cum	0.785398	0.50	0.50	1.50	0.29		
							<b>1.56</b>	8184.96	12769.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
4	(b) Providing and laying vibrated M30 design mix for R.C.C. Works with 20 mm and down size of approved gradation hard broken granite, trap, basalt or any other approved hard aggregate, including, cost and conveyance of all materials with all lead & lift, including plywood/steel form work, centering, scaffolding, cement mortar, plastering in CM 1:3 proportion, 20mm. thick for inside with admixture of water proof compound of requisite proportion of approved quality including weigh batch plant mixing, curing, making construction joints wherever necessary and giving satisfactory water proof testing etc., complete (excluding cost of reinforcement) for vertical side walls, around effluent channel,baffels, etc. complete with outsideform finishing (Cement @ 400 Kgs).								

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.43 Item No.III.2.4.b )**

Outer wall	cum	3.141593	1.15	0.15	3.70	2.01			
Baffle wall	cum	4	0.25	0.10	2.30	0.23			
Top Beam	cum	2	1.30	0.15	0.15	0.06			
<b>Deductions</b>									
Outlet Opening	cum	-0.7854	0.50	0.50	0.15	-0.03			
Inlet Channel	cum	-1	0.50	0.75	0.15	-0.06			
<b>Inlet &amp; Outlet Channels</b>									
Inlet & Out letChannel	cum	2	10.90	1.05	0.15	3.43			
Baffles in Channel	cum	24	0.30	0.075	0.45	0.24			
Side	cum	2	10.90	0.15	0.50	1.64			
						<b>7.52</b>	<b>14810.88</b>	<b>111378.00</b>	

- 5 Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required,placing in position and tying with binding wire of approved quality and guage including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 & 2.11 )**

Qty of Item No.3	1.56	@	80 Kg/Cum	124.80				
Qty of Item No.4	7.52	@	80 Kg/Cum	601.60				
	Kgs			<b>726.40</b>				
	MT			0.73	56697.50	41389.00		

- 6 KSRB 15-16.1 : Providing and finishing external walls in two coats with waterproof cement paint of approved brand and shade to give an even shade after thoroughly brooming the surface to remove all dirt and loose powdered material, free from mortar drops and other foreign matter cost of materials, labour, complete as per specifications.

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.120 Item No.15.53.1 )**

Outer wall	cum	3.141593	1.30	2.70	11.03			
					<b>11.03</b>	<b>69.00</b>	<b>761.00</b>	

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
7	Providing and fixing G.I. pipe railing 32 mm dia G.I. pipe 'B' Class in two rows of roof dome, flat slab of landings of elevated storage reservoir including cutting. welding. threading. painting, embedding in C.M. pillars with all lead and lifts etc., complete.								

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.30 Item No.4.7 )**

	Rmtr	3.141593	1.30				4.08		
							4.08	451.00	1840.00
8	Providing and fixing M.S. Ladder 45 cm wide with an angle iron and 20mm M.S. Bars at 25 cms C/C duly fixing by holes to full depth of angle & welding with necessary supports and angle iron of same section at braces including fixing in ground with CC (M-15) bed and 2 coats of non-poisonous anti-corrosive bituminous, paints as directed.(including inserting in the angle iron and welding)outside								

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.29 Item No.4.6 a )**

	Rmtr	1	2.50				2.50		
							2.50	1823.00	4558.00
9	Flocculator paddles made of stainless steel of grade 308 with stainless steel limbs of required size and width and fixing of central rod etc. complete work.								
	c)Stain less steel paddles								
	Supplying, installing and commissioning of flash mixer assemble including cost of electric induction motor, pannel box for motor including all excessories, stainless steel mixing blades, supporting frame for motor and gear box, reduction gearbox of required proportion, etc. including cost of material, labour and transportation charges with all lead and lift								
	Providing and fixing flow measuring Instrument at Raw water Channel including cost of all fittings, specials and labour charges								
	Providing and supplying ISMB - 100 including cost of cutting, welding and placing in position and cost of all labour charges and cost of applying one coat of anticorrosive paint etc. complete (as Market rate)								
	job	1.00					1.00	350000.00	350000.00

Rounding off

238.00

Total	<u>525500.00</u>
-------	------------------



ಸಹಾಯಕ ಕಾರ್ಯದರ್ಶಿ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**SUB ESTIMATE : CONSTRUCTION OF CLARIFLOCULATOR**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
---------	-----------------------	------	-----	---	---	---	-----	------	---------

- 1 Earth work excavation for foundation of structure as per drawing and technical specification including setting out, construction of shoring, strutting, barricading, danger lighting, bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, backfilling the excavation earth to the extent required and utilising the remaining earth locally of the work etc, complete by Mechanical Means.

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.2 Item No.1.3 )****In Hard soil**

				Avg Depth					
Overall area	cum	0.785398	12.80	12.80	1.00	128.68			
Inlet pipe	cum	1	20.00	0.800	1.50	24.00			
Sludge pipe	cum	1	20.00	0.500	1.50	15.00			
						<b>167.68</b>	<b>30.00</b>		<b>5030.00</b>

- 2 Providing and laying granite or basalt or trap jelly cement concrete using 40 mm and down size jelly for foundation laid in 15 cm thick layers and well cum compacted including mixing by using hand mixers, curing etc. complete as per specifications. Cement concrete M10

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.6 Item No.2.1 )**

Overall area	cum	0.785398	12.80	12.80	0.15	19.30			
						<b>19.30</b>	<b>3864.00</b>		<b>74575.00</b>

- 3 (a) Providing and laying vibrated M30 design mix for R.C.C. Works with 20 mm and down size of approved gradation hard broken granite, trap, basalt or any other approved hard aggregate, including, cost and conveyance of all materials with all lead & lift, including plywood/steel form work, centering, scaffolding, cement mortar, plastering in CM 1:3 proportion, 20mm. thick for inside with admixture of water proof compound of requisite proportion of approved quality including weigh batch plant mixing, curing, making construction joints wherever necessary and giving satisfactory water proof testing etc., complete (excluding cost of reinforcement) for floor slab, resting on ground. (contractor will make his own arrangements for procuring water for testing) (Cement @ 400 Kgs).

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.43 Item No.III.2.4.a )****M-30 for Raft**

Inside Sloping area	cum	3.141593	4.60	4.60	0.30	19.94			
Below outer wall	cum	3.141593	12.23	0.85	0.30	9.79			
Sludge collection chamber wall	cum	3.142 x 2	2.55	0.30	1.50	3.60			
Shaft Base	cum	0.785398	3.45	3.45	0.30	2.80			
						<b>36.13</b>	<b>8184.96</b>		<b>295723.00</b>

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
4	(b) Providing and laying vibrated M30 design mix for R.C.C. Works with 20 mm and down size of approved gradation hard broken granite, trap, basalt or any other approved hard aggregate, including, cost and conveyance of all materials with all lead & lift, including plywood/steel form work, centering, scaffolding, cement mortar, plastering in CM 1:3 proportion, 20mm. thick for inside with admixture of water proof compound of requisite proportion of approved quality including weigh batch plant mixing, curing, making construction joints wherever necessary and giving satisfactory water proof testing etc., complete (excluding cost of reinforcement) for for vertical side walls, alround effluent channel,baffels, etc. complete with outsideform finishing (Cement @ 400 Kgs).								

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.43 Item No.III.2.4.b )**

Outer wall	cum	3.141593	12.05	0.25	3.65	34.54
Haunch	cum	3.141593	11.65	0.15	0.30	1.65
Baffle wall	cum	3.141593	5.55	0.15	4.12	10.78
Shaft	cum	3.141593	0.90	0.15	6.39	2.71
Shaft platforms	cum	4	2.00	0.30	0.25	0.60
Shaft slab	cum	0.785398	1.45	1.45	0.15	0.25
Launder Channel	cum	3.141593	11.43	1.25	0.15	6.73
Walk way slab	cum	3.141593	12.43	0.75	0.15	4.39
<b>Deductions</b>						
Baffle wall Opening	cum	-15	1.00	1.00	0.15	-2.25
Shaft opening	cum	-4	0.30	0.30	0.15	-0.05

**Inlet & Outlet Channels**

Inlet & Out letChannel	cum	2	40.90	1.05	0.15	12.88
Baffles in Channel	cum	91	0.30	0.075	0.45	0.92
Side	cum	2	40.90	0.15	0.50	6.14

**79.29 14810.88 1174355.00**

- 5 Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required,placing in position and tying with binding wire of approved quality and guage including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 & 2.11 )**

Qty of Item No.3	36.13	@	80 Kg/Cum	2890.40
Qty of Item No.4	79.29	@	120 Kg/Cum	9514.80
				<b>12405.20</b>

Kgs

MT

**12.41 56697.50 703616.00**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
6	KSRB 15-16.1 : Providing and finishing external walls in two coats with waterproof cement paint of approved brand and shade to give an even shade after thoroughly brooming the surface to remove all dirt and loose powdered material, free from mortar drops and other foreign matter cost of materials, labour, complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.120 Item No.15.53.1 )</b>									
	shaft wall	cum	3.141593	1.05		6.39	21.08		
	Shaft Platform	cum	4	2.00		0.55	4.40		
	Baffle wall	cum	3.142 x 2	5.70		4.12	147.55		
	Outer wall	cum	3.142 x 2	12.30		3.65	282.08		
	Walkway slab	cum	3.142 x 2	12.43		0.75	58.55		
							<b>513.66</b>	<b>69.00</b>	<b>35443.00</b>
7	Providing and fixing G.I. pipe railing 32 mm dia G.I. pipe 'B' Class in two rows of roof dome, flat slab of landings of elevated storage reservoir including cutting. welding. threading. painting, embedding in C.M. pillars with all lead and lifts etc., complete.								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.30 Item No.4.7 )</b>									
	Walkway slab	Rmt	1	12.80			12.800		
							<b>12.800</b>	<b>451.00</b>	<b>5773.00</b>
8	Providing and fixing M.S. Ladder 45 cm wide with an angle iron and 20mm M.S. Bars at 25 cms C/C duly fixing by holes to full depth of angle & welding with necessary supports and angle iron of same section at braces including fixing in ground with CC (M-15) bed and 2 coats of non-poisonous anti-corrosive bituminous, paints as directed.(including inserting in the angle iron and welding)outside								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.29 Item No.4.6 a )</b>									
	M S angle ladder	Rmt	2	6.39			12.78	1823.00	23298.00
9	Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vacuum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 16								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.18 Item No.II.2.10.2 )</b>									
	200 mm dia	Each	1.00				1.00	33691.84	33692.00
	Provision for mechanical equipments (								
10	Sub Estimate Enclosed)			L S					1885500.00
10	Rounding off								2995.00
								<b>Total</b>	<b>4240000.00</b>

*G. R. Hanumanth*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**Clarifier bridge assemble with end carriage drive, central bearing & slipring unit complete**

Sl. No.	ITEMS	Unit	No	L M	W M	D M	Qty	Rate (Rs)	Amount (Rs)
1	<p>Providing, installing and commissioning clarifloculator mechanical and electrical works suitable for WTP of 2.60 MLD as per desing drawing and specification including all lead and lift</p> <p><b>Clarifier zone</b></p> <p><b>1 Providing and fabricating Rotating MS Bridge</b> 1.20 mtr wide structure with girder for supporting paddleequipment, Scraper and revolving trolly arrangement, chequered flooring duly supported on MS angles including necessary welding/riveting, galvanised bolts &amp; nuts required for installation revolving bridge unit including one coat of primier and epoxy paint in two coatscomplete</p> <p>Providing and fixing chequered plate 8mm thick for the bottom flooring of the revolving bridges including including necessary welding/riveting, galvanised bolts &amp; nuts required for installation revolving bridge unit including one coat of primier and epoxy paint in two coatscomplete.</p> <p>Clarifier bridge assembly comprising of suitable worm Reduction gear box of ISI make Providing Electrical prime consisting of an electrical induction motor of suitable capacity with proper ratio reduction gears for driving the moving bridge including cost of all other necessary spares, galvanised foundation bolts nuts washerever required of all sizes and lengths, lubricants and specials. including cost of carbon steel wheels, shafts and connecting rod etc. complete</p>								
	<p>installing electrical equipment in a closed out door M.S cubical for revolving paddales including cost of cabon brush connectors and cost of all assemble for making Electrial connection to moving bridge driving motors and floculator paddle motors with lighting arrangement to clarifier unit etc.complete with all the required materials like armoured cable for main &amp; motor connections, motor starters,switches,revolving power connection unit, earthing etc complete for revolving bridge and paddle units</p> <p>Providing Traction drive unit comprising of carbon steel wheels running on MS square track including cost of galvanised foundation bolts nuts washers as required of all sizes and lengths</p> <p>Providing and fixing 3 phase 440 V slipring unit including cost of all electrical fittings ,spares and specials. including cost of galvanised foundation bolts nuts washerever required of all sizes and leneths</p> <p>Providing and fixing central bearing of ball thrust bearing /roller bearing including cost of installation and fixing charges including cost of galvanised foundation bolts nuts washerever required of all sizes and lengths</p> <p>Providing and fixing stainless steel -308 Grade sludge scrapper with Rubber scraper and stainless steel scrapper plate and neuroplane rubber squeezes including cost of epoxy paint etc. complete</p>								
2	<p><b>Floculator Zone</b></p> <p>Providing and fixing floculators mounted on bridge unit shall ratate independently of clarifier movement and independant of each other with worm reduction gear of ISI make. Providing Electrical prime consisting of an electrical induction motor of suitable capacity with proper ratio reduction gears for driving the floculator paddles.including stainless steel paddles mounted on stainless steel vertical shaft of SS 308 grade including cost of all other necessary spares, galvanised foundation bolts nuts washerever required of all sizes and lengths, lubricants and specials. including cost of two coats of epoxy painting over one coat of epoxy primer for all the components which submerged under water during execution.</p> <p>Installing testing and commissioning of reduction gear system for floculator moving bridge to have the required movemnet</p> <p>Supplying and laying of LT UG cable having alluminium conductor, PVC insulated sheathing, galvanised, steel wire / steel tape armoured cable with PVC outer sheathing 1.1 KV class</p> <p>Supply and delivery of brand new pvc insulated cable of flat 3 core (sheathed) of nominal cross sectional area 2.5mm confirming to IS 694-1997 with latest amendments and with ISI mark</p> <p>Providing and fixing 600 x 750 mm wooden boards made out of 75 mm x 25 mm alround Nandi or Mathi wood petty, 20 mm plywood for back covering and 20 mm thick new wood board for front face with hinges and locking arrangements including providing indicator lamps.</p>								
	<p>Providing and fixing triple pole switch of standard company 30 to 32 amps</p> <p>Providing and fixing MCB 32 to 63 amps triple pole</p> <p>Supply and delivery of <b>Meter Board Unit</b> one number M.S. Box of size 1200 x750 x 150 mm fabricated out of 2 mm thick sheet metal with sealable door and arrangement for mounting CT's (if any) to connect 3 phases/ 4 Wire energy meter cable box etc., complete.</p> <p>Supplying push button operated direct on line starter with an antiweld silver cadmium oxide contactor with replaceable fixed and moving contacts and bimetallic thermal overload relay held in anticorrosive treated sheet steel or iron clad enclosure and fixing the same to suitable capacity wires for 400/440volts 3 phase motor/single phase motor</p> <p>One No. of brand new best make <b>single phase preventor</b> as per ISI : 3231 with latest amendments.</p> <p>One No. of brand new best make <b>Volt metre</b> of range 0 - 600 Volts as per IS : 1248 with latest amendments.</p> <p>One No. of brand new best make <b>Ammeter 0 to 30 amps</b> conforming to IS : 1248 as per latest amendments</p> <p>Up to 6 HP - 0 to 30 Amps</p> <p>Supply and delivery of best indigenous brand new <b>Power Capacitor as per IS 2834 - 1986</b> with latest amendments with ISI mark of required capacity tested and approved by the KEB authorities and erection, electrification and commissioning the same at the location of the <b>respective numnsels</b></p>								
	<p>Erection of Panel Board and Meter Board unit with all necessary materials and labour complete work.</p> <p><b>Danger Board :</b> Danger Board conforming to KEB standard, should be provided on the panel.panel board and meter board shall be mounted on extra sheet metal of 2 mm thick and screwed on to the box as specified above with proper space in between. This complete unit shall be mounted on the M.S. angle of size 65x65x8 mm fabricated pedestal and epoxy painted with rust resistand primer and two coats of ash grey/olive green paints. These two units specified above with a proper space in between the box shall be provided with cable entry and exist hole at the bottom punched and rubber bushes retained in position so that they could be used as and when required. Complete panel wiring should be done with cable as per IS : 694 - 1990 with latest amendments</p>								



Sl. No.	ITEMS	Unit	No	L M	W M	D M	Qty	Rate (Rs)	Amount (Rs)
	EARTHING : Supplying and fixing and wiring earth electrode for grounding circuit IC cut-outs and other equipments on the meter board in the pit. The pit should be filled with equal proportion of salt and charcoal 150 mm alround the pipe to complete depth. The connections from the pipe to the conduits etc., is to be established through G.I. wire of size as per clause 7.3.3 of IS 732 using 12 mm bolts, nuts, washers and check nuts etc., the pipe shall have 16 through holes 12 mm dia TRIAL RUNNING : Free trial running should be carried out for a period of 30 days.	No	1				1	1885500.00	1885500.00
Total :									1885500.00
Rounding Off									
Say :									1885500.00

*L. Allamprakash*

*[Signature]*  
Assistant Executive Engineer  
PRE sub Division Srirangapatna

Executive Engineer  
PRE Division Mandya

## SUB ESTIMATE : CONSTRUCTION OF RAPID SAND FILTER

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
1	Earth work excavation for foundation and removing the excavated stuff to a distance not exceeding 50 mtrs and with a lift upto 1.50 mtrs. Including shoring, strutting, barricading, danger lighting etc., complete By Manual means								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.1 Item No.1.1 )</b>								
	In Hard Soil								
	CC wall	cum	1	54.60	0.90	1.05	51.60		
	BBM wall	cum	1	20.35	0.90	1.05	19.23		
	Pipe gallery	cum	1	3.60	5.70	0.50	10.26		
	For column	cum	12	1.50	1.50	1.50	40.50		
		cum	6	1.50	1.50	1.50	20.25		
	Deduct for columns	cum	-12	0.90	0.90	1.05	-10.21		
		cum	-6	0.90	0.90	1.20	-5.83		
							125.80	171.00	21512.00
2	Providing and laying granite or basalt or trap jelly cement concrete using 40 mm and down size jelly for foundation laid in 15 cm thick layers and well cum compacted including mixing by using hand mixers, curing etc. complete as per specifications. Cement concrete M10								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.6 Item No.2.1 )</b>								
	CC wall	cum	1	54.60	0.90	0.15	7.37		
	BBM wall	cum	1	20.35	0.90	0.15	2.75		
	Pipe gallery	cum	1	3.60	5.70	0.15	3.08		
	For column	cum	12	1.50	1.50	0.15	4.05		
		cum	6	1.50	1.50	0.15	2.03		
	Deduct for columns	cum	-12	1.20	1.20	0.15	-2.59		
		cum	-6	1.20	1.20	0.15	-1.30		
							15.39	3864.00	59467.00
3	(a) Providing and laying vibrated M30 design mix for R.C.C. Works with 20 mm and down size of approved gradation hard broken granite, trap, basalt or any other approved hard aggregate, including, cost and conveyance of all materials with all lead & lift, including plywood/steel form work, centering, scaffolding, cement mortar, plastering in CM 1:3 proportion, 20mm. thick for inside with admixture of water proof compound of requisite proportion of approved quality including weigh batch plant mixing, curing, making construction joints wherever necessary and giving satisfactory water proof testing etc., complete (excluding cost of reinforcement) for floor slab, resting on ground. (contractor will make his own arrangements for procuring water for testing) (Cement @ 400 Kgs).								
	<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.43 Item No.III.2.4.a )</b>								
	CC wall	cum	1	55.05	0.75	0.30	12.39		
	For column	cum	12	1.20	1.20	0.45	7.78		
		cum	6	1.20	1.20	0.45	3.89		
	Deduct for columns	cum	-12	0.75	0.75	0.30	-2.03		
	Deduct for columns	cum	-6	0.75	0.75	0.30	-1.01		
							21.02	8184.96	172048.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
4	(b) Providing and laying vibrated M30 design mix for R.C.C. Works with 20 mm and down size of approved gradation hard broken granite, trap, basalt or any other approved hard aggregate, including, cost and conveyance of all materials with all lead & lift, including plywood/steel form work, centering, scaffolding, cement mortar, plastering in CM 1:3 proportion, 20mm. thick for inside with admixture of water proof compound of requisite proportion of approved quality including weigh batch plant mixing, curing, making construction joints wherever necessary and giving satisfactory water proof testing etc., complete (excluding cost of reinforcement) for for vertical side walls, alround effluent channel,baffels, etc. complete with outsideform finishing (Cement @ 400 Kgs).								

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.43  
Item No.III.2.4.b )**

CC wall	cum	1	56.40	0.30	4.50	76.14		
Middle wall	cum	4	2.70	0.30	3.45	11.18		
						87.32	14810.88	1293286.00

- 5 (a) Providing and laying vibrated M30 design mix for R.C.C. Works with 20 mm and down size of approved gradation hard broken granite, trap, basalt or any other approved hard aggregate, including, cost and conveyance of all materials with all lead & lift, including plywood/steel form work, centering, scaffolding, cement mortar, plastering in CM 1:3 proportion, 20mm. thick for inside with admixture of water proof compound of requisite proportion of approved quality including weigh batch plant mixing, curing, making construction joints wherever necessary and giving satisfactory water proof testing etc., complete (excluding cost of reinforcement) for floor slab, resting on ground. (contractor will make his own arrangements for procuring water for testing) (Cement @ 400 Kgs).

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.43  
Item No.III.2.4.a )**

RSF	cum	4	3.30	2.70	0.20	7.13		
Corridor	cum	1	3.60	5.70	0.15	3.08		
For Manifold	cum	4	3.30	0.50	0.50	3.30		
					(0.3x0.3)			
Deduct for pipe	cum	-4	3.30	0.79	0.09	-0.93		
						12.58	8184.96	102967.00

- 6 (a) Providing and laying vibrated M30 design mix for R.C.C. Works with 20 mm and down size of approved gradation hard broken granite, trap, basalt or any other approved hard aggregate, including, cost and conveyance of all materials with all lead & lift, including plywood/steel form work, centering, scaffolding, cement mortar, plastering in CM 1:3 proportion, 20mm. thick for inside with admixture of water proof compound of requisite proportion of approved quality including weigh batch plant mixing, curing, making construction joints wherever necessary and giving satisfactory water proof testing etc., complete (excluding cost of reinforcement) for floor slab, resting on ground. (contractor will make his own arrangements for procuring water for testing) (Cement @ 400 Kgs).

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.43  
Item No.III.2.4.a )  
Bottom**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
	Raw water Inlet Channel-1	cum	1	3.60	0.65	0.10	0.23		
	Raw water Inlet Channel - 2	cum	2	5.05	0.55	0.10	0.56		
			4x2						
	Wash water troughs (Cross)	cum	8	0.60	2.70	0.10	1.30		
			4x2						
	Wash water troughs (Central)	cum	8	0.70	0.70	0.10	0.39		
							2.48	8184.96	20299.00

(b) Providing and laying vibrated M30 design mix for R.C.C. Works with 20 mm and down size of approved gradation hard broken granite, trap, basalt or any other approved hard aggregate, including, cost and conveyance of all materials with all lead & lift, including plywood/steel form work, centering, scaffolding, cement mortar, plastering in CM 1:3 proportion, 20mm. thick for inside with admixture of water proof compound of requisite proportion of approved quality including weigh batch plant mixing, curing, making construction joints wherever necessary and giving satisfactory water proof testing etc., complete (excluding cost of reinforcement) for for vertical side walls, alround effluent channel,baffels, etc. complete with outsideform finishing (Cement @ 400 Kgs).

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.43 Item No.III.2.4.b )**

**Sides**

Raw water Inlet Channel-1	cum	1	3.60	0.10	0.50	0.18		
Raw water Inlet Channel - 2	cum	2	5.05	0.10	0.50	0.51		
Wash water troughs (Cross)	cum	4	2.70	0.10	1.80	1.94		
		4x6						
	cum	24	1.10	0.10	1.80	4.75		
		4x4						
Wash water troughs (Central)	cum	16	0.70	0.10	1.80	2.02		
						9.40	14810.88	139222.00

- 7 KSRB 4-6.5 : Providing and removing centering, shuttering, strutting, propping etc., for columns, pillars, piers, abutments, post and struts, square / rectangular / polygon in plan including cost of all materials, labour complete as per specificaliton. Specification No. KBS 4.6.2

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.16 Item No.4.32 )**

Columns	Sqm	12	1.20	3.00	43.20		
	Sqm	6	1.06	3.00	19.08		
	Sqm	4	1.06	7.54	31.97		
Canopy columns	Sqm	2	0.92	3.15	5.80		
					100.05	366.00	36618.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
8	KSRB 4-6.7 :Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for sides and soffits of beams, beam haunchings, cantilever girders, bressumers and lintels not exceeding 1m in depth including cost of all materials, labour complete as per specifications. Specification No. KBS 4.6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.16 Item No.4.34 )</b>									
	Plinth Beam	Sqm	1 x 2	20.35		0.10	4.08		
	<b>Lintels Bottom</b>								
	Ground Floor	Sqm	1	21.69	0.23		4.99		
	First floor	Sqm	1	57.77	0.23		13.29		
	<b>Lintels sides</b>								
	Ground Floor	Sqm	1 x 2	21.69		0.15	6.50		
	First Floor	Sqm	1 x 2	57.77		0.15	17.34		
	<b>Beam Bottom</b>								
	Ground Floor								
	BBM Wall	Sqm	2	21.69	0.23		9.98		
	First Floor								
	BBM Wall	Sqm	1	57.77	0.23		13.29		
	Inspection Gallery Beams	Sqm	3	3.60	0.23		2.48		
		Sqm	4	2.70	0.23		2.48		
	<b>Beam sides</b>								
	Ground Floor								
	BBM Wall	Sqm	2 x 2	21.69		0.23	19.96		
	First Floor								
	BBM Wall	Sqm	1 x 2	57.77		0.23	26.58		
	Inspection Gallery Beams	Sqm	3 x 2	3.60		0.23	4.96		
		Sqm	4 x 2	2.70		0.23	4.96		
							130.89	256.00	33507.00

- 9 KSRB 4-6.9 :Providing and removing centering, shuttering, strutting, propping etc., for edges of slabs and breaks in floor, cills, plinth including cost of all materials, labour complete as per specification. Specification No. KBS 4.6.2

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.17 Item No.4.36 )**

**Ground Floor**

Filter Area									
Roof Slab	Sqm	1	14.00	6.30			88.20		
Rear Balcony	Sqm	1	4.20	1.00			4.20		
Deduction	Sqm	-4	3.30	2.10			-27.72		
	Sqm	-4	1.30	0.75			-3.90		
Front portion Roof Slab	Sqm	1	9.32	2.63			24.51		
Deduct for Staircase	Sqm	-1	2.40	2.40			-5.76		
	Sqm	1	4.06	1.50			6.09		
Portico	Sqm	1	4.06	2.50			10.15		

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
	<b>First floor</b>								
	Filter Area	Sqm	1	15.20	7.50		114.00		
	Front portion Roof Slab	Sqm	1	10.52	2.63		27.67		
		Sqm	1	5.26	1.50		7.89		
							<u>245.33</u>	678.00	166333.00

- 10 KSRB 4-6.2 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for flat surface such as suspended floors, roofs, landings, balconies and likes, thickness upto 200 mm including cost of all materials, labour complete as per specifcations. Specification No. KBS 4.6.2 Rates for centering height more than 3.5 mtrs.

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.15 Item No.4.29.2 )**

1st flight	Sqm	1	3.70	1.50		5.55		
2nd flight	Sqm	1	3.35	1.50		5.03		
Landing	Sqm	1	1.50	3.30		4.95		
						<u>15.53</u>	550.00	8541.00

- 11 KSRB 4-6.9 :Providing and removing centering, shuttering, strutting, propping etc., for edges of slabs and breaks in floor, cills, plinth including cost of all materials, labour complete as per specifcaiton. Specification No. KBS 4.6.2

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.17 Item No.4.36 )**

<b>Ground floor</b>								
Filter Area	Sqm	1	31.28		0.15	4.69		
Balcony	Sqm	1	2.00		0.15	0.30		
Filter area inside	Sqm	4	10.80		0.15	6.48		
	Sqm	4	2.60		0.15	1.56		
Front Portion	Sqm	1	14.58		0.15	2.19		
	Sqm	1	8.10		0.15	1.22		
	Sqm	2	3.00		0.15	0.90		
Canopy	Sqm	1	9.06		0.15	1.36		
<b>Staircase</b>								
flight sides	Sqm	1	3.70		0.45	1.67		
	Sqm	1	3.35		0.45	1.51		
Landing	Sqm	1	6.30		0.15	0.95		
						<u>22.83</u>	678.00	15478.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
12	KSRB 4.2.8 : Providing and laying in position reinforced cement concrete of mix M20 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregates @ 0.46cum, with superplasticiser @ 3lts conforming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in ground floor level for roof slabs, staircase, lintels and beams, retaining walls, return walls, walls (any thickness) including attached pilasters, columns, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete by excluding cost of reinforcement as per specifications. Specification No. KBS 4.1, 4.6								

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.13 Item No.4.13 )**

**a Columns**

	Cum	12	0.30	0.30	3.00	3.24
	Cum	6	0.23	0.30	3.00	1.24
	Cum	4	0.23	0.30	7.54	2.08
Portico columns	Cum	2	0.23	0.23	3.15	0.33
						<b>6.89</b>

**b Plinth Beam**

cum	1	20.35	0.45	0.10	0.92
					<b>0.92</b>

**c Lintel beam**

Ground Floor	cum	1	21.69	0.23	0.15	0.75
First floor	cum	1	57.77	0.23	0.15	1.99
						<b>0.75</b>

**d Beams**

**Ground Floor**

BBM Wall	cum	2	21.69	0.23	0.23	2.29
----------	-----	---	-------	------	------	------

**First Floor**

BBM Wall	cum	1	57.77	0.23	0.23	3.06
Inspection Gallery Beams	cum	3	3.60	0.23	0.23	0.57
	cum	4	2.70	0.23	0.23	0.57
						<b>6.49</b>

**e Staircase**

Footing	cum	1	0.30	1.50	0.60	0.27
1st flight	cum	1	3.70	1.50	0.15	0.83
2nd flight	cum	1	3.35	1.50	0.15	0.75
Landing	cum	1	3.30	1.73	0.15	0.86
Steps (1/2 x 19)	cum	9.5	0.30	0.15	0.15	0.06
						<b>2.77</b>

**e Roof slab**

**Ground Floor**

Filter Area						
Roof Slab	cum	1	14.00	6.30	0.15	13.23
Rear Balcony	cum	1	4.20	1.00	0.15	0.63
Deduction	cum	-4	3.30	2.10	0.15	-4.16
	cum	-4	1.30	0.75	0.15	-0.59
Front portion Roof Slab	cum	1	9.32	2.63	0.15	3.68
Deduct for Staircase	cum	-1	2.40	2.40	0.15	-0.86
	cum	1	4.06	1.50	0.15	0.91

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
	Portico	cum	1	4.06	2.50	0.15	1.52		
	First floor								
	Filter Area	cum	1	15.20	7.50	0.10	11.40		
	Front portion Roof Slab	cum	1	10.52	2.63	0.10	2.77		
		cum	1	5.26	1.50	0.10	0.79		
							<u>29.32</u>		
	Net Quantity =						<u>47.14</u>	6158.00	290288.00

- 13 KSRB 5.1-3 : Providing and constructing granite / trap / basalt rubble stone masonry in foundation with cement mortar 1:6 (uncoursed ), bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.12

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.25 Item No.5.3 )**

1st step	cum	1	20.65	0.75	0.45	6.97		
2nd	cum	1	20.95	0.60	0.45	5.66		
Partition wall	cum	1	0.00	-0.15	0.45	0.00		
Deduct for columns	cum	-4	0.23	0.30	0.90	-0.25		
						<u>12.38</u>	3249.00	40222.00

- 14 KSRB 5.3-3 : Providing and constructing granite / trap / basalt size stone masonry in basement with cement mortar 1:6, edges of stones chistle dressed in courses not less than 15 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.13

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.25 Item No.5.9 )**

	cum	1	21.25	0.45	0.45	4.30	5005.00	21521.00
--	-----	---	-------	------	------	------	---------	----------

- 15 KSRB 2.3 : Filling available excavated earth ( excluding rock ) in sides of foundations upto plinth in layers not exceeding 20 cms. in depth, compacting each deposited layer by ramming after watering with lead upto 50 m. and lift upto 1.5 m. including cost of all labour complete as per specifications. specification. No. KBS 2.9

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.6 Item No.2.10 )**

	CUM					<u>125.80</u>	127.00	15976.00
--	-----	--	--	--	--	---------------	--------	----------



Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
16	KSRB 6-2.3 : Providing and constructing burnt brick masonry with approved quality of non-modular bricks of standard size of class designation 50 (table moulded) with cement mortar 1:6 for basement and superstructure including cost of materials, labour charges, scaffolding, curing complete as per specifications. Specification No. KBS 6.2								

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.29 Item No.6.6 )**

Alround

Ground Floor	cum	1	21.69	0.23	3.00	14.97
First floor	cum	1	57.77	0.23	3.00	39.86
						<u>54.83</u>

Deductions

Ground Floor

D	cum	2	1.00	0.23	2.10	0.97
W	cum	4	1.50	0.23	1.20	1.66
RS	cum	1	3.00	0.23	2.40	1.66
Columns	cum	4	0.23	0.30	2.77	0.76
Lintel	cum	1	21.69	0.23	0.15	0.75
Beam	cum	1	21.69	0.23	0.23	1.15

First Floor

D	cum	1	1.00	0.23	2.10	0.48
W	cum	11	1.50	0.23	1.20	4.55
Columns	cum	18	0.23	0.23	2.77	2.64
Lintel	cum	1	57.77	0.23	0.15	1.99
Beams	cum	1	57.77	0.23	0.23	3.06
						<u>19.67</u>

Net Quantity = 54.83 - 19.67 35.16 6685.00 235044.00

- 17 KSRB 4-6.7 :Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for sides and soffits of beams, beam haunchings, cantilever girders, bressumers and lintels not exceeding 1m in depth including cost of all materials, labour complete as per specifcations. Specification No. KBS 4.6.2

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.16 Item No.4.34 )**

Ground Floor

W	Sqm	4	1.65	0.60	3.96
RS	Sqm	1	3.15	0.60	1.89

First Floor

D	Sqm	1	1.15	0.60	0.69
W	Sqm	11	1.65	0.60	10.89
					<u>17.43</u>

256.00 4462.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
18	KSRB 4.2.10 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 24kgs, with 12mm and down size graded granite metal coarse aggregates @0.5175cum and fine aggregates @ 0.345cum, with superplasticiser @0.225lts, machine mixed, well compacted for plain chejja of 7.5 cms. average thickness, upto ground floor level, including cost of all materials, labour, HOM of machinery, finishing, Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.14 Item No.4.19 )								
	Ground Floor								
	W	sqm	4	1.65	0.60		3.96		
	RS	sqm	1	3.15	0.60		1.89		
	First Floor								
	D	sqm	1	1.15	0.60		0.69		
	W	sqm	11	1.65	0.60		10.89		
							<u>17.43</u>	456.00	7948.00

- 19 KSRB 7.5 : Providing and fixing pull and push type rolling shutters of approved make out of 18 guage, 75mm wide cold rolled steel laths of convex corrugation, with side guides and bottom rail, with interlocking arrangements for steel laths by means of alternate clips, suspension shaft with High tension coil type springs two numbers, mounted on specially designed pipe shaft, with bracket plates, guide channels, ball bearing arrangements, for inside & outside locking with push & pull operations complete including pulling hooks, 4Nos. handles with all fittings and accessories, painted with a coat of red lead paint (without top cover) cost of materials, labour, HOM of machinery complete as per specifications. Shutter size 3mx2.8 m Specification No. KBS 7.10 / 7.12

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.34 Item No.7.5 )**

RS	Sqm	1	3.00	2.400	<u>7.20</u>		
					<u>7.20</u>	2862.00	20606.00

- 20 KSRB 7.6 : Providing and fixing top covers made out of 20 guage M.S. sheet over pull and push rolling shutters bent to shape including cost of red lead primer coat of painting , materials, labour, HOM of machinery complete as per specifications. Specification No. KBS 7.10.6 / 7.12

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.35 Item No.7.6 )**

RS	Rmt	1	3.30		<u>3.30</u>		
					<u>3.30</u>	473.00	1560.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
21	KSRB 9.4-3 : Providing Mathi / Nandi wood frames of doors, windows, clerestory windows, ventilators and other frames, wrought, framed or assembled including making plaster grooves ( excluding cost of cement concrete and side clamps ), but including cost of materials, labour, HOM of machlineries complete as per specifications. Specification No. KBS 9.33								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.54 Item No.9.12 )</b>									
<b>PWD SR 2013-14 P.No.44 I.No.9.12</b>									
	D	Cum	2	6.50	0.100	0.075	0.10		
							0.10	80792.00	8079.00
22	KSRB 9.5-3 : Providing and fixing in position fully panelled Mathi/Nandi wood shutters for doors, styles and rails of 40mm. thick with bottom and lock rails 180mm wide top rail and styles 100mm wide as per drawing and panels of 25mm thick including cost of materials, labour, HOM of machlineries complete as per specifications. ( excluding cost of fixtures) Specification No. KBS 9.34								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.54 Item No.9.16 )</b>									
	D	sqm	2	0.90		2.00	3.60		
							3.60	3925.00	14130.00
23	KSRB 7.7 : Providing and fixing in position in cement concrete 1:3:6 steel glazed windows and ventilators side hung/top hung fully openable as per approved drawings using Z angles of 25x33x3mm, weighing 1.419 Kg/m both for outer and inner frames and central mullion section of size 25x46x3mm. weighing 2.28Kg/m duly providing T section 19x19x3mm weighing 0.839 kg/m for glazing of windows not more than 34 cms. c to c including providing and fixing 4mm. thick reeded glass with teakwood beading of required size, all steel sections should confirm to I.S 7452:1990, 4nos. of holdfasts of approved size, section should be cut to length welded and electrically grinded subdividing frames of unit shall be tenonned and revetted into the frames electrically. All the steel surface shall be thoroughly cleaned free of rust and painted with one coat of anti-corrosive paint and finishing with two coats of ready mix paint of approved colour and make including cost of materials, fixtures, labour and HOM of machinery complete as per specifications. Specification No. KBS 7.12.1 / 7.12.2 / 7.12.3 / 7.12								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.35 Item No.7.7 )</b>									
	Ground Floor								
	W	sqm	4	1.50		1.20	7.20		
	First Floor								
	W	sqm	11	1.50		1.20	19.80		
							27.00	3530.00	95310.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
24	KSRB 4-1.3 : Providing and laying in position plain cement concrete of mix 1:4:8 with OPC cement @ 180kgs, with 40mm and down size graded granite metal coarse aggregates @0.85cum and fine aggregates @ 0.57cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2 ( Page No.12 Item No.4.3 )								

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.12 Item No.4.3 )**

Room	Cum	1	2.40	2.40	0.10	0.58		
Entrance	Cum	1	3.60	3.90	0.10	1.40		
Staircase	Cum	1	2.40	2.40	0.10	0.58		
Canopy	Cum	1	4.06	2.50	0.10	1.02		
						<u>3.58</u>	4867.00	17423.00

- 25 KSRB15-3-13 : Providing 12mm thick cement plaster in single coat with cement mortar 1:3, to ceiling including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.116 Item No.15.21 )**

**Ground floor**

Room	sqm	1	2.40	2.40		5.76		
Entrance	sqm	1	3.60	3.90		14.04		
Staircase	sqm	1	3.70	1.50		5.55		
	sqm	1	3.35	1.50		5.03		
	sqm	1	3.30	1.50		4.95		
Canopy	sqm	1	4.06	2.50		10.15		
Pipe Gallery	sqm	1	3.60	6.00		21.60		
Filter Portion								
Central walkway	sqm	4	4.60	1.50		27.60		
Over Outlet chamber	sqm	4	1.35	1.00		5.40		

**First floor**

Room	sqm	1	2.40	2.40		5.76		
Entrance	sqm	1	3.60	3.90		14.04		
Staircase	sqm	1	2.63	2.40		6.31		
Pipe Gallery	sqm	1	13.54	5.84		79.07		
Outer projection								
Left side & right side	sqm	2	10.43	0.60		12.52		
Front & rear side	sqm	2	14.00	0.60		16.80		
						<u>234.58</u>	193.00	45273.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
26	KSRB15-3.9 :Providing 18mm thick cement plaster in single coat with cement mortar 1:6, to brick masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.								

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.116 Item No.15.17 )**

**Ground floor**

Room	sqm	1	9.60			3.00	28.80		
Entrance	sqm	1	11.40			3.00	34.20		
Staircase	sqm	1	7.66			3.00	22.98		
Pipe Gallery	sqm	1	15.60			3.00	46.80		

**First floor**

Room	sqm	1	9.60			3.00	28.80		
Entrance	sqm	1	11.40			3.00	34.20		
Staircase	sqm	1	7.66			3.00	22.98		
Pipe Gallery	sqm	1	35.16			3.00	105.48		
							324.24		

**Deductions**

**Ground Floor**

D	sqm	-2	1.00			2.10	-4.20		
W	sqm	-4	1.50			1.20	-7.20		
RS	sqm	-1	3.00			2.40	-7.20		

**First Floor**

D	sqm	-1	1.00			2.10	-2.10		
W	sqm	-11	1.50			1.20	-19.80		
							283.74	198.00	56180.00

- 27 KSRB15-7 : Providing lime rendering for plastering to wall and ceiling, including cost of materials, labour, curing complete as per specifications.

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.124 Item No.15.33 )**

Ceiling	sqm	Quantity vide Item No. 25					234.58		
Inside Walls	sqm	Quantity vide Item No. 26					283.74		
							518.32	25.00	12958.00

- 28 KSRB15-3.3 : Providing 12mm thick cement plaster in single coat with cement mortar 1:6, to brick masonry including rounding off corners wherever required smooth rendering, :  
Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.115 Item No.15.11 )**

**PWD SR 2013-14 P.No.96 I.No.15.11**

**Out Side Walls**

Qty as per item No.18	sqm		1.50	x		17.43	26.15		
Alround	sqm	1	48.86			6.15	300.49		
							326.64		

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
	Deduction								
	D	sqm	-1	1.00		2.10	-2.10		
	W	sqm	-15	1.50		1.20	-27.00		
	RS	sqm	-1	3.00		2.40	-7.20		
							290.34	150.00	43551.00

- 29 KSRB 14.7-3 : Providing and laying flooring 40 mm thick, with an under layer of 30mm thick M-15 cement concrete, using broken granite metal of 12.5mm nominal size and top layer of 10mm thick plaster with cement mortar 1:3, finished with floating coat of neat cement , including cost of materials, labour, curing, complete as per specifications. Specification No. KBS 14.3

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.104 Item No.14.10 )**

**Ground floor**

Room	sqm	1	2.40	2.400	5.76
Entrance	sqm	1	3.60	3.900	14.04
Staircase	sqm	1	2.63	2.400	6.31
Canopy	sqm	1	4.06	3.000	12.18

**First floor**

Room	sqm	1	2.40	2.400	5.76
Entrance	sqm	1	3.60	3.900	14.04
Pipe Galiary	sqm	1	3.60	6.000	21.60
Filter Portion					
Central walkway	sqm	4	4.60	1.500	27.60
Over Outlet chamber	sqm	4	1.35	1.000	5.40
					<hr/> 112.69

- 30 KSRB 15-14.1 : Providing and applying two coats with oil bound washable distemper of approved brand and shade on wall surface including priming coat with distemper primer after thoroughly brooming the surface free from mortar drops and other foreign matter including preparing the surface even and sand paper smooth, cost of materials, labour, complete as per specifications.

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.119 Item No.15.49.1 )**

Ceiling	sqm	Quantity vide item NO.25	234.58		
Inside Plastering	sqm	Quantity vide item NO.26	283.74		
			518.32	71.00	36800.00

- 31 KSRB 15-16.1 : Providing and finishing external walls in two coats with waterproof cement paint of approved brand and shade to give an even shade after thoroughly brooming the surface to remove all dirt and loose powdered material, free from mortar drops and other foreign matter cost of materials, labour, complete as per specifications.

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.120 Item No.15.53.1 )**

Quantity vide item NO.18	Sqm	17.43	x	1.50	26.15		
Quantity vide item NO.28	Sqm				290.34		
					<u>316.49</u>	69.00	21837.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
32	KSRB 15.1.3 -do- Providing ruled pointing to coursed stone masonry with cement mortar 1:3, 20mm deep, after raking joints to depth of 20mm nicely lining, including cost of materials, labour, curing complete as per specifications.								
	<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.115 Item No.15.3 )</b>								
		Sqm	1	17.58		0.450	7.91		
							7.91	98.00	775.00
33	KSRB 15-17.6 : Providing and applying painting two coats ( excluding priming coat ) on new wood surface and / or wood based surface with enamel paint to give an even shade, cleaning the surface of all dirt, dust and foreign matter, sand papering including cost of materials, labour, complete as per specifications.								
	<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.121 Item No.15.60.1 )</b>								
	D	Sqm	2.25	3	1.00	2.10	14.18		
							14.18	84.00	1191.00
34	Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required,placing in position and tying with binding wire of approved quality and guage including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 &amp; 2.11 )</b>								
	For Footing	Qty of Item No.3					21.02		
	CC Wall	Qty of Item No.4					87.32		
	For columns, Roof Beam & Staircase	Qty of Item No.12					47.14		
							155.48		
		Kgs		155.48	@110 Kg/Cum		17103.00		
		MT					17.1	56697.50	969527.00
35	Providing and installing at site of work P.V.C. pipes including cost of pipes and specials and labour, including lowering into trenches, laying true to line, level and perfect linking at joints leak proof including jointing of approved type with all labour and lift charges,handling charges including encasing the pipe alround to a depth not less than 15 cm with gravel or selected earth available from the excavation etc., complete.								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.15 Item No.3.4.2 )</b>								
	PVC 90mm dia 6 KSC Pipe								
	Laterals	Rmt	158	3.78			596.45		
							596.45	210.00	125255.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
36	Supplying Ductile Iron pipes K-9 Class conforming to IS 8329:2000 with latest amendments and conveying to worksite, rolling and lowering into trenches, laying true to line, level and perfect linking at joints, testing and commissioning, including loading and unloading at both destinations and cuts of pipes wherever necessary including jointing of DI pipes and specials, (excluding cost of specials) with rubber gaskets including cleaning the socket and spigot ends with soap solution and applying soft soap to the spigot and socket ends before insertion of rubber gaskets, jacking and fixing in perfect conditions including cost of soap solution, soft soap, waste etc. and giving necessary hydraulic test to the required pressure as per ISS with all lead and lift including cost of jointing materials. (contractor will make his own arrangements for procuring water for testing). DI Pipe rates are based on the Foundry Grade Pig Iron (Si:2%-2.5%) with WPI of 141.1 as on July-2013								

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.14  
Item No.II.2.5.2 )**

	Nos	4	3.30	13.20		
300 mm Dia			Rate Including 10% specials	13.20	4483.25	59179.00

37 Collectng and stacking the following filter media at the site of work with all lead and lift  
6mm,10mm,12mm,20mm & 40mm

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.47  
Item No.IV.2.8. )**

a	40 mm Nominal Size	cum	4	3.30	2.70	0.40	14.26		
				14.26	x	25%	3.57	950.00	3392.00
b	20 mm Nominal Size	cum	4	3.30	2.70	0.40	14.26		
				14.26	x	25%	3.57	1100.00	3927.00
c	12 mm Nominal Size	cum	4	3.30	2.70	0.40	14.26		
				14.26	x	20%	2.85	1025.00	2921.00
d	10 mm Nominal Size	cum	4	3.30	2.70	0.40	14.26		
				14.26	x	20%	2.85	1025.00	2921.00
e	6 mm Nominal Size	cum	4	3.30	2.70	0.40	14.26		
				14.26	x	20%	2.85	800.00	2280.00
	Total								



Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
38	Labour charges for laying following filter media in all depth as per specifications in infiltration gallery works including cleaning, screening and placing it under water with all lead & lift to the point of laying etc., complete.								
	1) Graded Granite/Trap/Basalt/Metal from 6mm to 40mm size								
	<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.47 Item No.IV.2.7.1 )</b>								
	Quantity vide item No.37								
	40 mm Nominal Size	Cum					3.57		
	20 mm Nominal Size	Cum					3.57		
	12 mm Nominal Size	Cum					2.85		
	10 mm Nominal Size	Cum					2.85		
	6 mm Nominal Size	Cum					2.85		
							<u>15.69</u>	638.40	10016.00
39	Collection of approved quality sand screened, cleaned, washed graded size as per CPHEEO and ISI specification for Rapid Sand Filter including all conveyance , lead & lifts etc., complete								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.ii Item No.73 )</b>								
a	-do- Fine sand	cum	4	3.30	2.70	0.30	10.69		
				10.69	x	110%	11.76	950.00	11172.00
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.ii Item No.73 )</b>								
b	-do- Coarse sand	cum	4	3.30	2.70	0.30	10.69		
				10.69	x	110%	11.76	950.00	11172.00
40	Labour charges for laying following filter media in all depth as per specifications in infiltration gallery works including cleaning, screening and placing it under water with all lead & lift to the point of laying etc., complete.								
	1) Graded Granite/Trap/Basalt/Metal from 6mm to 40mm size								
	<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.47 Item No.IV.2.7.1 )</b>								
	Quantity vide item No.39								
	-do- Fine sand	Cum					11.76		
	-do- Coarse sand	Cum					11.76		
							<u>23.52</u>	638.40	15015.00
41	KSRB 15-16.1 : Providing and finishing external walls in two coats with waterproof cement paint of approved brand and shade to give an even shade after thoroughly brooming the surface to remove all dirt and loose powdered material, free from mortar drops and other foreign matter cost of materials, labour, complete as per specifications.								
	<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.120 Item No.15.53.1 )</b>								
	Long walls	cum	2	54.60	4.50		491.40		
	Short walls	cum	2	0.90	4.50		8.10		
	Inlet chamber projections	cum	8	0.90	4.50		32.40		
							<u>531.90</u>	69.00	36701.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
42	Providing and fixing G.I. pipe railing 32 mm dia G.I. pipe 'B' Class in two rows of roof dome, flat slab of landings of elevated storage reservoir including cutting, welding, threading, painting, embedding in C.M. pillars with all lead and lifts etc., complete.								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.30 Item No.4.7 )</b>									
		Rmt	4	13.5			54.000	451.00	24354.00
43	Supplying & Fixing CI puddle flanges conforming to IS 7181-1986 with latest amendments, in position for R.C.C. walls including hoisting and conveying them to work spot with all lead and lift etc., complete.								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.40 Item No.III.1.14 )</b>									
	<b>a CI Puddle Flanges</b>								
	250 mm dia	Nos	2				2	10721.76	21444.00
	<b>c CI double flanged pipes length</b>								
	250 mm dia	Mtr	40				40	7666.40	306656.00
44	Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vacuum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 10								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.18 Item No.II.2.10.1 )</b>									
	200 mm dia	Each	18				18.00	33691.84	606453.00
45	Providing Electrical services.				At	5%	of civil works		266553.00
46	Rounding off								2390.00
<b>Total</b>									<b>5600000.00</b>

*G.ellaynath*

*[Signature]*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**SUB ESTIMATE : PURE WATER SUMP**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
1	Earth work excavation for foundation and removing the excavated stuff to a distance not exceeding 50 mtrs and with a lift upto 1.50 mtrs. Including shoring, strutting, barricading, danger lighting etc., complete By Manual means								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.1 Item No.1.1 )</b>								
	b) In Hard soil	cum	0.785	10.30	10.30	3.50	291.48	171.00	49843.00
2	Providing and laying granite or basalt or trap jelly cement concrete using 40 mm and down size jelly for foundation laid in 15 cm thick layers and well cum compacted including mixing by using hand mixers, curing etc. complete as per specifications. Cement concrete M10								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.6 Item No.2.1 )</b>								
	Bed Concrete	cum	0.785	10.30	10.30	0.15	12.49	3864.00	48269.00
3	Providing and laying vibrated cement concrete of design mix M-30 proportion for RCC work excluding cost of reinforcement with 20 mm and down size of granite of trap or basalt or any other approved hard jelly with Super plasticiser @ 3ltrs confirming to IS 9103-1999 Reaffirmed - 2008 including cost and conveyance of all materials including form work centering scaffolding, cement mortar plastering 1:3 proportion, 20 mm thick for inside including machine mixing, vibrating, curing making construction joint wherever necessary and giving satisfactory water proof testing etc. (Exclusive of cost of steel & fabrication charges).For flat or floor slab (M-30)								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.9 Item No.2.10.1 )</b>								
	M-30 for Raft	cum	0.785	10.00	10.00	0.30	23.55	5774.00	135978.00
4	-do- for Vertical side walls								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.9 Item No.2.10.2 )</b>								
	Side wall	cum	3.142	9.25	0.25	5.25	38.15		
					(1/2x0.25)				
	Haunch portion (0.6*0.50)=0.30	cum	3.142	9.00	0.150	0.30	1.27		
	Ring Beam	cum	3.142	9.30	0.300	0.25	2.19		
							41.61	6879.00	286234.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
5	Providing and laying Reinforced cement concrete of mix design of M-25 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in CM.1:3 proportion wherever necessary etc., complete as per design and specifications etc., complete for top rib and top dome or top slab (exclusive cost of steel and fabrication charges)								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.27 Item No.4.4b )</b>									
	a)6 m staging								
			(2 x 3.142)						
	CC M-25 Top dome	cum	6.284	8.725	2.000	0.100	10.97		
	Top Ring beam	cum	3.142	0.675	0.150	0.150	0.05		
	Deductions								
	Cover	cum	-1	0.600	0.600	0.100	-0.04		
	Final open	cum	-0.785	0.600	0.600	0.100	-0.03		
							10.95	9384.00	102746.00
6	Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required,placing in position and tying with binding wire of approved quality and guage including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 &amp; 2.11 )</b>									
	Qty of Item No 3		23.55	@	120	Kg/Cum	2826.00		
	Qty of Item No 4		41.61	@	120	Kg/Cum	4993.19		
	Qty of Item No 5		10.95	@	120	Kg/Cum	1313.88		
				Kg			9133.07		
				MT			9.13	56697.50	517822.00
7	Providing and constructing RCC hexagonal ventilator final for RCC overhead tank the final to be constructed with CC (M-20) proportion using 20mm and down size jelly with reinforcement using 6mm dia., M.S rods 4 nos., for each of the pillars both ways for full width of doom at 12cm c/c, the ventilator to be of 0.45 M x 0.5 M size provided with 25mm x 25mm x 5mm M.S. frame welded with diamond mesh to its full width and depth fully covered with aluminum mosquito mesh finished smooth with CM 1:3 proportion to required shape and size and ornamental finish including two coats of anti-corrosive paint for frame and mesh and two coats of cement paint matching to over head tank ect., complete								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.30 Item No.4.8 )</b>									
		Nos	1				1	3970.00	3970.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
8	Providing and fixing 60x60 cms M.S. inspection door with necessary M.S. frame made out of M.S. angle 50x50x6mm and M.S. shutters of 31.5mm or B.G.10 thick with hinges on top and locking arrangement,painting etc., complele (for RCC overhead tank and G.L.S.R.)								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.30 Item No.4.9 )</b>									
	Inspection door 0.6*0.6	Nos	1				2	1787.00	3574.00
9	Ladder inside the contaliner : Providing and Anodised Aluminium ladder, using 65 mm x 32 mm (approx.) "C" Section x 3.0 mm of ladder side channels in to 25mm dia flutal pipe for rungs at 250 mm C/C ladder fixed at an angle of 70 degrees to horizontal including necessary 25mm dia., G.I. shutters with necessary G.I. fasteners for bracing the ladders to lthe Tank walls to prevent buckling of lthe ladder with necessary C.C. (M15) bed for embedding the ladder bottom complete								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.29 Item No.4.6 b )</b>									
	Aluminium ladder	Rmt	1	4.25			4.25	2609.00	11088.00
10	Providing 2 coats of snowcem painting over one coat of primer including scrapping the exposed faces, removing loose plastering removal of vegetations, fungus, cleaning the surface, replastering wherever required in C.M 1:3 to the required shape with necessary scaffolding & curing etc. (Including cost of materials)								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.31 Item No.4.14 )</b>									
	Side wall out side	sqm	3.142	9.50		2.00	59.70		
			(2x3.142)						
	Top dome	sqm	6.284	8.725	2.000		109.66		
	Deductions								
	Opening	sqm	-0.785	0.60	0.60		-0.28		
	Inspection door	sqm	-1	0.60	0.60		-0.36		
							168.71	189.00	31886.00
11	Supplying & Fixing CI puddle flanges conforming to IS 7181-1986 with latest amendments, in position for R.C.C. walls including hoisting and conveying them to work spot with all lead and lift etc., complete.								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.40 Item No.III.1.14 )</b>									
a	CI Puddle Flanges								
	250 mm dia	Nos	3	1			3	10721.76	32165.00
b	CI double flanged pipes								
	250 mm dia	Mtr	3	10			30	7666.40	229992.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
12	Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vacuum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 16								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.18 Item No.II.2.10.2 )</b>									
	250 mm dia	Each	2				2.00	50708.00	101416.00
13	Providing & Constructing SSM Valve Chamber (as per Typical estimate enclosed )								
		Nos	2				2.00	24000.00	48000.00
14	Rounding off								17.00
								<b>Total</b>	<b>1603000.00</b>




ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
---------	-----------------------	------	-----	---	---	---	-----	------	---------

a)	Raft Slab	Cum	3.142	5.050	1.050	0.150	2.499		
b)	Raft Beam	Cum	3.142	5.050	0.350	0.400	2.221		
c)	Columns below GL	Cum	6	0.200	0.200	1.350	0.324		
	Raft Beam Deduction	Cum	-3.142	5.050	0.350	0.150	-0.833		
					<b>Total</b>		<b>4.211</b>	6322.00	26622.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
4	Providing and laying Reinforced cement concrete of mix design of M-30 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in CM.1:3 proportion wherever necessary etc., complete as per design specification for staging, columns and braces above ground level (exclusive cost of steel and fabrication charges)								

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.23 Item No.4.2C )****For 9 m staging**

a) Columns	Cum	6	0.200	0.200	9.000	2.160		
c) Braces	Cum	12	2.525	0.250	0.300	2.273		
d) Haunch (1/2 x 0.25) = 0.125	Sqm	2x12	2.525	0.125	0.025	0.378		
					Total	4.811	7696.00	37025.00

- 5 Providing and laying Reinforced cement concrete of mix design of M-30 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in C.M.1:3 proportion wherever necessary etc., complete as Per design and specification and giving satisfactory ,water proof test including construction joints wherever necessary as per the directions of the departmental Officers complete for ring beam, side walls, bottom dome or bottom slab, shell portion and bottom ribs (exclusive of cost of steel and fabrication charges and jointing materials)

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.26 Item No.4.3C )****For 9 m staging**

Bottom ring Beam	Cum	3.142	5.050	0.250	0.450	1.785		
Bottom slab	Cum	0.785	5.300	5.300	0.325	7.166		
Gallary	Cum	3.142	5.900	0.600	0.125	2.781		
Side wall	Cum	3.142	5.150	0.150	2.650	6.432		
Fillet (0.5 x 0.15) = 0.075	Cum	3.142	5.000	0.075	0.150	0.177		
Concrete Pole for hand rail	Cum	10	0.150	0.150	0.750	0.338		
Deduction (Bottom ring Beam)	Cum	-3.142	5.050	0.250	0.325	-1.289		
						17.390	11591.00	201567.00

- 6 Providing and laying Reinforced cement concrete of mix design of M-30 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in CM.1:3 proportion wherever necessary etc., complete as per design and specifications etc., complete for top rib and top dome or top slab (exclusive cost of steel and fabrication charges)

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.28 Item No.4.4C )****For 9 m staging**

Top Ring Beam	Cum	3.142	5.200	0.200	0.200	0.654		
---------------	-----	-------	-------	-------	-------	-------	--	--



Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
			(2x3.142)						
	Top Dome	Cum	6.284	3.580	1.000	0.100	4.499		
	<b>Deduction</b>								
	Ventilators	Cum	-0.785	0.900	0.900	0.100	-0.064		
	Inspection door	Cum	-1	0.600	0.600	0.100	-0.036		
				Nett Qty			5.053	9700.00	49014.00

- 7 Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required, placing in position and tying with binding wire of approved quality and gauge including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 & 2.11 )**

Qty of item No 3	Kg	100.0	4.211		421.100			
Qty of item No 5	Kg	100.0	4.811		481.100			
Qty of item No 6	Kg	100.0	17.390		1739.000			
Qty of item No 7	Kg	120.0	5.053		606.360			
	Total			Kg	3247.560			
	Say			Kg	3248.00			
				MT	3.25	58197.50	189025.00	

- 8 Providing RCC spiral staircase (including cost of reinforcement, taxes & its fabrication charges) for access to overhead tank, etc. complete **(as per detailed sub estimate)**

<b>For 9 m staging</b>	No	1			1.00	110000.00	110000.00	
------------------------	----	---	--	--	------	-----------	-----------	--

- 9 Ladder inside the container : Providing and Anodised Aluminium ladder, using 65 mm x 32 mm (approx.) "C" Section x 3.0 mm of ladder side channels in to 25mm dia flutal pipe for rungs at 250 mm C/C ladder fixed at an angle of 70 degrees to horizontal including necessary 25mm dia., G.I. shutters with necessary G.I. fasteners for bracing the ladders to the Tank walls to prevent buckling of the ladder with necessary C.C. (M15) bed for embedding the ladder bottom complete

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.29 Item No.4.6 b )**

	Rmtr	1 No	2.970		2.97	2609.00	7749.00	
--	------	------	-------	--	------	---------	---------	--

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
10	Providing and constructing RCC hexagonal ventilator final for RCC overhead tank the final to be constructed with CC (M-20) proportion using 20mm and down size jelly with reinforcement using 6mm dia., M.S rods 4 nos., for each of the pillars both ways for full width of doom at 12cm c/c, the ventilator to be of 0.45 M x 0.5 M size provided with 25mm x 25mm x 5mm M.S. frame welded with diamond mesh to its full width and depth fully covered with aluminum mosquito mesh finished smooth with CM 1:3 proportion to required shape and size and ornamental finish including two coats of anti-corrosive paint for frame and mesh and two coats of cement paint matching to over head tank ect., complete								
<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.30 Item No.4.8 )</b>									
		No	1				1.00	3970.00	3970.00
11	Providing and fixing 60x60 cms M.S. inspection door with necessary M.S. frame made out of M.S. angle 50x50x6mm and M.S. shutters of 31.5mm or B.G.10 thick with hinges on top and locking arrangement, painting etc., complete (for RCC overhead tank and G.L.S.R.)								
<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.30 Item No.4.9 )</b>									
		No	1				1.00	1787.00	1787.00
12	(a) Providing and fixing guage with iron sheet of 3 mm to 4 mm thickness, 0.23 Mtr. width with copper floats indicators and flexible nylon wires, painting figures with approved enamelled paint with all lead and lifts etc., complete. enamelled gauge plate.								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.40 Item No.III.1.13.2 )</b>									
	7300.16 + (2.65 - 2.5) / 0.5 X 584	No.	1				1.00	7475.36	7475.00
13	Supplying & Fixing CI puddle flanges conforming to IS 7181-1986 with latest amendments, in position for R.C.C. walls including hoisting and conveying them to work spot with all lead and lift etc., complete.								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.40 Item No.III.1.14 )</b>									
<b>Raw water rising Main</b>									
<b>100 mm dia</b>									
	Puddle Flange	Nos	1				1.00	3552.64	3553.00
	Flanged Pipe Length	Rmt	1	12			12.00	2686.88	32243.00
<b>For Outlet</b>									
<b>100 mm dia</b>									
	Puddle Flange	Nos	1				1.00	3552.64	3553.00
	Flanged Pipe Length	Rmt	1	12			12.00	2686.88	32243.00
<b>Wash water rising Main</b>									
<b>100 mm dia</b>									
	Puddle Flange	Nos	2				2.00	3552.64	7105.00
	Flanged Pipe Length	Rmt	2	12			24.00	2686.88	64485.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
---------	-----------------------	------	-----	---	---	---	-----	------	---------

- 14 Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vacuum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 16

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.18**

**Item No.II.2.10.2 )**

**Sluice Valve**

a) 100 mm dia	No	1					1.00	12138.56	12139.00
b) 100 mm dia	No	2					2.00	12138.56	24277.00

- 15 Providing 2 coats of snowcem painting over one coat of primer including scrapping the exposed faces, removing loose plastering removal of vegetations, fungus, cleaning the surface, replastering wherever required in C.M 1:3 to the required shape with necessary scaffolding & curing etc. (Including cost of materials)

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.31 Item No.4.14 )**

Top dome	Sqm	1	2x6.284	3.58	1.00	22.497			
Top Ring Beam	Sqm	1	3.142	5.400	0.400	6.787			
Outside wall	Sqm	1	3.142	5.300	2.650	44.129			
Bottom Slab	Sqm	1	0.785	5.300	5.300	22.051			
	Sqm	1	3.142	5.300	0.200	3.331			
Gallary slab	Sqm	1	3.142	5.900	0.600	22.245			
	Sqm	1	3.142	6.500	0.125	5.106			
Bottom ring beam	Sqm	2	3.142	5.050	0.125	7.934			
Columns	Sqm	6	0.800		9.00	43.200			
Brace	Sqm	12	2.525		1.10	33.330			
Concrete poles	Sqm	10	0.600		0.750	9.000			
					Total	219.610		189.00	41506.00

- 16 Supplying and fixing lightening arrestor of aluminium strip 25mm x 3 mm size including finial and grounding, aluminium strip is to be embeded in one of the columns in an independent GI conduit of 40 mm dia pipe suitably jointed by collars with all specials with all lead and lifts etc., complete.

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.41**

**Item No.III.1.16 )**

**For 9 m staging**

Each	1					1.00	15233.12	15233.00
------	---	--	--	--	--	------	----------	----------

- 17 Providing and fixing G.I. pipe railing 32 mm dia G.I. pipe 'B' Class in two rows of roof dome, flat slab of landings of elevated storage reservoir including cutting. welding. threading. painting, embedding in C.M. pillars with all lead and lifts etc., complete.

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.30 Item No.4.7 )**

Top & Bottom Gallary railing	Rmt	1	3.142	6.50		20.423			
	Rmt	1	3.142	5.40		16.967			
						37.390		451.00	16863.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
18	Providing Valve Chamber (As per Sub Estimate enclosed)	Rmt	3				3.00	33000.00	99000.00
19	KSRB 15-18.6 : Providing and applying black japan paint one coat (excluding priming coat ) on previously painted steel or other metal surface brushing to give an even shade after cleaning oil, grease, dirt and other foreign matter, including cost of materials, labour, complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.123 Item No.15.78 )</b>									
		Sqm	50				50.00	26.50	1325.00
20	Miscellaneous & rounding off								2525.00
									999500.00

*K.ellangrath*

*[Signature]*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

## ESTIMATE FOR SPIRAL STAIRCASE FOR ELSR WITH 9.00 M STAGING HEIGHT

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
1	Earth work excavation for foundation of structure as per drawing and technical specification including setting out, construction of shoring, strutting, barricading, danger lighting, bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, backfilling the excavation earth to the extent required and utilising the remaining earth locally of the work etc, complete by Mechanical Means.								
	<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.2 Item No.1.3.1 )</b>								
	a) In Hard soil	Cum	1	1.70	1.70	0.40	1.16	30.00	35.00
	<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.2 Item No.1.3.2 )</b>								
	c) In Soft rock	Cum	1	1.70	1.70	1.10	3.18	40.00	127.00
							4.335		
2	Providing and laying granite or basalt or trap jelly cement concrete using 40 mm and down size jelly for foundation laid in 15 cm thick layers and well cum compacted including mixing by using hand mixers, curing etc. complete as per specifications. Cement concrete M10								
	<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.6 Item No.2.1 )</b>								
	Bed Concrete	Cum	1	1.70	1.70	0.10	0.29	3864.00	1117.00
3	Providing and laying Reinforced cement concrete of mix design of M-25 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in CM.1:3 proportion wherever necessary etc., complete for RCC rafts, raft ring-beam, column footing, columns below ground level (exclusive cost of steel and fabrication charges)								
	<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.21 Item No.4.1(b) )</b>								
	Raft	Cum	1	1.50	1.50	0.15	0.34		
	Footing 991.5x1.5)+(0.35x0.35)/2	Cum	1	1.19	1.19	0.15	0.21		
	Column Below GL	Cum	1	0.32	0.32	1.20	0.12		
							0.67	6322.00	4253.00
4	Providing and laying Reinforced cement concrete of mix design of M-25 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in CM.1:3 proportion wherever necessary etc., complete as per design specification for staging, columns and braces above ground level (exclusive cost of steel and fabrication charges)								
	<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.22-23 Item No.4.2(b) )</b>								
				( $\pi/4$ )	(0.24x0.24)				
	Column above GL	Cum	1	0.785	0.058	12.300	0.56		
	For bracing beams	Cum	4	1.00	0.30	0.30	0.36		
	For top slab beam	Cum	1	1.00	0.30	0.13	0.04		
	For landing	Cum	1	1.00	1.00	0.12	0.12		
	For pre- cast step			(3.142x0.28)					

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
a)	Cylindrical portion	Cum	45	0.88	0.04	0.20	0.32		
b)	Tread	Cum	45	0.75	0.32	0.04	0.43		
c)	Rise	Cum	45	0.75	0.04	0.19	0.26		
d)	Edge Cover	Cum	45	0.21	0.04	0.19	0.07		
	column adj. to container	Cum	1	3.30	0.23	0.23	0.17		
							2.33	7559.00	17649.00

- 5 Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required, placing in position and tying with binding wire of approved quality and gauge including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.VIII Item No.79 & 2.11 )**

Raft	Kg	0.67	80	53.82		
Column	Kg	1.25	120	150.55		
steps	Kg	45	8	360.00		
				564.37		
	MT			0.56	56697.50	31998.00

- 6 KSRB 4-5 : Providing lath plaster with cement mortar 1:3, 5cms thick with 6mm dia mild steel bars at 20 cms. c to c both horizontally and vertically fixing chicken mesh for drop chejja, fascia, backing to cup boards including cost of all materials, labour, providing and removing form work HOM of machineries, curing, complete as per specifications. Specification No. KBS

**Schedule Of Rates PWD, Mysore Circle 2016-17 ( Page No.15 Item No.4.27 )**

Sqm	3.142	3.01	5.13	0.90	43.62	967.00	42183.00
-----	-------	------	------	------	-------	--------	----------

- 7 Providing 2 coats of snowcem painting over one coat of primer including scrapping the exposed faces, removing loose plastering removal of vegetations, fungus, cleaning the surface, replastering wherever required in C.M 1:3 to the required shape with necessary scaffolding & curing etc. (Including cost of materials)

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.31 Item No.4.14 )**

Column	Sqm	1	3.142	0.32	12.30	12.37		
Bracing beam	Sqm	4	1.00	1.20		4.80		
For top slab beam	Sqm	1	1.00	0.60		0.60		
for landing	Sqm	1	1.00	1.24		1.24		
b) Tread	Sqm	45	2	0.75	0.32	21.60		
c) Rise	Sqm	45	2	0.75	0.04	2.70		
d) Edge Cover	Sqm	45	2	0.21	0.04	0.76		
column adj. to container	Sqm	1	0.92		3.30	3.04		
		(3.142*x)						
fascia	Sqm	6.284	3.01		0.90	17.02		
						64.12	189.00	12119.00
Miscellaneous and rounding charge								519.00

*K.ellanyath*

ಸಹಾಯಕ ಕಾರ್ಯದರ್ಶಿ  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸ್ವಚ್ಛತೆ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

Total

110000.00

Koushik Consultant

## SUB ESTIMATE : CONSTRUCTION OF WASH EATER SUMP FOR RSF

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
Earth work excavation for foundation of structure as per drawing and technical specification including setting out, construction of shoring, strutting barricading, danger lighting, bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, backfilling the excavation earth to the extent required and utilising the remaining earth locally of the work etc, complete by Mechanical Means.									
1	<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.2 Item No.1.3 )</b>								
	b) In Hard soil	cum	0.785	4.80	4.80	3.50	63.30	171.00	10825.00
Providing and laying granite or basalt or trap jelly cement concrete using 40 mm and down size jelly for foundation laid in 15 cm thick layers and well cum compacted including mixing by using hand mixers, curing etc. complete as per specifications. Cement concrete M10									
2	<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.6 Item No.2.1 )</b>								
	Bed Concrete	cum	0.785	4.80	4.80	0.15	2.71	3864.00	10483.00
Providing and laying vibrated cement concrete of design mix M-30 proportion for RCC work excluding cost of reinforcement with 20 mm and down size of granite or trap or basalt or any other approved hard jelly with Super plasticiser @ 3ltrs conforming to IS 9103-1999 Reaffirmed - 2008 including cost and conveyance of all materials including form work centering scaffolding, cement mortar plastering 1:3 proportion, 20 mm thick for inside including machine mixing, vibrating, curing making construction joint wherever necessary and giving satisfactory water proof testing etc. (Exclusive of cost of steel & fabrication charges). For flat or floor slab (M-30)									
3	<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.9 Item No.2.10.1 )</b>								
	M-30 for Raft	cum	0.785	4.50	4.50	0.30	4.77	5774.00	27535.00
4	<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.9 Item No.2.10.2 )</b>								
	-do- for Vertical side walls								
	Side wall	cum	3.142	4.25	0.25	5.00	16.69		
					(1/2x0.25)				
	Haunch portion (0.6*0.50)=0.30	cum	3.142	4.05	0.150	0.30	0.57		
							17.26	6879.00	118763.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
	Providing and laying Reinforced cement concrete of mix design of M-25 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in CM.1:3 proportion wherever necessary etc., complete as per design and specifications etc., complete for top rib and top dome or top slab (exclusive cost of steel and fabrication charges)								

5

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.27 Item No.4.4b )**

a)6 m staging

(2 x 3.142)

CC M-25 Top dome	cum	6.284	4.250	2.000	0.100	5.34			
Top Ring beam	cum	3.142	0.675	0.150	0.150	0.05			
Ring Beam	cum	3.142	4.15	0.30	0.25	0.98			
Deductions									
Cover	cum	-1	0.600	0.600	0.100	-0.04			
Final open	cum	-0.785	0.600	0.600	0.100	-0.03			
							6.30	9384.00	59146.00

Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required,placing in position and tying with binding wire of approved quality and guage including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)

6

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 & 2.11 )**

Qty of Item No 3	4.77	@	120	Kg/Cum	572.27			
Qty of Item No 4	17.26	@	150	Kg/Cum	2589.68			
Qty of Item No 5	6.30	@	120	Kg/Cum	756.34			
		Kg			3918.28			
		MT			3.92	56697.50	222157.00	



Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
	Providing and constructing RCC hexagonal ventilator final for RCC overhead tank the final to be constructed with CC (M-20) proportion using 20mm and down size jelly with reinforcement using 6mm dia., M.S rods 4 nos., for each of the pillars both ways for full width of dome at 12cm c/c, the ventilator to be of 0.45 M x 0.5 M size provided with 25mm x 25mm x 5mm M.S. frame welded with diamond mesh to its full width and depth fully covered with aluminum mosquito mesh finished smooth with CM 1:3 proportion to required shape and size and ornamental finish including two coats of anti-corrosive paint for frame and mesh and two coats of cement paint matching to over head tank etc., complete								
7	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.30 Item No.4.8 )</b>								
		Nos	1				1	3970.00	3970.00
	Providing and fixing 60x60 cms M.S. inspection door with necessary M.S. frame made out of M.S. angle 50x50x6mm and M.S. shutters of 31.5mm or B.G.10 thick with hinges on top and locking arrangement,painting etc., complete (for RCC overhead tank and G.L.S.R.)								
8	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.30 Item No.4.9 )</b>								
	Inspection door 0.6*0.6	Nos	1				1	1787.00	1787.00
	Ladder inside the container : Providing and Anodised Aluminium ladder, using 65 mm x 32 mm (approx.) "C" Section x 3.0 mm of ladder side channels in to 25mm dia fluted pipe for rungs at 250 mm C/C ladder fixed at an angle of 70 degrees to horizontal including necessary 25mm dia., G.I. shutters with necessary G.I. fasteners for bracing the ladders to the Tank walls to prevent buckling of the ladder with necessary C.C. (M15) bed for embedding the ladder bottom complete								
9	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.29 Item No.4.6 b )</b>								
	Aluminium ladder	Rmt	1	4.25			4.25	2609.00	11088.00
	Providing 2 coats of snowcem painting over one coat of primer including scrapping the exposed faces, removing loose plastering removal of vegetations, fungus, cleaning the surface, replastering wherever required in C.M 1:3 to the required shape with necessary scaffolding & curing etc. (Including cost of materials)								
10	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.31 Item No.4.14 )</b>								
	Side wall out side	sqm	3.142	4.50		1.50	21.21		
			(2x3.142)						
	Top dome	sqm	6.284	4.250	2.000		53.41		
	Deductions								
	Opening	sqm	-0.785	0.60	0.60		-0.28		
	Inspection door	sqm	-1	0.60	0.60		-0.36		
							73.98	189.00	13982.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
11	Supplying & Fixing CI puddle flanges conforming to IS 7181-1986 with latest amendments, in position for R.C.C. walls including hoisting and conveying them to work spot with all lead and lift etc., complete.								
	<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.40 Item No.III.1.14 )</b>								
a	CI Puddle Flanges								
	150 mm dia	Nos	2				2	5484.64	10969.00
	100 mm dia	Nos	1				1	3552.64	3553.00
b	CI double flanged pipes								
	150 mm dia	Mtr	10				10	4094.72	40947.00
	100 mm dia	Mtr	10				10	2686.88	26869.00
12	Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vacuum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 10								
	<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.18 Item No.II.2.10.1 )</b>								
	150 mm dia	Each	2				2.00	21240.80	42482.00
	80 mm dia	Each	1				1.00	9578.24	9578.00
13	Providing & Constructing SSM Valve Chamber (as per Typical estimate enclosed )								
		Nos	1				1	24000.00	24000.00
14	Rounding off								866.00

Total 639000.00

*Gallaynath*

*[Signature]*  
 ಸಹಕಾರ ಕೃಷಿ ಸಂಘದ ಅಧ್ಯಕ್ಷರು  
 ಗ್ರಾಮೀಣ ಕುಟುಂಬ ಸೇವಾ ಇಲಾಖೆ  
 ಕಾರ್ಯಾಲಯ: ಶ್ರೀರಂಗಪಟ್ಟಣ

**SUB ESTIMATE : CONSTRUCTION OF MAIN PUMP HOUSE(NEAR P.W.SUMP)**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
---------	-----------------------	------	-----	---	---	---	-----	------	---------

- 1 KSRB 2-2.2 : Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in hard soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(b) / 2.3.5

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No. 5  
Item No.2.4 )**

Allround	cum	1	22.42	0.90	1.05	21.19			
Partition Wall	cum	1	4.25	0.75	0.60	1.91			
Front Steps	cum	1	1.30	1.05	0.15	0.20			
Ramp	cum	2	2.65	0.60	0.15	0.48			
Columns	cum	6	1.50	1.50	1.50	20.25			
Deduction for columns	cum	-6	1.50	0.90	1.05	-8.51			
						35.52	283.00	10052.00	

- 2 KSRB 4-1.3 : Providing and laying in position plain cement concrete of mix 1:4:8 with OPC cement @ 180kgs, with 40mm and down size graded granite metal coarse aggregates @0.85cum and fine aggregates @ 0.57cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2 ( Page No.12 Item No.4.3 )

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.12  
Item No.4.3 )**

Allround	cum	1	22.42	0.90	0.15	3.03			
Partition Wall	cum	1	4.25	0.75	0.15	0.48			
Plinth beam middle	cum		4.03	0.45	0.15	0.00			
Front Steps	cum	1	1.30	1.05	0.15	0.20			
Ramp	cum	2	2.65	0.60	0.15	0.48			
Columns	cum	6	1.50	1.50	0.15	2.03			
Flagging alround	cum	1	25.34	1.00	0.10	2.53			
						8.75			
Deduct for columns	cum	-6	0.90	1.50	0.15	-1.22			
						-1.22			
Net Qty =	cum		8.75	-	-1.22	7.53	4867.00	36648.00	

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
3	KSRB 4-6.1 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for foundations, footings, bases of columns for mass concrete including cost of all materials, labour complete as per specificalitons. Specification No. KBS 4.6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.15 Item No.4.28 )</b>									
	Columns	Sqm	6	5.40		0.45	14.58		
							14.58	231.00	3367.00
4	KSRB 4.2.2 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machlinery, curing, complete as per specifications. Specification No. KBS 4.1, 4.6								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.13 Item No.4.11 )</b>									
	Columns	Cum	6	1.35	1.35	0.45	4.92		
							4.92	6011.00	29574.00
5	KSRB 4-6.5 : Providing and removing centering, shuttering, strutting, propping etc., for columns, pillars, piers, abutments, post and struts, square / rectangular / polygon in plan including cost of all materials, labour complete as per specificalitons. Specification No. KBS 4.6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.16 Item No.4.32 )</b>									
	Columns	Sqm	6	0.92		4.40	24.29		
							24.29	366.00	8890.00
6	KSRB 4-6.7 :Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for sides and soffits of beams, beam haunchings, cantilever girders, bressumers and lintels not exceeding 1m in depth including cost of all materials, labour complete as per specificalitons. Specification No. KBS 4.6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.16 Item No.4.34 )</b>									
	Plinth beam	Sqm	1 x 2	22.42		0.15	6.72		
	Middle beam	Sqm	1 x 2	4.25		0.15	1.28		
	Lintels	Sqm	1 x 2	22.42		0.15	6.72		
	Partition beam	Sqm	1 x 2	4.25		0.15	1.28		
	Main Beams	Sqm	3 x 2	4.25		0.30	7.66		
	Secondary Beams	Sqm	2 x 2	6.27		0.23	5.76		
							29.42	256.00	7531.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
7	KSRB 4.2.3 : Providing and laying in position reinforced cement concrete of mix M15 with OPC cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications.(Excluding cost of steel fabrication & plastering charges) Specification No. KBS 4.1, 4.6								

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.14 Item No.4.12 )**

<b>a Columns</b>									
Columns	Cum	6	0.23	0.23	4.40	1.40			
						1.40			
<b>b Plinth Beam</b>	cum	1	22.42	0.45	0.15	1.51			
Middle	cum	1	4.25	0.45	0.15	0.29			
						1.80			
<b>c Lintel beam</b>	cum	1	22.42	0.23	0.15	0.77			
Partition wall	cum	1	4.25	0.12	0.15	0.08			
						0.85			
<b>d Beams</b>									
Main Beams	cum	3	4.25	0.23	0.30	0.88			
Secondary Beams	cum	2	6.27	0.23	0.23	0.66			
						1.54			
Net Quantity =						5.59	6367.00	35591.00	

- 8 KSRB 5.2-3 : Providing and constructing granite / trap / basalt size stone masonry in foundation cement mortar 1:6, stone hammered dressed in courses not less than 20 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.13

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.25 Item No.5.6 )**

1st step	cum	1	22.42	0.75	0.45	7.57			
2nd	cum	1	22.42	0.60	0.45	6.05			
Partition wall	cum	1	4.25	0.60	0.45	1.15			
Deduct for columns	cum	-6	0.23	0.23	0.90	-0.29			
						14.48	4187.00	60627.00	

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
9	KSRB 5.3-3 : Providing and constructing granite / trap / basalt size stone masonry in basement with cement mortar 1:6, edges of stones chistle dressed in courses not less than 15 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.13								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.25 Item No.5.9 )</b>									
		cum	1	22.42	0.45	0.45	4.54		
						(0.45)/2			
	Ramp	cum	2	2.50	0.45	0.23	0.51		
	Partition Wall	cum	1	4.25	0.45	0.45	0.86		
	Deduct for columns	cum	-6	0.23	0.23	0.45	-0.14		
							<b>5.77</b>	<b>5005.00</b>	<b>28878.00</b>
10	KSRB 2.3 : Filling available excavated earth ( excluding rock ) in sides of foundations upto plinth in layers not exceeding 20 cms. in depth, compacting each deposited layer by ramming after watering with lead upto 50 m. and lift upto 1.5 m. including cost of all labour complete as per specifications. specification. No. KBS 2.9								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.6 Item No.2.10 )</b>									
		CUM					35.52	127.00	4511.00
11	KSRB 6-2.3 : Providing and constructing burnt brick masonry with approved quality of non-modular bricks of standard size of class designation 50 (table moulded) with cement mortar 1:6 for basement and superstructure including cost of materials, labour charges, scaffolding, curing complete as per specifications. Specification No. KBS 6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.29 Item No.6.6 )</b>									
	Alround	cum	1	22.42	0.23	3.30	17.02		
	Parapet wall	cum	1	22.42	0.23	0.45	2.32		
	Front Steps	cum	1	1.30	0.30	0.60	0.23		
		cum	1	1.30	0.30	0.40	0.16		
		cum	1	1.30	0.30	0.20	0.08		
							<b>19.81</b>		
	Deductions								
	D	cum	1	1.00	0.23	2.10	0.48		
	W	cum	1	1.50	0.23	1.20	0.41		
	W1	cum	3	0.90	0.23	1.20	0.75		
	RS	cum	1	2.40	0.23	2.40	1.32		
	Columns	cum	6	0.23	0.23	3.30	1.05		
	Lintel	cum	1	22.42	0.23	0.15	0.77		
	Main Beams	cum	2	4.25	0.23	0.30	0.59		
	Secondary beams	cum	2	6.27	0.23	0.23	0.66		
							<b>6.03</b>		
	Net Quantity =			19.81	-	6.03	<b>13.78</b>	<b>6685.00</b>	<b>92119.00</b>

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
12	KSRB 6-7.4 :Construction of partition wall 11.2 cms thick with non modular table moulded burnt bricks of class designation 50 with cement mortar 1:4 including cost of materials, labour charges, scaffolding, curing complete as per specifications. Specification No. KBS 6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.31 Item No.6.26 )</b>									
		sqm	1	4.25		3.15	13.39		
							13.39	891.00	11930.00
13	KSRB 4-6.7 :Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for sides and soffits of beams, beam haunchings, cantilever girders, bressumers and lintels not exceeding 1m in depth including cost of all materials, labour complete as per specifcations. Specification No. KBS 4.6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.16 Item No.4.34 )</b>									
	Door	Sqm	1	1.15	0.60		0.69		
	W	Sqm	1	1.65	0.60		0.99		
	W1	Sqm	3	1.05	0.60		1.89		
	Rolling shutter	Sqm	1	2.55	0.60		1.53		
							5.10	256.00	1305.00
14	KSRB 4.2.10 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 24kgs, with 12mm and down size graded granite metal coarse aggregates @0.5175cum and fine aggregates @ 0.345cum, with superplatisiser @0.225lts, machline mixed, well compacted for plain chejja of 7.5 cms. average thickness, upto ground floor level, including cost of all materials, labour, HOM of machlinery, finishing, curing, complete as per specifications (Excluding cost of steel, fabrication and plastering charges). Specification No. KBS 4.1, 4.6								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.14 Item No.4.19 )</b>									
	Door	sqm	1	1.15	0.60		0.69		
	W	sqm	1	1.65	0.60		0.99		
	W1	sqm	3	1.05	0.60		1.89		
	Rolling shutter	sqm	1	2.55	0.60		1.53		
							5.10	456.00	2325.00
15	KSRB 4-6.2 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for flat surface such as suspended floors, roofs, landings, balconies and likes, thickness upto 200 mm including cost of all materials, labour complete as per specifcations. Specification No. KBS 4.6.2 Rates for centering height more than 3.5 mtrs.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.15 Item No.4.29.2 )</b>									
	Roof Slab	Sqm	1	6.50	4.25		27.63		
							27.63	550.00	15196.00
16	KSRB 4-6.9 :Providing and removing centering, shuttering, strutting, propping etc., for edges of slabs and breaks in floor, cills, plinth including cost of all materials, labour complete as per specifcaiton. Specification No. KBS 4.6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.17 Item No.4.36 )</b>									
	Roof Slab	Sqm	1	23.34		0.15	3.50		
							3.50	678.00	2373.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
17	KSRB 4.2.3 : Providing and laying in position reinforced cement concrete of mix M15 with OPC cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications.(Excluding cost of steel fabrication & plastering charges) Specification No. KBS 4.1, 4.6								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.14 Item No.4.12 )</b>									
	Roof Slab	cum	1	6.96	4.71	0.15	4.92		
							4.92	6367.00	31325.00
18	Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required, placing in position and tying with binding wire of approved quality and gauge including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 &amp; 2.11 )</b>									
	Column Footing	Kgs	4.92Cum		@ 80.00 kg/cum		393.600		
	Columns	Kgs	1.40Cum		@ 120.00 kg/cum		168.000		
	Plinth Beam	Kgs	1.80Cum		@ 80.00 kg/cum		144.000		
	Lintel	Kgs	0.85Cum		@ 80.00 kg/cum		68.000		
	Chejja	Kgs	0.38Cum		@ 80.00 kg/cum		30.600		
	Beams	Kgs	1.54Cum		@ 120.00 kg/cum		184.800		
	Roof	Kgs	4.92Cum		@ 120.00 kg/cum		590.400		
							1579.40		
							OR		
							1.58 MT	56697.50	89548.00
19	KSRB 7.5 : Providing and fixing pull and push type rolling shutters of approved make out of 18 gauge, 75mm wide cold rolled steel laths of convex corrugation, with side guides and bottom rail, with interlocking arrangements for steel laths by means of alternate clips, suspension shaft with High tension coil type springs two numbers, mounted on specially designed pipe shaft, with bracket plates, guide channels, ball bearing arrangements, for inside & outside locking with push & pull operations complete including pulling hooks, 4Nos. handles with all fittings and accessories, painted with a coat of red lead paint (without top cover) cost of materials, labour, HOM of machinery complete as per specifications. Shutter size 3mx2.8 m Specification No. KBS 7.10 / 7.12								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.34 Item No.7.5 )</b>									
	RS	Sqm	1	2.40		2.400	5.76		
							5.76	2862.00	16485.00



Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
20	KSRB 7.6 : Providing and fixing top covers made out of 20 guage M.S. sheet over pull and push rolling shutters bent to shape including cost of red lead primer coat of painting , materials, labour, HOM of machinery complete as per specifications. Specification No. KBS 7.10.6 / 7.12								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.35 Item No.7.6 )</b>									
RS		Rmt	1	2.70			2.70		
							2.70	473.00	1277.00
21	KSRB 9.4-3 : Providing Mathi / Nandi wood frames of doors, windows, clerestory windows, ventilators and other frames, wrought, framed or assembled including making plaster groves ( excluding cost of cement concrete and side clamps ), but including cost of materials, labour, HOM of machineries complete as per specifications. Specification No. KBS 9.33								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.54 Item No.9.12 )</b>									
D		Cum	1	6.50	0.100	0.075	0.05		
							0.05	80792.00	4039.00
22	KSRB 9.5-3 : Providing and fixing in position fully panelled Mathi/Nandi wood shutters for doors, styles and rails of 40mm. thick with bottom and lock rails 180mm wide top rail and styles 100mm wide as per drawing and panels of 25mm thick including cost of materials, labour, HOM of machineries complete as per specifications. ( excluding cost of fixtures) Specification No. KBS 9.34								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.54 Item No.9.16 )</b>									
D		sqm	1	0.90		2.10	1.89		
							1.89	3925.00	7418.00
23	KSRB 7.7 : Providing and fixing in position in cement concrete 1:3:6 steel glazed windows and ventilators side hung/top hung fully openable as per approved drawings using Z angles of 25x33x3mm, weighing 1.419 Kg/m both for outer and inner frames and central mullion section of size 25x46x3mm. weighing 2.28Kg/m duly providing T section 19x19x3mm weighing 0.839 kg/m for glazing of windows not more than 34 cms. c to c including providing and fixing 4mm. thick reeded glass with teakwood beading of required size, all steel sections should confirm to I.S 7452:1990, 4nos. of holdfasts of approved size, section should be cut to length welded and electrically grinded subdividing frames of unit shall be tenonned and revetted into the frames electrically. All the steel surface shall be thoroughly cleaned free of rust and painted with one coat of anti-corrosive paint and finishing with two coats of ready mix paint of approved colour and make including cost of materials, fixtures, labour and HOM of machinery complete as per specifications. Specification No. KBS 7.12.1 / 7.12.2 / 7.12.3 / 7.12								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.35 Item No.7.7 )</b>									
W		sqm	1	1.50		1.20	1.80		
W1		sqm	3	0.90		1.20	3.24		
							5.04	3530.00	17791.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
24	KSRB15-3-13 : Providing 12mm thick cement plaster in single coat with cement mortar 1:3, to ceiling including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.116 Item No.15.21 )</b>									
	Pump room	sqm	1	4.39	4.25		18.64		
	Room	sqm	1	2.00	4.25		8.50		
	Beam sides	sqm	1 x 2	4.25		0.30	2.56		
							29.70	193.00	5732.00
25	KSRB15-3.3 : Providing 12mm thick cement plaster in single coat with cement mortar 1:6, to brick masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.115 Item No.15.11 )</b>									
	For Inside Walls								
	Pump room	sqm	1	17.27		3.30	56.99		
	Room	sqm	1	12.50		3.30	41.25		
							98.24		
	Deductions								
	D	sqm	-1	1.00		2.10	-2.10		
	W	sqm	-1	1.50		1.20	-1.80		
	W1	sqm	-3	0.90		1.20	-3.24		
	RS	sqm	-1	2.40		2.40	-5.76		
							85.34	150.00	12801.00
26	KSRB15-7 : Providing lime rendering for plastering to wall and ceiling, including cost of materials, labour, curing complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.124 Item No.15.33 )</b>									
	Ceiling	sqm	Quantity vide Item No. 24				29.70		
	Inside Walls	sqm	Quantity vide Item No. 25				85.34		
							115.04	25.00	2876.00
27	KSRB15-3.9 :Providing 18mm thick cement plaster in single coat with cement mortar 1:6, to brick masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.116 Item No.15.17 )</b>									
	Out Side Walls								
	Qty as per item No.14	sqm		1.50	x	5.10	7.65		
	Around	sqm	1	23.34		3.45	80.52		
	Parapet	sqm	1	22.42		1.13	25.33		
							113.50		
	Deduction								
	D	sqm	-1	1.00		2.10	-2.10		
	W	sqm	-1	1.50		1.20	-1.80		
	W1	sqm	-3	0.90		1.20	-3.24		
	RS	sqm	-1	2.40		2.40	-5.76		
							100.60	198.00	19918.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
28	KSRB 14.9-2 : Providing and laying M-15 cement concrete flooring 60 mm thick with metallic concrete hardner topping, under layer of 45mm thick M-15 cement concrete using broken granite metal of 20mm and down size and top layer of 15mm thick metallic cement hardner consisting of mix 1:2 ( 1 cement hardner mix : 2 granite metal 10mm nominal size ) by volume, with metallic hardening compound of approved quality mix in the ratio of 4:1 ( 4 part of cement = 1 part of metallic floor hardening compound of approved quality by wt ) , including finishing, cost of materials, labour, curing, complete as per specifications. Specification No. KBS 14.4								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.104 Item No.14.14 )</b>									
	Pump room	sqm	1	4.39	4.250		18.64		
							18.64	673.00	12544.00
29	KSRB 14.7-3 : Providing and laying flooring 40 mm thick, with an under layer of 30mm thick M-15 cement concrete, using broken granite metal of 12.5mm nominal size and top layer of 10mm thick plaster with cement mortar 1:3, finished with floating coat of neat cement , including cost of materials, labour, curing, complete as per specifications. Specification No. KBS 14.3								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.104 Item No.14.10 )</b>									
	Room	sqm	1	2.00	4.250		8.50		
							8.50	517.00	4394.00
30	KSRB 10-3 : Providing and laying integral cement based water proofing treatment including preparation of surfaces as required application. (a) Applying and grouting a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with proprietary water proofing compound conforming to IS:2645 over the RCC slab after cleaning the surface before treatment. (b) Laying cement concrete using broken brick bats 25mm to 100mm size with 50% of cement mortar 1:5 admixed with proprietary water proofing compound conforming IS:2645 over 20mm thick layer of cement mortar 1:5 admixed with proprietary water proofing compound to required slope and treating similarly the adjoining walls upto 300mm height including rounding off junctions of walls and slabs. (c) After two days of proper curing, applying a second coat of cement slurry admixed with proprietary water proofing compound (d) Finishing the surface with 20mm thick jointless cement mortar of mix 1:4 admixed with proprietary water proofing compound and finally finishing the surface with trowel and neat cement slurry and making of 300x300mm square. (e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test including cost of materials, labour complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.67 Item No.10.2 )</b>									
		Sqm	1	6.50	4.25		27.63		
							27.63	904.00	24977.00
31	KSRB 15-14.1 : Providing and applying two coats with oil bound washable distemper of approved brand and shade on wall surface including priming coat with distemper primer after thoroughly brooming the surface free from mortar drops and other foreign matter including preparing the surface even and sand paper smooth, cost of materials, labour, complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.119 Item No.15.49.1 )</b>									
	Ceiling	sqm	Quantity vide item NO.24				29.70		
	Inside Plastering	sqm	Quantity vide item NO.25				85.34		
							115.04	71.00	8167.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
32	KSRB 15-16.1 : Providing and finishing external walls in two coats with waterproof cement paint of approved brand and shade to give an even shade after thoroughly brooming the surface to remove all dirt and loose powdered material, free from mortar drops and other foreign matter cost of materials, labour, complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.120 Item No.15.53.1 )</b>									
	Quantity vide item NO.27	Sqm					100.60		
							100.60	69.00	6941.00
33	KSRB 15.1.3 -do- Providing ruled pointing to coursed stone masonry with cement mortar 1:3, 20mm deep, after raking joints to depth of 20mm nicely lining, including cost of materials, labour, curing complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.115 Item No.15.3 )</b>									
		Sqm	1	23.34		0.450	10.50		
							10.50	98.00	1029.00
34	KSRB 8.6-3 : Providing and fixing on wall surface asbestos cement rain down water pipes 75mm dia including filling the joints with spun yarn soaked in neat cement slurry 1:2 with necessary specials like shoes, bends and offsets fixed with iron clamps, wall plugs, screws, including cost of materials, labour, curing complete as per specifications. Specification No. KBS 8.27, 8.28								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.50 Item No.8.14 )</b>									
		Rmt	2	4.18			8.36		
							8.36	409.00	3419.00
35	KSRB 15-17.6 : Providing and applying painting two coats ( excluding priming coat ) on new wood surface and / or wood based surface with enamel paint to give an even shade, cleaning the surface of all dirt, dust and foreign matter, sand papering including cost of materials, labour, complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.121 Item No.15.60.1 )</b>									
	D	Sqm	2.25	1	1.00	2.10	4.73		
							4.73	84.00	397.00
									<b>621995.00</b>
36	Providing Electrical services.			At	5%	of civil works			31100.00
37	Providing Sanitary services.			At	5%	of civil works			31100.00
38	Miscellaneous such as fixtures to doors & windows etc.,								805.00
<b>Total =</b>									<b>685000.00</b>




ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**SUB ESTIMATE : CONSTRUCTION OF PUMP HOUSE (BACK WASH)**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
1	KSRB 2-2.2 : Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in hard soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(b) / 2.3.5								
Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No. 5 Item No.2.4 )									
	Allround	cum	1	12.92	1.20	1.05	16.28		
	Front Steps	cum	1	1.05	0.60	0.15	0.09		
							16.37	283.00	4632.00
2	KSRB 4-1.2 : Providing and laying in position plain cement concrete of mix M10 with OPC cement @ 220kgs, with 40mm and down size graded granite metal coarse aggregates @0.892cum and fine aggregates @ 0.465cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation and plinth, cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2								
Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.12 Item No.4.2 )									
	Allround	cum	1	12.92	1.20	0.15	2.33		
	Front Steps	cum	1	1.05	0.60	0.15	0.09		
	Flagging alround	cum	1	17.84	1.00	0.10	1.78		
							4.20	5046.00	21193.00
3	KSRB 4-6.7 :Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for sides and soffits of beams, beam haunchings, cantilever girders, bressumers and lintels not exceeding 1m in depth including cost of all materials, labour complete as per specifcations. Specification No. KBS 4.6.2								
Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.16 Item No.4.34 )									
	Plinth beam	Sqm	1 x 2	12.92		0.15	3.88		
	Lintels	Sqm	1 x 2	12.92		0.15	3.88		
							7.76	256.00	1986.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
	KSRB 4.2.2 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, with superplasticiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications. Specification No. KBS 4.1, 4.6								
4	<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.13 Item No.4.11 )</b>								
	Plinth Beam	cum	1	12.92	0.45	0.10	0.58		
	Lintel beam	cum	1	12.92	0.23	0.15	0.45		
							1.03	6011.00	6191.00
	KSRB 5.2-3 : Providing and constructing granite / trap / basalt size stone masonry in foundation cement mortar 1:6, stone hammered dressed in courses not less than 20 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.13								
5	<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.25 Item No.5.6 )</b>								
	1st step	cum	1	12.92	1.05	0.45	6.10		
	2nd	cum	1	12.92	0.90	0.45	5.23		
							11.33	4187.00	47438.00
	KSRB 5.3-3 : Providing and constructing granite / trap / basalt size stone masonry in basement with cement mortar 1:6, edges of stones chistle dressed in courses not less than 15 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.13								
6	<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.25 Item No.5.9 )</b>								
		cum	1	12.92	0.45	0.45	2.62		
							2.62	5005.00	13113.00
	KSRB 2.3 : Filling available excavated earth ( excluding rock ) in sides of foundations upto plinth in layers not exceeding 20 cms. in depth, compacting each deposited layer by ramming after watering with lead upto 50 m. and lift upto 1.5 m. including cost of all labour complete as per specifications. specification. No. KBS 2.9								
7	<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.6 Item No.2.10 )</b>								
		CUM					16.37	127.00	2078.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
8	KSRB 6-2.3 : Providing and constructing burnt brick masonry with approved quality of non-modular bricks of standard size of class designation 50 (table moulded) with cement mortar 1:6 for basement and superstructure including cost of materials, labour charges, scaffolding, curing complete as per specifications. Specification No. KBS 6.2								
	<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.29 Item No.6.6 )</b>								
	Alround	cum	1	12.92	0.23	3.00	8.91		
	Parapet wall	cum	1	12.92	0.23	0.45	1.34		
	Front Steps	cum	1	2.00	0.30	0.60	0.36		
		cum	1	2.00	0.30	0.40	0.24		
		cum	1	2.00	0.30	0.20	0.12		
							10.97		
	Deductions								
	D	cum	1	1.00	0.23	2.10	0.48		
	W	cum	2	0.90	0.23	1.20	0.50		
	Lintel	cum	1	12.92	0.23	0.15	0.45		
							1.43		
	Net Quantity =			10.97	-	1.43	9.54	6685.00	63774.00

KSRB 4-6.7 :Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for sides and soffits of beams, beam haunchings, cantilever girders, bressumers and lintels not exceeding 1m in depth including cost of all materials, labour complete as per specifcations. Specification No. KBS 4.6.2

9

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.16 Item No.4.34 )**

Door	Sqm	1	1.15	0.60	0.69			
W	Sqm	2	1.05	0.60	1.26			
					1.95	256.00	499.00	

KSRB 4.2.10 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 24kgs, with 12mm and down size graded granite metal coarse aggregates @0.5175cum and fine aggregates @ 0.345cum, with superplatisiser @0.225lts, machline mixed, well compacted for plain chejja of 7.5 cms. average thickness, upto ground floor level, including cost of all materials, labour, HOM of machlinery, finishing, curing, complete as per specifications (Excluding cost of steel, fabrication and plastering charges). Specification No. KBS 4.1, 4.6

10

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.14 Item No.4.19 )**

Door	sqm	1	1.15	0.60	0.69			
W	sqm	2	1.05	0.60	1.26			
					1.95	456.00	889.00	

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
	KSRB 4-6.2 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for flat surface such as suspended floors, roofs, landings, balconies and likes, thickness upto 200 mm including cost of all materials, labour complete as per specifcations. Specification No. KBS 4.6.2 Rates for centering height more than 3.5 mtrs.								
11	<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.15 Item No.4.29.2 )</b>								
	Roof Slab	Sqm	1	3.00	3.00		9.00		
							9.00	550.00	4950.00
	KSRB 4-6.9 :Providing and removing centering, shuttering, strutting, propping etc., for edges of slabs and breaks in floor, cills, plinth including cost of all materials, labour complete as per specifcaiton. Specification No. KBS 4.6.2								
12	<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.17 Item No.4.36 )</b>								
	Roof Slab	Sqm	1	15.68		0.13	1.96		
							1.96	678.00	1328.00
	KSRB 4.2.2 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fline aggregates @ 0.459cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machline mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machlinery, curing, complete as per specifications. Specification No. KBS 4.1, 4.6								
13	<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.13 Item No.4.11 )</b>								
	Roof Slab	cum	1	3.46	3.46	0.13	1.50		
							1.50	6011.00	9016.00
	Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required,placing in position and tying with binding wire of approved quality and guage including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)								
14	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 &amp; 2.11 )</b>								
	Lintel	Kgs	0.45Cum		@ 80.00 kg/cum		36.000		
	Chejja	Kgs	0.15Cum		@ 80.00 kg/cum		11.700		
	Roof	Kgs	1.50Cum		@ 120.00 kg/cum		180.000		
		Kgs					227.70		
							OR		
		MT					0.23	56697.50	13040.00



Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
15	<p>KSRB 9.4-3 : Providing Mathi / Nandi wood frames of doors, windows, clerestory windows, ventilators and other frames, wrought, framed or assembled including making plaster grooves ( excluding cost of cement concrete and side clamps ), but including cost of materials, labour, HOM of machineries complete as per specifications. Specification No. KBS 9.33</p> <p><b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.54 Item No.9.12 )</b></p>								
	D	Cum	1	6.50	0.100	0.075	0.05		
							0.05	80792.00	4039.00
16	<p>KSRB 9.5-3 : Providing and fixing in position fully panelled Mathi/Nandi wood shutters for doors, styles and rails of 40mm. thick with bottom and lock rails 180mm wide top rail and styles 100mm wide as per drawing and panels of 25mm thick including cost of materials, labour, HOM of machineries complete as per specifications. ( excluding cost of fixtures) Specification No. KBS 9.34</p> <p><b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.54 Item No.9.16 )</b></p>								
	D	sqm	1	0.90		2.00	1.80		
							1.80	3925.00	7065.00
17	<p>KSRB 7.7 : Providing and fixing in position in cement concrete 1:3:6 steel glazed windows and ventilators side hung/top hung fully openable as per approved drawings using Z angles of 25x33x3mm, weighing 1.419 Kg/m both for outer and inner frames and central mullion section of size 25x46x3mm. weighing 2.28Kg/m duly providing T section 19x19x3mm weighing 0.839 kg/m for glazing of windows not more than 34 cms. c to c including providing and fixing 4mm. thick reeded glass with teakwood beading of required size, all steel sections should confirm to I.S 7452:1990, 4nos. of holdfasts of approved size, section should be cut to length welded and electrically grinded subdividing frames of unit shall be tenonned and revetted into the frames electrically. All the steel surface shall be thoroughly cleaned free of rust and painted with one coat of anti-corrosive paint and finishing with two coats of ready mix paint of approved colour and make including cost of materials, fixtures, labour and HOM of machinery complete as per specifications. Specification No. KBS 7.12.1 / 7.12.2 / 7.12.3 / 7.12</p> <p><b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.35 Item No.7.7 )</b></p>								
	W	sqm	2	0.90		1.20	2.16		
							2.16	3530.00	7624.00
18	<p>KSRB15-3-13 : Providing 12mm thick cement plaster in single coat with cement mortar 1:3, to ceiling including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.</p> <p><b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.116 Item No.15.21 )</b></p>								
	Room	sqm	1	3.00	3.00		9.00		

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
							9.00	193.00	1737.00
19	<p>KSRB15-3.9 :Providing 18mm thick cement plaster in single coat with cement mortar 1:6, to brick masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.</p> <p><b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.116 Item No.15.17 )</b></p> <p>For Inside Walls</p> <p>Room sqm 1 12.00 3.00 36.00</p> <p>0 36.00</p> <p>Deductions</p> <p>D sqm -1 1.00 2.10 -2.10</p> <p>W sqm -2 0.90 1.20 -2.16</p> <p>31.74 198.00 6284.00</p> <p>KSRB15-7 : Providing lime rendering for plastering to wall and ceiling, including cost of materials, labour, curing complete as per specifications.</p> <p><b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.124 Item No.15.33 )</b></p> <p>Ceiling sqm Quantity vide Item No. 18 9.00</p> <p>Inside Walls sqm Quantity vide Item No. 19 31.74</p> <p>40.74 25.00 1018.00</p> <p>KSRB15-3.3 : Providing 12mm thick cement plaster in single coat with cement mortar 1:6, to brick masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.</p> <p><b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.115 Item No.15.11 )</b></p> <p>Out Side Walls</p> <p>Qty as per item No.10 sqm 1.50 x 1.95 2.93</p> <p>Around sqm 1 13.84 3.15 43.60</p> <p>Parapet sqm 1 12.92 1.13 14.60</p> <p>61.13</p> <p>Deduction</p> <p>D sqm -1 1.00 2.10 -2.10</p> <p>W sqm -2 0.90 1.20 -2.16</p> <p>56.87 150.00 8530.00</p> <p>KSRB 14.9-2 : Providing and laying M-15 cement concrete flooring 60 mm thick with metallic concrete hardner topping, under layer of 45mm thick M-15 cement concrete using broken granite metal of 20mm and down size and top layer of 15mm thick metallic cement hardner consisting of mix 1:2 ( 1 cement hardner mix : 2 granite metal 10mm nominal size ) by volume, with metallic hardening compound of approved quality mix in the ratio of 4:1 ( 4 part of cement = 1 part of metallic floor hardening compound of approved quality by wt ) , including finishing, cost of materials, labour, curing, complete as per specifications. Specification No. KBS 14.4</p>								

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.104 Item No.14.14 )</b>									
	Room	sqm	1	3.00	3.000		9.00		
							9.00	673.00	6057.00

KSRB 10-3 : Providing and laying integral cement based water proofing treatment including preparation of surfaces as required application. (a) Applying and grouting a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with proprietary water proofing compound conforming to IS:2645 over the RCC slab after cleaning the surface before treatment. (b) Laying cement concrete using broken brick bats 25mm to 100mm size with 50% of cement mortar 1:5 admixed with proprietary water proofing compound conforming IS:2645 over 20mm thick layer of cement mortar 1:5 admixed with proprietary water proofing compound to required slope and treating similarly the adjoining walls upto 300mm height including rounding off junctions of walls and slabs. (c) After two days of proper curing, applying a second coat of cement slurry admixed with proprietary water proofing compound (d) Finishing the surface with 20mm thick jointless cement mortar of mix 1:4 admixed with proprietary water proofing compound and finally finishing the surface with trowel and neat cement slurry and making of 300x300mm square. (e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test including cost of materials, labour complete as per specifications.

23

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.67 Item No.10.2 )**

Sqm	1	3.00	3.00	9.00		
				9.00	904.00	8136.00

KSRB 15-14.1 : Providing and applying two coats with oil bound washable distemper of approved brand and shade on wall surface including priming coat with distemper primer after thoroughly brooming the surface free from mortar drops and other foreign matter including preparing the surface even and sand paper smooth, cost of materials, labour, complete as per specifications.

24

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.119 Item No.15.49.1 )**

Ceiling	sqm	Quantity vide item NO.18	9.00		
Inside Plastering	sqm	Quantity vide item NO.19	31.74		
			40.74	71.00	2892.00

KSRB 15-16.1 : Providing and finishing external walls in two coats with waterproof cement paint of approved brand and shade to give an even shade after thoroughly brooming the surface to remove all dirt and loose powdered material, free from mortar drops and other foreign matter cost of materials, labour, complete as per specifications.

25

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.120 Item No.15.53.1 )**

Quantity vide item NO.10	Sqm	1.95	x	1.50	2.93	
Quantity vide item NO.21	Sqm				56.87	
					59.80	69.00 4125.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
26	KSRB 15.1.3 -do- Providing ruled pointing to coursed stone masonry with cement mortar 1:3, 20mm deep, after raking joints to depth of 20mm nicely lining, including cost of materials, labour, curing complete as per specifications.	Sqm	1	13.84		1.350	18.68		
	<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.115 Item No.15.3 )</b>						18.68	98.00	1830.00
27	KSRB 8.6-3 : Providing and fixing on wall surface asbestos cement rain down water pipes 75mm dia including filling the joints with spun yarn soaked in neat cement slurry 1:2 with necessary specials like shoes, bends and offsets fixed with iron clamps, wall plugs, screws, including cost of materials, labour, curing complete as per specifications. Specification No. KBS 8.27, 8.28	Rmt	1	3.50			3.50		
	<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.50 Item No.8.14 )</b>						3.50	409.00	1431.00
28	KSRB 15-17.6 : Providing and applying painting two coats ( excluding priming coat ) on new wood surface and / or wood based surface with enamel paint to give an even shade, cleaning the surface of all dirt, dust and foreign matter, sand papering including cost of materials, labour, complete as per specifications.	Sqm	2.25	1	1.00	2.10	4.73		
	<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.121 Item No.15.60.1 )</b>						4.73	84.00	397.00
29	Providing Electrical services.	At	5%			of civil works			12565.00
30	Miscellaneous such as fixtures to doors & windows etc.,								143.00
	<b>Total =</b>								<b>264000.00</b>

*Challanpath*

*ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್*  
*ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸ್ವಚ್ಛತ್ವ*  
*ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ*

## 15. Pumping Machinery PW sump to back wash tank

Sl. No.	Description	Unit	Qty	Rate / unit	Amount (Rs)
1	Supplying at site of work erection and commission of Submerged Centrifugal Pump set Jyothi / Kirloskar / Flow more / Mather & platt / Aqua / Worthington or any other make confirming to IS standard of pull out type with Pump and Motor Mounted on the single shaft, fitted with Mechanical seal (Double mechanical seal should be fitted GLB Circle 2011-12 P.No.50 I.No.1.5 Head= 27.43 M Discharge=0.694 lps	No	2	17500.00	35000.00
2	<b>Pressure guage</b> : Supply and delivery of brand new best make pressure guage (bourdon type of size 100 mm Confirming to IS 3624/1987 with latest amendments with SI mark etc. complete (PRED issue rate GLB Circle 2012-13 P.No.50 I.No.2.1(b) 100 mm	Nos	2	610.00	1220.00
3	<b>Gate valve</b> : Supplying and delivery of brand new best-make confirming to IS 778/1984 with latest amendment with ISI mark (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.4.3) 80mm	Nos	2	1418.00	2836.00
4	<b>Non return valve</b> : Supplying and delivery of brand new best-make confirming to IS 778/1984 with latest amendment with ISI mark (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.5.3) 80mm	Nos	2	1450.00	2900.00
5	Supply and delivery of brand new best make LT cable as per IS 694/1990 with latest amendment with ISI (PRED issue rate GLB Circle 2012-13 P.No.50 I.No.7) 4 x 25 Sq.mm	Rmt	20	252.00	5040.00
6	<b>Meter &amp; Panel Board (Indoor Type)</b> (a) Meter Board unit : One number M.S. Box of size 350x380x150mm fabricated out of 2mm thick sheet metal with sealable door and arrangement for mounting CT's (if any) to connect 3 Ph/4 wire energy meter cable box etc., complete. A transparent glass piece should be provided for the protection where the energy meter reading could be read out. (b) Panel Board Unit :One number Cubical type of control panel board of size 350x380x150mm fabricated out of 2mm thick sheet metal to operate on 3ph/4 wire 50Hz/400/440 volts AC supply.				

Sl. No.	Description	Unit	Qty	Rate / unit	Amount (Rs)
	a) One number brand new best make flush type motor control switch as per IS 6875 with latest amendments.up to 10 HP -16 Amps b) One number of brand new best make single phase preventer as per IS 3231 with latest amendements. c) One number of brand new best make voltmeter of range 0.600/Volts as per IS 1248 with latest amendments. d) One number of brand new best make Ammeter as per IS 1248 as per latest amendments 6HP to 10HP (0 to 30 Amps) e) Indicator lamps for visual indication of electrical power as per IS 9224/1979 with latest amendments. f) One number of 16 Amps. DP switch of brand new best make as per IS 9224/1979 with latest amendments. g) Earthing : The box shall be provided with plated bolt and nuts. h) Rewireable fuse units : Upto 6 HP - 16 Amps i) Danger Board : Danger board confirming to KPTCL Standard should be provided on the panel. These two units (A&B) complete shall be mounted on extra sheet metal of 1.6 mm thick and screwed on the box with specific above with proper space in between. This complete unit shall be mounted on the MS angle of size 50x50x6mm fabricated pedestal and appoxy painted with rust resitant primer and two coats of ash grey/ olive green paints. these two units specified above with a propoer space in between the box shall be provided with cable entry and exist holes at the bottom punched and rubber bushed retained in position so that they could be used as an when required. complete pannel woring should be done with cable as per IS 694/1990 with its latest amendments complet unit comprising of all above items (A to I) with one no brand new push button operated starter as per IS 5124 and its latest amendments with produtive relay (PRED issue rate GLB Circle 2012-13 P.No.53I.No.7.1) - upto 7.50 HP	set	2	7910.00	15820.00
7	<b>Power Capacitor</b> : Supply and delivery of best indigeneous brand new power capacitor as per IS 2834/1986 with its latest amendments with ISI mark of required capacity tested and approved by KPTCL authorities including errection, electrification and commissioning of the same and the location of respective pump sets. (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.8)	KVAR	4	375.00	1500.00

Sl. No.	Description	Unit	Qty	Rate / unit	Amount (Rs)
8	Supply and delivery of best indigeneous brand new MCB (Miniature Circuit Brakers) of required capacity as per IS 8828/1978 and its latest amendments with ISI mark of 40AMPS with sealable box etc. complete (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.9)	No	Per 3 poles	850.00	850.00
9	Supply and delivery of <b>GI pipes</b> of Heavy Duty 'C' class conforming to ISI 1239 - Part I - 1990 with latest amendments with ISI mark (one end fitted with heavy duty collar and other end fitted with protective cover) (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.10(i) 50mm dia	Rmt	50	519.00	25950.00
10	Erection of Pumpset with all necessary erection materials to the cement concrete foundation pedestal and with labour including bolts nuts valves gauge etc. involved in the job (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.11)	Job	2	4500.00	9000.00
11	Erection of panel board and meter board units with all necessary materials and labour including providing cement-concrete foundations bed etc., complete (Indoor Type) (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.12(i)	No	1	850.00	850.00
12	<b>Main connections</b> : Supplying & fixing brand new PVC insulated cable sheathed steel wire to steel tape armoured U.G. cable with PVC outer sheathing 1.1 KV confirming to IS 1554/1988 with amendments with ISI mark from KPTCL pole to meter board unit etc., complete (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.13.3) Size 3.5 x 16sqmtr	Rmtr	50	225.90	11295.00
	a) In New Trench : The work shall include Digging of trench of 0.5m width 0.5m depth, laying the cable in trench refilling and consolidating the soil (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.13 (i)	Rmtr	20.0	75.00	1500.00
	b) In GI Pipe : Above ground in 2.9mm thick 50mm dia light class GI pipes with necessary clamps bolts, nuts washers etc., for fixing the pipe on the pole and connecting the U.G. cable upto meter boards.(PRED issue rate GLB Circle 2012-13P.No.53 I.No.13 b)	Rmtr	10.0	35.00	350.00
13	Pot head : Supplying and fixing LT Cast iron pot heads sutable for 1.1 KV class UG cables field with necessary bitumin /insulating etc. sutable (PRED issue rate GLB Circle 2012-13 P.No.54 I.No.14.3) 3 1/2x25	Each	1.0	550.00	550.00

Sl. No.	Description	Unit	Qty	Rate / unit	Amount (Rs)
14	<b>Earthing</b> : Supplying and fixing and wiring earth electrode for grounding circuits IC cutouts and other equipments on the meter board in the pit. The pit should be filled up with equal proportion of salt and charcoal 150mm all around the pipe to complete depth. The connection from the pipe to the conduits etc., is to be established through GI wire of sizes as per clause 7.3.3 of IS 732 using 12mm bolts, nuts washers and check nuts etc., the pipe shall have 16 through holes of 12mm dia. (PRED issue rate GLB Circle 2012-13 P.No.54 I.No.15)	No	2	2000.00	4000.00
<b>Total</b>					<b>118661.00</b>
<b>Say</b>					<b>118700.00</b>



Assistant Executive Engineer  
PRE sub Division Srirangapatna

Executive Engineer  
PRE sub Division Mandya



**SUB ESTIMATE : RISING MAIN FROM PW SUMP TO BACK WASH TANK**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
---------	-----------------------	------	-----	---	---	---	-----	------	---------

- 1 Earth work excavation for foundation of structure as per drawing and technical specification including setting out, construction of shoring, strutting, barricading, danger lighting, bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, backfilling the excavation earth to the extent required and utilising the remaining earth locally of the work etc, complete by Mechanical Means.

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.2 Item No.1.3 )**

		cum	1	100.00	0.54	1.14	61.56		
							61.56		
i	In Ordinary soil								
	Considering 70 % of qty	cum	61.56		x	70%	43.09	30.00	1293.00
iii	In Ordinary rock without blasting								
	Considering 30 % of qty	cum	61.56		x	30%	18.47	40.00	739.00

- 2 Supplying HDPE pipes conforming to IS 4984:1995 with latest amendments and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipes and specials (excluding cost of specials) giving hydraulic test as per relevant ISS with all lead and lift including encasing the pipe around to a depth of not less than 15cms with soft gravel or selected earth available from the excavation, testing and commissioning. The rate is exclusive of required specials and fittings wherever necessary like saddle Tee, Stub ends, flanged sets, bends, reducers etc., complete (Contractor will make his own arrangement for procuring water for testing)

**HDPE, PE100, PN10**

3	90 mm dia	Rmt	1	100.00			100.00	319.20	31920.00
---	-----------	-----	---	--------	--	--	--------	--------	----------

- 3 supply and fixing of single chamber triple function tamper proof (both the orifices to be housed in the single chamber) Air valves with body and cover in ductile cast iron of grade GGG 50. all internal parts such as float, shell etc all cover bolts of austitic alloy/ SS 304 steel , DN 50 float of HOSTAFLO /SSRAL5005. The valves Should be designed for all the three functions i.e:
- 1.Large orifice for venting of large air volumes on start up.
  - 2.Large orifice for Intake of large air Volumes
  - 3.Small orifice for Discharge of pressurized air during operation PN10

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.19 Item No.II.2.10.7 )**

	100 mm dia	Each	2				2.00	34352.64	68705.00
--	------------	------	---	--	--	--	------	----------	----------

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
4	Construction of Thrust block (Sub estimate enclosed)	Nos	1					6000.00	6000.00
5	Construction of Valve Chamber (Sub estimate enclosed)	Nos	2					24000.00	48000.00
6	Providing and laying reinforced cement concrete pipe NP3 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No.1000 / 2300 (300mm. dia)								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.263 Item No.34.6.1 )</b>									
	300 mm dia	Rmtr					5.00	1583.00	7915.00
7	Miscellaneous and rounding charges								428.00
								<b>Total</b>	<b>165000.00</b>




ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

## 17. SUB ESTIMATE :PUMPING MACHINARY WW SUMP TO AERATOR

Sl. No.	Description	Unit	Qty	Rate / unit	Amount (Rs)
1	Supplying at site of work erection and commission of Submerged Centrifugal Pump set Jyothi / Kirloskar / Flow more / Mather & platt / Aqua / Worthington or any other make confirming to IS standard of pull out type with Pump and Motor Mounted on the single shaft, fitted with Mechanical seal ( Double mechanical seal should be fitted GLB Circle 2011-12 P.No.50 I.No.1.4 Head= 20.36 M Discharge=1.736 lps	No	2	17500.00	35000.00
2	<b>Pressure guage</b> : Supply and delivery of brand new best make pressure guage (bourdon type of size 100 mm Confirming to IS 3624/1987 with latest amendments with SI mark etc. complete (PRED issue rate GLB Circle 2012-13 P.No.50 I.No.2.1(b) 100 mm	Nos	2	610.00	1220.00
3	<b>Gate valve</b> : Supplying and delivery of brand new best-make confirming to IS 778/1984 with latest amendment with ISI mark (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.4.3) 80mm	Nos	2	1418.00	2836.00
4	<b>Non return valve</b> : Supplying and delivery of brand new best-make confirming to IS 778/1984 with latest amendment with ISI mark (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.5.3) 80mm	Nos	2	1450.00	2900.00
5	Supply and delivery of brand new best make LT cable as per IS 694/1990 with latest amendment with ISI (PRED issue rate GLB Circle 2012-13 P.No.50 I.No.7) 4 x 25 Sq.mm	Rmt	20	252.00	5040.00
6	<b>Meter &amp; Panel Board (Indoor Type)</b> (a) Meter Board unit : One number M.S. Box of size 350x380x150mm fabricated out of 2mm thick sheet metal with sealable door and arrangement for mounting CT's (if any) to connect 3 Ph/4 wire energy meter cable box etc., complete. A transparent glass piece should be provided for the protection where the energy meter reading could be read out. (b) Panel Board Unit :One number Cubical type of control panel board of size 350x380x150mm fabricated out of 2mm thick sheet metal to operate on 3ph/4 wire 50Hz/400/440 volts AC supply.				

Sl. No.	Description	Unit	Qty	Rate / unit	Amount (Rs)
	a) One number brand new best make flush type motor control switch as per IS 6875 with latest amendments.up to 10 HP -16 Amps b) One number of brand new best make single phase preventer as per IS 3231 with latest amendements. c) One number of brand new best make voltmeter of range 0.600/Volts as per IS 1248 with latest amendments. d) One number of brand new best make Ammeter as per IS 1248 as per latest amendments 6HP to 10HP (0 to 30 Amps) e) Indicator lamps for visual indication of electrical power as per IS 9224/1979 with latest amendments. f) One number of 16 Amps. DP switch of brand new best make as per IS 9224/1979 with latest amendments. g) Earthing : The box shall be provided with plated bolt and nuts. h) Rewireable fuse units : Upto 6 HP - 16 Amps i) Danger Board : Danger board confirming to KPTCL Standard should be provided on the panel. These two units (A&B) complete shall be mounted on extra sheet metal of 1.6 mm thick and screwed on the box with specific above with proper space in between. This complete unit shall be mounted on the MS angle of size 50x50x6mm fabricated pedestal and appoxy painted with rust resitant primer and two coats of ash grey/ olive green paints. these two units specified above with a propoer space in between the box shall be provided with cable entry and exist holes at the bottom punched and rubber bushed retained in position so that they could be used as an when required. complete pannel woring should be done with cable as per IS 694/1990 with its latest amendments complet unit comprising of all above items (A to I) with one no				
	brand new push button operated starter as per IS 5124 and its latest amendments with produtive relay (PRED issue rate GLB Circle 2012-13 P.No.53I.No.7.1) - upto 7.50 HP	set	2	7910.00	15820.00
7	<b>Power Capacitor</b> : Supply and delivery of best indigeneous brand new power capacitor as per IS 2834/1986 with its latest amendments with ISI mark of required capacity tested and approved by KPTCL authorities including errection, electrification and commissioning of the same and the location of respective pump sets. (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.8)	KVAR	4	375.00	1500.00

Sl. No.	Description	Unit	Qty	Rate / unit	Amount (Rs)
8	Supply and delivery of best indigeneous brand new MCB (Miniature Circuit Brakers) of required capacity as per IS 8828/1978 and its latest amendments with ISI mark of 40AMPS with sealable box etc. complete (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.9)	No	Per 3 poles	850.00	850.00
9	Supply and delivery of <b>GI pipes</b> of Heavy Duty 'C' class conforming to ISI 1239 - Part I - 1990 with latest amendments with ISI mark (one end fitted with heavy duty collar and other end fitted with protective cover) (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.10(i) 50mm dia	Rmt	50	519.00	25950.00
10	Erection of Pumpset with all necessary erection materials to the cement concrete foundation pedestal and with labour including bolts nuts valves gauge etc. involved in the job (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.11)	Job	2	4500.00	9000.00
11	Erection of panel board and meter board units with all necessary materials and labour including providing cement-concrete foundations bed etc., complete (Indoor Type) (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.12(i)	No	1	850.00	850.00
12	<b>Main connections</b> : Supplying & fixing brand new PVC insulated cable sheathed steel wire to steel tape armoured U.G. cable with PVC outer sheathing 1.1 KV confirming to IS 1554/1988 with amendments with ISI mark from KPTCL pole to meter board unit etc., complete (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.13.3) Size 3.5 x 16sqmtr	Rmtr	50	225.90	11295.00
	a) In New Trench : The work shall include Digging of trench of 0.5m width 0.5m depth, laying the cable in trench refilling and consolidating the soil (PRED issue rate GLB Circle 2012-13 P.No.53 I.No.13 (i)	Rmtr	20.0	75.00	1500.00
	b) In GI Pipe : Above ground in 2.9mm thick 50mm dia light class GI pipes with necessary clamps bolts, nuts washers etc., for fixing the pipe on the pole and connecting the U.G. cable upto meter boards.(PRED issue rate GLB Circle 2012-13P.No.53 I.No.13 b)	Rmtr	10.0	35.00	350.00
13	Pot head : Supplying and fixing LT Cast iron pot heads sutable for 1.1 KV class UG cables field with necessary bitumin /insulating etc. sutable (PRED issue rate GLB Circle 2012-13 P.No.54 I.No.14.3) 3 1/2x25	Each	1.0	550.00	550.00

Sl. No.	Description	Unit	Qty	Rate / unit	Amount (Rs)
14	<b>Earthing</b> : Supplying and fixing and wiring earth electrode for grounding circuits IC cutouts and other equipments on the meter board in the pit. The pit should be filled up with equal proportion of salt and charcoal 150mm all around the pipe to complete depth. The connection from the pipe to the conduits etc., is to be established through GI wire of sizes as per clause 7.3.3 of IS 732 using 12mm bolts, nuts washers and check nuts etc., the pipe shall have 16 through holes of 12mm dia. (PRE issue rate GLB Circle 2012-13 P.No.54 I.No.15)	No	2	2000.00	4000.00
<b>Total</b>					<b>118661.00</b>
<b>Say</b>					<b>118700.00</b>



Assistant Executive Engineer  
PRE sub Division Srirangapatna



Executive Engineer  
PRE sub Division Mandya

**SUB ESTIMATE : RISING MAIN FROM WW SUMP TO AERATOR**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
1	Earth work excavation for foundation of structure as per drawing and technical specification including setting out, construction of shoring, strutting barricading, danger lighting, bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, backfilling the excavation earth to the extent required and utilising the remaining earth locally of the work etc, complete by Mechanical Means.								

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.2 Item No.1.3 )**

		cum	1	100.00	0.54	1.14	61.56		
							61.56		
i	In Ordinary soil								
	Considering 70 % of qty	cum	61.56		x	70%	43.09	30.00	1293.00
iii	In Ordinary rock without blasting								
	Considering 30 % of qty	cum	61.56		x	30%	18.47	40.00	739.00
2	Supplying HDPE pipes conforming to IS 4984:1995 with latest amendments and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipes and specials (excluding cost of specials) giving hydraulic test as per relevant ISS with all lead and lift including encasing the pipe around to a depth of not less than 15cms with soft gravel or selected earth available from the excavation, testing and commissioning. The rate is exclusive of required specials and fittings wherever necessary like saddle Tee, Stub ends, flanged sets, bends, reducers etc., complete (Contractor will make his own arrangement for procuring water for testing)								
	<b>HDPE, PE100, PN10</b>								
	90 mm dia	Rmt	1	100.00			100.00	319.20	31920.00

- supply and fixing of single chamber triple function tamper proof (both the orifices to be housed in the single chamber) Air valves with body and cover in ductile cast iron of grade GGG 50. all internal parts such as float, shell etc all cover bolts of austitic alloy/ SS 304 steel , DN 50 float of HOSTAFLOX /SSRAL5005. The valves Should be designed for all the three functions i.e:
- 1.Large orifice for venting of large air volumes on start up.
  - 2.Large orifice for Intake of large air Volumes
  - 3.Small orifice for Discharge of pressurized air during operation PN10

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.19 Item No.II.2.10.7 )**

100 mm dia	Each	2				2.00	34352.64	68705.00
------------	------	---	--	--	--	------	----------	----------

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
4	Construction of Thrust block (Sub estimate enclosed)	Nos	1					6000.00	6000.00
5	Construction of Valve Chamber (Sub estimate enclosed)	Nos	2					24000.00	48000.00
6	Providing and laying reinforced cement concrete pipe NP3 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No.1000 / 2300 (300mm. dia)								
	<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.263 Item No.34.6.1 )</b>								
	300 mm dia	Rmtr					5.00	1583.00	7915.00
7	Miscellaneous and rounding charges								428.00
								<b>Total</b>	<b>165000.00</b>

*L. K. Hanjra*

*[Signature]*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ



**SUB ESTIMATE : PROVIDING FENCING TO WTP AND ROAD, DRAINS INSIDE WTP**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
1	Earth work excavation for foundation and removing the excavated stuff to a distance not exceeding 50 mtrs and with a lift upto 1.50 mtrs. Including shoring, strutting, barricading, danger lighting etc., complete By Manual means								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.1 Item No.1.1 )</b>									
<b>a) In Hard Soil</b>									
	For Fencing	Cum	1	350.00	0.60	0.55	115.500		
	for Gate Column	Cum	4	0.90	0.90	1.00	3.240		
							<b>118.740</b>	<b>171.00</b>	<b>20305.00</b>
2	Providing and laying granite or trap or basalt jelly Cement concrete using 40 mm and down size jelly for foundation laid in 15 cm thick layers and well compacted including machine mixing, curing etc. complete as per specifications. Cement concrete M10								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.6 Item No.2.2 )</b>									
	For Fencing	Cum	1	350.00	0.60	0.10	21.000		
	for Gate Column	Cum	4	0.90	0.90	0.10	0.324		
							<b>21.324</b>	<b>3984.00</b>	<b>84955.00</b>
3	KSRB 4-6.1 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for foundations, footings, bases of columns for mass concrete including cost of all materials, labour complete as per specifications. Specification No. KBS 4.6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.15 Item No.4.28 )</b>									
		0 Sqm	4	3.00		0.45	5.40	231.00	1247.00
4	KSRB 4.2.2 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, with superplasticiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications. Specification No. KBS 4.1, 4.6								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.13 Item No.4.11 )</b>									
	for Gate Column	Cum	4	0.75	0.75	0.45	1.01	6011.00	6071.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
5	KSRB 4-6.5 : Providing and removing centering, shuttering, strutting, propping etc., for columns, pillars, piers, abutments, post and struts, square / rectangular / polygon in plan including cost of all materials, labour complete as per specification. Specification No. KBS 4.6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.16 Item No.4.32 )</b>									
	for Gate Column	Sqm	4	0.92		2.10	7.73	366.00	2829.00
6	KSRB 4.2.3 : Providing and laying in position reinforced cement concrete of mix M15 with OPC cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications.(Excluding cost of steel fabrication & plastering charges) Specification No. KBS 4.1, 4.6								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.14 Item No.4.12 )</b>									
	for Gate Column	Cum	4	0.23	0.23	2.10	0.44	6367.00	2801.00
7	Providing and constructing granite or trap or basalt or sand stone uncoursed rubble stone masonry with CM 1:6 proportion with bond stones at 2 m apart for foundation including curing etc., complete as per specifications.								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.6 Item No.2.3 )</b>									
		Cum	1	350.00	0.45	0.45	70.875		
							70.875	2291.00	162375.00
8	Providing and laying granite or trap or basalt jelly vibrated cement concrete M-15 proportion using 20 mm and down size jelly including machine mixing, laying, vibrating, tampering, curing and smooth finished for exposed faces with CM 1:3 for tap plaster finished and with necessary centering, form work etc., for flooring of G.L.S.R. cills, coping, bond slab and for any other such work.								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.7 Item No.2.7 )</b>									
	Coping	Cum	1	350.00	0.45	0.075	11.813	4676.00	55238.00
9	Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required,placing in position and tying with binding wire of approved quality and gauge including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 &amp; 2.11 )</b>									
	Raft & Column	Kg		0.44		120.00	52.80		
		MT					0.05	56697.50	2994.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
<b>CHAIN LINK FENCING</b>									
10	Supplying and fixing M.S. Rectangular poles made out of 2 equal angles of 65x65x6 mm welded together and fixed in CC (1:2:4) WITH 2 NOS 16mm dia M.S. hold fast rods each of length 25 cms. Including cost of all materials cutting, bending scaffolding wherever necessary, nicely finishing the welded joints with all lead lifts and as per the directions of the Engineer - in- charge of the work and including providing 2 coats of approved quality paint over one coat of shop painting ( excluding cost of earthwork and concrete)								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.272 Item No.37.2 )</b>									
		Rmt	172	2.15			369.80	819.00	302866.00
11	Providing chain link fencing 50mm size of 8 guage properly stretched between rectangular poles and fixed with suitable bolts & nuts, the free ends shall be welded to the pole and block pipe at top and bottom as required including cost of all materials, labour, lead and lifts and as per the directions of the Engineer-in-charge of work including two coats of approved quality paint over one coat of shop paint								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.272 Item No.37.3 )</b>									
		Sqm	172	1.95		1.50	503.10	659.00	331543.00
12	Providing and fixing M.S. Block pipe of 38mm dia, of heavy guage of 14 including removing the bends, cutting the pipe, and fixing pipe in between the two verticle poles (M.S. rectangular poles) and spot welding the chain link with M.S. block pipe including cost of all materials wastage in cutting, and scaffolding wherever necessary with all lead and lift as directed by the Engineer-in-charge of work etc., complete including two coats of approved quality paint over one coat of shop paint.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.272 Item No.37.4 )</b>									
			172 x 2						
	Bottom & Top	Rmt	344	2.00			688.00	324.00	222912.00
13	Providing and fixing M.S. Gate as per Chief Architect Drawing, using 50mm x 50mm 14 guage M.S. hollow pipe frame work bent to ornamental shape as shown in the drawing and 35mm x 6mm and 16 x 16mm Square rods for verticals alternatively spaced at 4cms c/c in two halves and 40mmx6mm M.S. flats for horizontal member and at the top cast iron spikes are provided at alternate vertical members as shown in the drawing etc., complete. All the steel surface should be thoroughly cleaned free of rust and painted with anti corrosive paint (shop paint) etc., complete. The work includes cost of all materials, labour charges for all items of work, hire charges for welding, cutting and grinding equipment, and electricity charges, with lead and lift, loading and unloading charges, etc., complete as per specification.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.42 Item No.7.37 )</b>									
		Sqm	2	3.00		1.5	9.00	2934.00	26406.00

*Sumit*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**SUB ESTIMATE : ROAD AND DRAINS INSIDE WTP**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
---------	-----------------------	------	-----	---	---	---	-----	------	---------

- 1 KSRRB M300-11.Excavation of for road way in all types of soil by mechanical means including cutting and pushing the earth to site of embankment including trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, complete as per specifications. MORTH Specification No.301

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.143 Item No.19.11 )**

Cum	1	350.00	5.00	0.20	350.00	68.00	23800.00
-----	---	--------	------	------	--------	-------	----------

- 2 KSRRB M300-53. Construction of embankment with approved material deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of Table 300- 2 complete as per specifications.(which includes watering charges & compaction by vibratory roller) MORTH Specification No. 305.

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.148 Item No.19.61 )**

Cum	1	350.00	5.00	0.30	525.00		
					525.00	66.00	34650.00

- 3 KSRRB M300- Construction of Embankment with Material Gravel/ Murrum. KSRRB M300-53. Construction of embankment with approved material Gravel/Murrum with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirement Table 300- 2 complete as per specifications.(which includes cost of gravel / murrum, watering charges & compaction by vibratory roller) MORTH Specification No. 305

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.152 Item No.19.60 )**

				(5-3.5)/2			
Shoulders	Cum	1	350.00	0.75	0.17	44.63	
						44.63	300.00 13389.00

- 4 Construction of granular sub-base by providing well graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with smooth wheel roller to achieve the desired density, complete as per Technical Specification Clause 401.For Grading III Material

**Schedule Of Rates PRE, Mysuru Circle II.2.5.1.6 ( Page No.21 Item No. 4.1-A(iii) )**

Cum	1	350.00	5.00	0.15	262.50		
					262.50	1037.00	272213.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
5	Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100 kN static roller in stages to proper grade and camber, applying and brooming, crushable screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading II as per Technical Specification Clause 405. By Manual Means (Water Bound Macadam with Crushable Screenings )								

**Schedule Of Rates PRE, Mysuru Circle II.2.5.1.6 ( Page No.24 Item No.4.8 - 2 - A )**

Cum	1	350.00	3.50	0.075	91.88			
					<b>91.88</b>	1870.00	171816.00	

- 6 Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100kN static roller in stages to proper grade and camber, applying and brooming, stone screening/binding materials to fillup the interstices of coarse aggregate, watering and compacting to the required density Grading III as per Technical Specification Clause 405. By Manual Means

**Schedule Of Rates PRE, Mysuru Circle II.2.5.1.6 ( Page No.25 Item No.4.7 - 3 - A )**

Cum	1	350.00	3.50	0.075	91.88			
					<b>91.88</b>	2143.00	196899.00	

- 7 Providing and applying primer coat with bitumen emulsion (SS-1) on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.70-1.0 kg/sqm using mechanical means as per Technical Specification Clause 502. (Low Porosity)

**Schedule Of Rates PRE, Mysuru Circle II.2.5.1.6 ( Page No.29 Item No.5.1-i )**

Sqm	1	350.00	3.50		1225.00			
					<b>1225.00</b>	52.00	63700.00	

- 8 Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.25 to 0.30 kg per sqm on the prepared granular surfaces treated with primer & cleaned with Hydraulic broom as per Technical Specification Clause 503.

**Schedule Of Rates PRE, Mysuru Circle II.2.5.1.6 ( Page No.29 Item No.5.2 - ii )**

Sqm	1	350.00	3.50		1225.00			
					<b>1225.00</b>	11.00	13475.00	

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
9	Providing, laying and rolling of open-graded premix carpet of 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates either using penetration grade bitumen or emulsion to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 80-100 kN static roller capacity, finished to required level and grades to be followed by seal coat .By Mechanical Means (Bitumen (S-65)								

**Schedule Of Rates PRE, Mysuru Circle II.2.5.1.6 ( Page No.32 Item No.5.11 -Case-2 -Type-B II )**

		Sqm	1	350.00	3.50		1225.00		
							1225.00	104.00	127400.00
10	KSRB 2-2.1 : Earthwork excavation for foundation of buildings, culverts, water supply, sanitary llines and electrical conduits either in pits or in trenches 1.5m and above in width, in ordinary soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(a) / 2.3.5								

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.5 Item No.2.3 )**

	CC Drain	Cum	1	650.00	0.80	0.75	390.00		
							390.00	189.00	73710.00
11	KSRB 4-1.3 : Providing and laying in position plain cement concrete of mix 1:4:8 with OPC cement @ 180kgs, with 40mm and down size graded granite metal coarse aggregates @0.85cum and fine aggregates @ 0.57cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2 ( Page No.12 Item No.4.3 )								

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.12 Item No.4.3 )**

	PCC	Cum	1	650.00	0.80	0.10	52.00		
							52.00	4867.00	253084.00
12	Providing and laying plain/reinforced cement concrete for side drains using M20 nominal mix concrete with OPC cement at 300 kgs. with 20mm and down size granite metal coarse aggregates at 0.69 cum and fine aggregates at 0.43 cum machine mixed, well compacted for walls and bottom including centering, shuttering, cost of materials, HOM of machinery, curing etc., complete excluding cost of steel as per MORTH specification No. 1500,1700, 2200. Wall & bottom thickness 15cm ( Page No.265 Item No.37.59.2 )								

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.265 Item No.37.59.2 )**

	Raft Slab	Cum	1	650.00	0.45	0.15	43.88		
	Side Wall	Cum	1	650.00	0.15	0.55	53.63		
							97.51	6938.00	676524.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
13	Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required, placing in position and tying with binding wire of approved quality and guage including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 &amp; 2.11 )</b>									
	Raft Slab & Side Wall	Kg	1	97.51	x 40	kg/cum	3900.40		
						Kg	3900.40		
						MT	3.90	56697.50	221143.00
14	KSRRB M2200- Providing Weep Holes KSRRB M2200-8. Providing weep holes in Brick masonry / Plain / Reinforced concrete abutment, wing wall / return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V :20H towards drawing face. Complete as per drawing and Technical Specifications complete as per specifications MORTH Specification No.2706 & 2200 ( Page No.225 Item No.28.10 )								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.225 Item No.28.1 )</b>									
	Raft Slab & Side Wall	Nos/mtr	1	325.00			325.00		
						MT	325.00	168.00	54600.00
15	Miscellaneous & rounding off								597.00
							Total		2197000.00

*S. Allamannaiah*

*[Signature]*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ



**SUB ESTIMATE : RISING MAIN FROM PURE WATER SUMP TO MBT**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
---------	-----------------------	------	-----	---	---	---	-----	------	--------

- 1 Earth work in excavation for water supply and sanitary line, electrica conduits either in pits or trenches (Upto 601mm trench width) as per drawing and technical specification including setting out construction of shoring, strutting barricading, danger lighting, bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, backfilling the excavation earth to the extent required and utilising the remaining earth locally of the work in the following clasification by Mechanical Means

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.3 Item No.1.4 )****From PW SUMP to MBT'S NEAR VADIYANDAHALLI**

DI, K9

150 mm dia pipe	cum	1	187.00	0.75	1.20	168.30
200 mm dia pipe	cum	1	27.50	0.80	1.25	27.50
250 mm dia pipe	cum	1	330.00	0.85	1.30	364.65

- |     |                                   |     |        |   |     |        |       |          |
|-----|-----------------------------------|-----|--------|---|-----|--------|-------|----------|
| i   | In Ordinary soil                  | cum | 560.45 | x | 45% | 252.20 | 45.00 | 11349.00 |
| ii  | In Hard soil                      | cum | 560.45 | x | 50% | 280.23 | 45.00 | 12610.00 |
| iii | In Ordinary rock without blasting | cum | 560.45 | x | 5%  | 28.02  | 60.00 | 1681.00  |
- 2 Providing murrum or sand bedding for the pipeline including watering and consolidation by punners etc. complete with all lead and lift, (in black cotton soil and rock reaches).

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.4 Item No.1.9 )****FROM PW SUMP TO MBT'S NEAR VADIYANDAHALLI**

	cum	1	81.68	0.60	0.10	4.90		
						<b>4.90</b>	<b>78.00</b>	<b>382.00</b>

- 3 Supplying Ductile Iron pipes K-9 Class conforming to IS 8329:2000 with latest amendments and conveying to worksite, rolling and lowering into trenches, laying true to line, level and perfect linking at joints, testing and commissioning, including loading and unloading at both destinations and cuts of pipes wherever necessary including jointing of DI pipes and specials, (excluding cost of specials) with rubber gaskets including cleaning the socket and spigot ends with soap solution and applying soft soap to the spigot and socket ends before insertion of rubber gaskets, jacking and fixing in perfect conditions including cost of soap solution, soft soap, waste etc. and giving necessary hydraulic test to the required pressure as per ISS with all lead and lift including cost of jointing materials. (contractor will make his own arrangements for procuring water for testing). DI Pipe rates are based on the Foundry Grade Pig Iron (Si:2%-2.5%) with WPI of 141.1 as on July-2013

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.14 Item No.II.2.5.2 )****From PW SUMP to MBT'S NEAR VADIYANDAHALLI**

DI, K9

150 mm dia pipe	Mtr	1	187.00			187.00	1686.72	315417.00
200 mm dia pipe	Mtr	1	27.50			27.50	2410.24	66282.00
250 mm dia pipe	Mtr	1	330.00			330.00	3200.96	1056317.00
								Pipe Specilas @ 10%
								143801.60

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
5	Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vacuum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 16								
	<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.18 Item No.II.2.10.2 )</b>								
	Valves								
	250 mm dia	Each	3				3.00	50708.00	152124.00
	<b>Total</b>		<b>3</b>						
6	Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vacuum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 16								
	<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.18 Item No.II.2.10.2 )</b>								
	Valves								
	200 mm dia	Each	2				2	33691.84	67384.00
	<b>Total</b>		<b>2</b>						
7	Supply and fixing of Cast Steel Double flanged Dual plate check valve Class 150 Conforming to API 594 with latest amendments as detailed below of following diameters and types and conveying to work site, loading, unloading, stacking etc.,complete with all lead and lift. The rates are inclusive of cost of Bolts and Nuts Class 150								
	<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.17 Item No.II.2.10.9 )</b>								
	Valves								
	Dia								
	250 mm dia	Each	3				3	25128.32	75385.00
	<b>Total</b>		<b>3</b>						
9	Design, Supply, Erection and Commissioning of Air Management System, is considered on the pipeline by replacing the Existing Air Valve at suitable location. Air Management is necessary for effective working of system as the chock air will leads to water hammer and less flow. This Air Management System is also consisting of Pressure Monitoring which will assist for leakage Monitoring and Water Theft Monitoring. AIR MANAGEMENT SYSTEM to be made up of Reinforced Polyester with Door having vandalism alert . Air Management Consist of following equipments								
	VALVE								
	Pressure Transmitter								
	3. Field Controller								
	Enclosure System								
	<b>Market Rate,</b>								
		Each	3				3.00	90000.00	270000.00
10	Construction of Thrust block (Sub estimate enclosed)	Nos	4					6000.00	24000.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
11	Construction of Valve Chamber (Sub estimate enclosed)	Nos	6					24000.00	144000.00
12	Providing and laying reinforced cement concrete pipe NP2 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No.1000 / 2300 450mm dia								
	<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.264 Item No.34.7.4 )</b>								
	450 mm dia pipe	Rmtr					50.00	1509.00	75450.00
13	Miscellaneous and rounding charges								817.40
								<b>Total</b>	<b>2417000.00</b>

*Challenger*

*Challenger*

ಸಹಕಾರ ಸಂಘದ ಮೂಲಕ ಉಪಯುಕ್ತ  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸ್ವಚ್ಛತೆ  
ಉಪ-ವಿಭಾಗ. ಶ್ರೀರಂಗಪಟ್ಟಣ

**21 .PUMPING MACHINERY PW SUMP TO MBR NEAR VADIYANDAHALLI**

Sr. No	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	<b>Vertical Turbine Pump set</b> Supplying at site of work erection and commission of <b>Centrifugal Pump set</b> Jyothi / Kirloskar / Flow more / Mather & platt / Aqua / Worthington or any other make confirming to IS standard of pull out type with Pump and Motor Mounted on the single shaft, fitted with Mechanical seal ( Double mechanical seal should be fitted. • Primary (Inboard) : Silicon Carbide v/s Silicon Carbide or Tungsten Carbide v/s Tungsten Carbide • Secondary ( Outboard ) : Carbon v/s Cast Chrome Molybdenum Steel or Silicon Carbide or Tungsten Carbide ), Ball Bearing ( Ball / Roller / Thrust life time lubricated Anti Friction type with life time of grease filled with life cycle of 70,000 hrs. <b>Motor Specification :-</b> The motor shall be of Squirrel Cage, Induction type, Air Filled yet capable of Water Immersion upto 20mwc for S1 duty. Its winding should be of Class F "H" insulation with standing capacity up to 185°C respectively. It should be wound using Dual Coated, Super Enamelled; Copper wire with high temperature index as per I.S. 4800 Part-13. Motor and pump should be IP 68 protection. MOC of Material ( Impeller CF 8M, Shaft SS 316, Other Parts will be cast iron of FG 260 grade ) material capable of discharging 321.788 Cum /hr fixed on I section girders for erecting pumps Duty conditions (i) Discharge of any pump when working should give a discharge of <b>31.658 lps</b> (ii) Head due to all causes when working parallel and should give a combined head of <b>138.34 m</b>	Nos	2.00	2500000.00	5000000.00
4	<b>Pressure guage</b> : Supply and delivery at site Almaster/Gurusors/Forbes Marshal/Wika make gycerence filled stainless steel pressure gauge of 150mm dia suitable for the above pumpset with nipple and two way cock tubing sutable mounting on the delivery of numn (Market Rate) 150 mm dia	Nos	2.00	1500.00	3000.00
5	<b>PUMPING HEADER:</b> Supplying Ductile Iron pipes K-9 Class conforming to IS 8329:2000 with latest amendments and conveying to worksite, rolling and lowering into trenches, laying true to lline, level and perfect linking at joints, testing and commissioning, including loading and unloading at both destinations and cuts of pipes wherever necessary including jointing of DI pipes and specials, (excluding cost of specials) with rubber gaskets including cleaning the socket and spigot ends with soap solution and applying soft soap to the spigot and socket ends before insertion of rubber gaskets, jacking and fixing in perfect conditions including cost of soap solution, soft soap, waste etc. and giving necessary hydraulic test to the required pressure as per ISS with all lead and lift including cost of jointing materials. (contractor will make his own arrangements for procuring water for testing). DI Pipe rates are based on the Foundry Grade Pig Iron (Si:2%-2.5%) with WPI of 141.1 as on July-2013 DI Pipe K-9,Class 150 mm dia	Mts	40.00	1686.72	67468.80

Sr. No	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
7	<p><b>COMBINED METER AND CONTROL PANEL BOARD UNIT</b></p> <p>1) <b>INDOOR TYPE PANEL BOARD</b> : Supply and delivery at site brand new best indigeneous make floor mounting ,free standing cubicle type control panel board unit suitable for operations on three phase 50 cycles 380/440 volts AC supply fitted with the following.</p> <p>Drawout type panel mounting manual operated trip free operating mechanism sheet steel clad 400 amps 25 MVA oil circuit breaker with fixed and moving contacts fitted with:-</p> <p>1 No. under voltage release.</p> <p>3 Nos over load trips calibrated 100% to 200% shunted by time limit fuses.</p> <p>3 Nos of current transformers of suitable ratio,burden and class of accuracy.</p> <p>1 No. neutral link.</p> <p>1 set of compression glands for PVC cables.</p> <p>1 No.earth leakage trip coil calibrated 50 to 100% or 1No earth leakage relay.</p> <p>Other required fittings and first fillings of oil make MEI/EASSEN/Siemens/Raas make.</p> <p>1 No.dual parameter to read both amps/volts panel mounting version digital type Ammeter/Voltmeter for suitable C.T. ratio with builtin selector switch of ENERCON make (0 to 500 volts of class 0.5)</p> <p>1No. of MS air insulator Bus bar chamber of 4 nos 300 Amps 25 MVA oil insulated bus bar made of high conductivity, high strength aluminium alloy complying with the requirements of grade E91,E of IS 5082 suitably braced with non-hygroscopic SMS supports provisions shall be made in the bus bar chamber for one incoming and three out going feeder</p> <p>1No 350 heavy duty triple pole change over fuse switch comprising of two switches mounting on common chasis complete with handle assembly door interlock and pad locking with mechanical linkage shorting links and 200 Amps capacity HRC fuses in sheet metal enclosure confirming to the latest ISS 4064 controls and switches gear/L&amp;T/HPL/CGL/BCH make1No 400 heavy duty triple pole change over fuse switch comprising of two switches mounting on common chasis complete with handle assembly door interlock and pad locking with mechanical linkage shorting links and 350 Amps capacity HRC fuses in sheet metal enclosure confirming to the latest ISS 4064 controls and switches gear/L&amp;T/HPL/CGL/BCH make.1No suitably sealed KWH meter with maximum demand indicator LMP</p>				
8	<p>1No 250 Amps TP load break heavy duty switch fuse with suitable capacity HRC fuses in sheet metal enclosure confirming to the latest ISS 4064 for capacitor circuit of C&amp;S/CGL/L&amp;T/BCH/Siemens make.</p> <p>1No 32 Amps DP load break heavy duty switch fuse unit with Re wireable fuses in sheet metal enclosure comprising to the latest ISS 4064 for lighting circuit Siemens/L&amp;T/BCH/GE/Control and switch gear make.</p> <p>1 set of cable entries and terminals to suitable for numbers type and size of aluminium conductor power cables etc. (Market Rate)</p> <p><b>AUTO TRANSFORMER STARTERS</b>:-Supply and delivery at site brand new best indigeneous make totally enclosed sheetsteel clad,dust set and vermine proof free standing floor mounting fully automatic auto transformer starter suitable for operations on 3 ph 50 HZ 380/440 volts AC supply fitted with the following.</p> <p>3 nos 415v 450/300/300 Amps suitably rated oil break motor duty contractors for main transformers and neutral conforming to the latest ISS 2959/IEC 158-1 OF MEI/BCH/L&amp;T/GE/SIEMENS make.</p> <p>3No current transformers for suitable ratio,burden and class of accuracy confirming to the latest ISS 2705 with 15 VA output for protection(10P10) and metering.</p> <p>1No 0.5 to 60 seconds pneumatic ON and OFF delay timer for automatic change over from reduced voltage to full voltage of BCH/GE/SIEMENS Make.</p> <p>1 set start-stop push button confirming to the latest ISS 6875 of L&amp;T/BCH/GE/SIEMENS/Raas make.</p> <p>1 No motor "ON" indicating lamp of L&amp;T/BCH/GE/SIEMENS/Raas make.</p>	Each	2.00	350000.00	700000.00

Sr. No	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<p>1 No dial parameter to measure volts/amps panel mounting version digital type voltmeter /ammeter for suitable CT ratio with built in selector switch of ENERCON make of class 0.5.</p> <p>1 No thermostat for protection of autotransformer of excessive heating.</p> <p>1No C.T. operated thermal over load relay of L&amp;T/BCH/GE/SIEMENS/Raas make.</p> <p>1No control transformer of ratio 415/230 volts,single phase 50 HZ 800 VA burden air cooled class-1 of C&amp;S make.</p> <p>1No single phase preventer of minilec/prokadevy's make.</p>				
9	<p>1No under/over voltage relay of prokadevy's/EE make with built in P.T's for each phase.</p> <p>1 set indicating lamp RED GREEN AND AMBER LAMP of rating 230 volts AC of L&amp;T/BCH/GE/SIEMENS/Raas make.</p> <p>1 No alarm bell suitable for 230v,AC,50 HZ.</p> <p>1No cable box with compression type cable glands for INCOMING.</p> <p>1No cable box with compression type cable glands for OUTGOING</p> <p>1no. earth leakage relay with core balanced CT of prokadevy's make.</p> <p>1 Set of control terminals and power terminals.</p> <p>1 No oil immersed naturally oil cooled auto transformer starter for motor starting duty with 50%,60% and 80% tappings and regulations 10% seperate sheet metal enclosure with first filling of oil. (Market Rate)</p> <p><b>CABLES:</b></p> <p>i Supplying and laying LT UG cables having aluminium conductor PVC insulated, sheathed, galvanised, steel wire/steel tap armoured cable with PVC outer sheathing 1.1 KV class class A cables. SR Electrical works PWD 2013-14 Pg-67 Item-10-g 3.5 core 95 sqmm</p> <p>ii Labour charges for laying of 1.1 KV class UG cable when supplied agency in existing trench GI pipe / stoneware pipe / on wall / on pole as required. SR Electrical works PWD 2010-11 Pg-68 Item-11-b</p> <p>iii Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete (As per Civil SR KSRB I-2, P-7) a. In soil (Hard) SR Electrical works PWD 2010-11 Pg-68 Item-12</p> <p>iv Providing and filling sand in excavated trench to cover already laid UG cable to a depth of 150mm around the cable .SR Electrical works PWD 2007-08 Pg-69 Item-13</p> <p>v a) Connection of Motor: 3 core 95 mm<sup>2</sup> in parallel for the connection of motor to starters panel board IS 1554(PART-1)1998. SR Electrical works PWD 2011-12 Pg-67 Item-10-e3.5 core 25 sqmm -rate for cable Rs.215+Labour charges for laying Rs.18</p>	Each	2.00	385000.00	770000.00
		Rmt	200.00	531.00	106200.00
		Rmt	150.00	14.00	2100.00
		Rmt	150.00	50.00	7500.00
		Rmt	150.00	66.00	9900.00
		Rmt	50.00	226.00	11300.00
10	<p><b>KVAR POWER SHUNT CAPACITOR:</b></p> <p>KVAR POWER SHUNT CAPACITOR:-</p> <p>Supply and delivering at site brand new NGEF/SHAKTI/BAJAJ/CHITANYA/MAKE Low loss high efficient 8 KVAR or power shunt capacitor bank confirming to ISS 2834/suitable for operation on 3 phase 380/440 volts AC supply required for maintaining the power factor of the installation at not less than 0.95 lagging.</p> <p>25 KVAR (Market Rate)</p>	Each	1.00	98000.00	98000.00
22	<p>Supplying delivery and erection at site brand new Dorot/Bermad/ Erthard mak 80 mm dia with maximum permissible pressure 18 Kg/cm<sup>2</sup> with the following specification.</p> <p>Valve should have direct sealing diaphragm</p> <p>Activated by line pressure and controled by 2 way diaphragm operated adjustable pilot valve.</p>				
	<p>Dorot valve should be installed on a tee junction. Which should modulate automatically to maintain preset inlet pressure and relieve the excess pressure out of the network.</p> <p>Material construction;</p> <p>1. Body &amp; Bonet- Ductile Iron ISO 1083 Grade 450-10</p> <p>2. Diaphragm- Natural rubber (N.R) (Standerd)</p> <p>3. Spring-SST 302</p> <p>4. Pilot valve- Brass ISO 426</p> <p>5. Coating - Electrically applied, oven backed polyester</p> <p>6. End connection- Flanges BS-IS</p>	Each	1.00	110000.00	110000.00
23	<p><b>Tool. Kit :</b> Supply and delivery at site best make or Tapania make and other required make tool sets for operation and maintenance of the above pumpsets comprising of the following</p>	Each	1.00	12000.00	12000.00

Sr. No	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	a. Double end spanner 1/4" - 1 Set b. Screw driver insulated 11" - 1 No c. Screw drive insulated 8" - 1 No. d. Cutting pullar insulated 8" - 1 No. e. Hammer with handle 1 Kg - 1 No. f. Pipe wrench 18 " - 1 No. g. Pipe wrench 24 " - 1 No. h. Pipe wrench 12 " - 1 No. i. Hammer with handle 5 Kg - 1 No. j. Grease gun - 1 No. k. Ring spanners 1/4 " to 1" - 1 Set				
24	<b>Fire fighting equipment.</b> a) Supply and installation of CO <sub>2</sub> type fire estinguisher 2 Kg capacity with initial charges with wall mounting bracket, ready for use (TS 2678) -2 Nos b) Supplying and fixing of first aid box comprising of the standard medicines to be provided in the first aid box to give first aid treatment- 1 No. c) Providing shock treatment chart on the wall with inside plastic sheet cover and plvwood back plate frame work complete. d) Supply one set of buckets (4 nos) with round bottom made of GI sheets 24 SWG 9 ltr. capacity painted inside white and outside red with a word 'fina' on the face of the bucket along with stand to hang the buckets. e) Supplying rubber mats tested 22 KV with ISI mark grooved of size 6'x3'x1/2" - 2 Nos. f) Supplying rubber gloves, electrical quality, tested to 22 KV - 1 Pair. g) Supplying and fixing of Danger/ No. Admission/ No. Smoking Board made out of MS sheet metal with two coats of non-corrosive enamelled paint.	Each	2.00	3500.00	7000.00
25	<b>EARTHING:</b> a) Earthing with G.I. plate 600mm X 600mm X 6mm including accessories like masonry enclosure cover plate with locking arrangement, watering pipe charcoal and salt complete as required connecting through G.I. strips. b) Earth electrode for grounding Electrical equipment by providing the earth pit using 40mm dia, 2.90mm thick G.I Pipe 2.5 mts long buried in a pit. The pit should be filled with equal proportion of salt and charcoal 150 mm around the pipe to complete depth. The connections from the pipe to the conduits etc., is to be established through G.I. wire of size as per ISI Specification 7.3.3 of IS 732 using 12 mm bolts, nuts, washers and check nuts etc., the pipe shall have 16 through holes of 12 mm dia. Gulbarga SR	Job	4.00	2000.00	8000.00
26	Erection, testing, commissioning and trial running of turbine pump and motor with all accessories necessary for satisfactory running of pump including cost of all materials, machinery, labour etc., complete as per specification of contract. Including cost of running the pumping machinery successfully for 60 days (Excluding the cost of KPTCL Bill for supply of power) More than Above 50 HP with all accessories	No	1.00	15600.00	15600.00
TOTAL					6928068.80
					6928100.00



Assistant Executive Engineer  
PRE sub Division Srirangapatna

Executive Engineer  
PRE Division Mandya

**SUB ESTIMATE : MBT(GLSR) 2.5 LAKH LTRS CAPACITY**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
1	Earth work excavation for foundation and removing the excavated stuff to a distance not exceeding 50 mtrs and with a lift upto 1.50 mtrs. Including shoring, strutting, barricading, danger lighting etc., complete By Manual means								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.1 Item No.1.1 )</b>								
	b) In Hard soil	cum	0.785	9.30	9.30	0.45	30.55	171.00	5224.00
2	Providing and laying granite or basalt or trap jelly cement concrete using 40 mm and down size jelly for foundation laid in 15 cm thick layers and well cum compacted including mixing by using hand mixers, curing etc. complete as per specifications. Cement concrete M10								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.6 Item No.2.1 )</b>								
	Bed Concrete	cum	0.785	9.30	9.30	0.15	10.18	3864.00	39352.00
3	Providing and laying vibrated cement concrete of design mix M-30 proportion for RCC work excluding cost of reinforcement with 20 mm and down size of granite of trap or basalt or any other approved hard jelly with Super plasticiser @ 3ltrs confirming to IS 9103-1999 Reaffirmed - 2008 including cost and conveyance of all materials including form work centering scaffolding, cement mortar plastering 1:3 proportion, 20 mm thick for inside including machine mixing, vibrating, curing making construction joint wherever necessary and giving satisfactory water proof testing etc. (Exclusive of cost of steel & fabrication charges).For flat or floor slab (M-30)								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.9 Item No.2.10.1 )</b>								
	M-30 for Raft	cum	0.785	9.00	9.00	0.30	19.08	5774.00	110142.00
4	-do- for Vertical side walls								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.9 Item No.2.10.2 )</b>								
	Side wall	cum	3.142	8.25	0.25	5.25	34.02		
					(1/2x0.25)				
	Haunch portion (0.6*0.50)=0.30	cum	3.142	8.05	0.150	0.30	1.14		
	Ring Beam	cum	3.142	8.30	0.30	0.25	1.96		
							37.12	6879.00	255321.00



Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
5	Providing and laying Reinforced cement concrete of mix design of M-25 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in CM.1:3 proportion wherever necessary etc., complete as per design and specifications etc., complete for top rib and top dome or top slab (exclusive cost of steel and fabrication charges)								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.27 Item No.4.4b )</b>									
			(2 x 3.142)						
	CC M-25 Top dome	cum	6.284	8.500	1.000	0.100	5.34		
	Top Ring beam	cum	3.142	0.675	0.150	0.150	0.05		
	Deductions								
	Cover	cum	-1	0.600	0.600	0.100	-0.04		
	Final open	cum	-0.785	0.600	0.600	0.100	-0.03		
							<b>5.32</b>	<b>9384.00</b>	<b>49968.00</b>
6	Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required,placing in position and tying with binding wire of approved quality and guage including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 &amp; 2.11 )</b>									
	Qty of Item No 3		19.08	@	100	Kg/Cum	1907.55		
	Qty of Item No 4		37.12	@	100	Kg/Cum	3711.61		
	Qty of Item No 5		5.32	@	120	Kg/Cum	638.98		
				Kg			6258.14		
				MT			<b>6.26</b>	<b>56697.50</b>	<b>354821.00</b>
7	Providing and constructing RCC hexagonal ventilator final for RCC overhead tank the finial to be constructed with CC (M-20) proportion using 20mm and down size jelly with reinforcement using 6mm dia., M.S rods 4 nos., for each of the pillars both ways for full width of doom at 12cm c/c, the ventilator to be of 0.45 M x 0.5 M size provided with 25mm x 25mm x 5mm M.S. frame welded with diamond mesh to its full width and depth fully covered with aluminum mosquito mesh finished smooth with CM 1:3 proportion to required shape and size and ornamental finish including two coats of anti-corrosive paint for frame and mesh and two coats of cement paint matching to over head tank ect., complete								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.30 Item No.4.8 )</b>									
		Nos	1				1	3970.00	3970.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
8	Providing and fixing 60x60 cms M.S. inspection door with necessary M.S. frame made out of M.S. angle 50x50x6mm and M.S. shutters of 31.5mm or B.G.10 thick with hinges on top and locking arrangement, painting etc., complete (for RCC overhead tank and G.L.S.R.)								
<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.30 Item No.4.9 )</b>									
	Inspection door 0.6*0.6	Nos	1				1	1787.00	1787.00
9	Ladder inside the container : Providing and Anodised Aluminium ladder, using 65 mm x 32 mm (approx.) "C" Section x 3.0 mm of ladder side channels in to 25mm dia fluted pipe for rungs at 250 mm C/C ladder fixed at an angle of 70 degrees to horizontal including necessary 25mm dia., G.I. shutters with necessary G.I. fasteners for bracing the ladders to the Tank walls to prevent buckling of the ladder with necessary C.C. (M15) bed for embedding the ladder bottom complete								
<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.29 Item No.4.6 b )</b>									
	Aluminium ladder	Rmt	1	4.25			4.25	2609.00	11088.00
10	Providing 2 coats of snowcem painting over one coat of primer including scrapping the exposed faces, removing loose plastering removal of vegetations, fungus, cleaning the surface, replastering wherever required in C.M 1:3 to the required shape with necessary scaffolding & curing etc. (Including cost of materials)								
<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.31 Item No.4.14 )</b>									
	Side wall out side	sqm	3.142	8.50		5.05	134.87		
			(2x3.142)						
	Top dome	sqm	6.284	8.500	1.000		53.41		
	Deductions								
	Opening	sqm	-0.785	0.60	0.60		-0.28		
	Inspection door	sqm	-1	0.60	0.60		-0.36		
							187.64	189.00	35464.00
11	Supplying & Fixing CI puddle flanges conforming to IS 7181-1986 with latest amendments, in position for R.C.C. walls including hoisting and conveying them to work spot with all lead and lift etc., complete.								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.40 Item No.III.1.14 )</b>									
a	CI Puddle Flanges								
	250 mm dia	Nos	2				2	10721.76	21444.00
	200 mm dia	Nos	1				1	8264.48	8264.00
	100 mm dia	Nos	2				2	3552.64	7105.00
b	CI double flanged pipes								
	250 mm dia	Mtr	2	15			30	7666.40	229992.00
	200 mm dia	Mtr	1	15			15	5776.96	86654.00
	100 mm dia	Mtr	2	15			30	2686.88	80606.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
12	Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vacuum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 16								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.18 Item No.II.2.10.2 )</b>									
	250 mm dia	Each	2				2.00	50708.00	101416.00
	200 mm dia	Each	1				1.00	33691.84	33692.00
	100 mm dia	Each	1				1.00	12138.56	12139.00
13	Providing & Constructing SSM Valve Chamber (as per Typical estimate enclosed )								
		Nos	4				4	24000.00	96000.00
14	Rounding off								551.00
								<b>Total</b>	<b>1545000.00</b>

*K. Hanumanth*  
 ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
 ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸೈಮಲ್ಟಿ  
 ಗ್ರಾ.ಪಂ.ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ ಸೈಮಲ್ಟಿ  
 ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**SUB ESTIMATE : ZBT(GLSR) 1.5 LAKH LTRS CAPACITY**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
1	Earth work excavation for foundation of structure as per drawing and technical specification including setting out, construction of shoring, strutting barricading, danger lighting, bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, backfilling the excavation earth to the extent required and utilising the remaining earth locally of the work etc, complete by Mechanical Means.								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.2 Item No.1.3 )</b>								
	b) In Hard soil	cum	0.785	8.30	8.30	0.45	24.34	30.00	730.00
2	Providing and laying granite or trap or basalt jelly Cement concrete using 40 mm and down size jelly for foundation laid in 15 cm thick layers and well compacted including machine mixing, curing etc. complete as per specifications. Cement concrete M10								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.6 Item No.2.2 )</b>								
	Bed Concrete	cum	0.785	8.30	8.30	0.15	8.11	3984.00	32317.00
3	Providing and laying vibrated cement concrete of design mix M-30 proportion for RCC work excluding cost of reinforcement with 20 mm and down size of granite or trap or basalt or any other approved hard jelly with Super plasticiser @ 3ltrs confirming to IS 9103-1999 Reaffirmed - 2008 including cost and conveyance of all materials including form work centering scaffolding, cement mortar plastering 1:3 proportion, 20 mm thick for inside including machine mixing, vibrating, curing making construction joint wherever necessary and giving satisfactory water proof testing etc. (Exclusive of cost of steel & fabrication charges).For flat or floor slab (M-30)								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.9 Item No.2.10.1 )</b>								
	M-30 for Raft	cum	0.785	8.00	8.00	0.30	15.07	5774.00	87026.00
4	-do- for Vertical side walls								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.9 Item No.2.10.2 )</b>								
	Side wall	cum	3.142	7.25	0.25	5.25	29.90		
					(1/2x0.25)				
	Haunch portion (0.6*0.50)=0.30	cum	3.142	7.05	0.150	0.30	1.00		
	Ring Beam	cum	3.142	7.30	0.30	0.25	1.72		
							32.62	6879.00	224360.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
5	Providing and laying Reinforced cement concrete of mix design of M-30 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in CM.1:3 proportion wherever necessary etc., complete as per design and specifications etc., complete for top rib and top dome or top slab (exclusive cost of steel and fabrication charges)								
<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.28 Item No.4.4C )</b>									
	a) 6 m staging								
			(2 x 3.142)						
	CC M-25 Top dome	cum	6.284	6.625	1.000	0.100	4.16		
	Top Ring beam	cum	3.142	0.675	0.150	0.150	0.05		
	Deductions								
	Cover	cum	-1	0.600	0.600	0.100	-0.04		
	Final open	cum	-0.785	0.600	0.600	0.100	-0.03		
							<b>4.15</b>	<b>9525.00</b>	<b>39496.00</b>
6	Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required, placing in position and tying with binding wire of approved quality and gauge including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)								
<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.VIII Item No.79 &amp;</b>									
	Qty of Item No 3		15.07	@	100	Kg/Cum	1507.20		
	Qty of Item No 4		32.62	@	100	Kg/Cum	3261.51		
	Qty of Item No 5		4.15	@	120	Kg/Cum	497.59		
				Kg			5266.31		
				MT			<b>5.27</b>	<b>56697.50</b>	<b>298586.00</b>
7	Providing and constructing RCC hexagonal ventilator final for RCC overhead tank the final to be constructed with CC (M-20) proportion using 20mm and down size jelly with reinforcement using 6mm dia., M.S rods 4 nos., for each of the pillars both ways for full width of doom at 12cm c/c, the ventilator to be of 0.45 M x 0.5 M size provided with 25mm x 25mm x 5mm M.S. frame welded with diamond mesh to its full width and depth fully covered with aluminum mosquito mesh finished smooth with CM 1:3 proportion to required shape and size and ornamental finish including two coats of anti-corrosive paint for frame and mesh and two coats of cement paint matching to over head tank ect., complete								
<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.30 Item No.4.8 )</b>									
		Nos	1				1	3970.00	3970.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
8	Providing and fixing 60x60 cms M.S. inspection door with necessary M.S. frame made out of M.S. angle 50x50x6mm and M.S. shutters of 31.5mm or B.G.10 thick with hinges on top and locking arrangement,painting etc., complete (for RCC overhead tank and G.L.S.R.)								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.30 Item No.4.9 )</b>									
	Inspection door 0.6*0.6	Nos	1				1	1787.00	1787.00
9	Ladder inside the contaliner : Providing and Anodised Aluminium ladder, using 65 mm x 32 mm (approx.) "C" Section x 3.0 mm of ladder side channels in to 25mm dia flutal pipe for rungs at 250 mm C/C ladder fixed at an angle of 70 degrees to horizontal including necessary 25mm dia., G.I. shutters with necessary G.I. fasteners for bracing the ladders to the Tank walls to prevent buckling of the ladder with necessary C.C. (M15) bed for embedding the ladder bottom complete								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.29 Item No.4.6 b )</b>									
	Aluminium ladder	Rmt	1	4.25			4.25	2609.00	11088.00
10	Providing 2 coats of snowcem painting over one coat of primer including scrapping the exposed faces, removing loose plastering removal of vegetations, fungus, cleaning the surface, replastering wherever required in C.M 1:3 to the required shape with necessary scaffolding & curing etc. (Including cost of materials)								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.31 Item No.4.14 )</b>									
	Side wall out side	sqm	3.142	7.50		5.05	119.00		
	Top dome	sqm	6.284	6.625	1.000		41.63		
	Deductions								
	Opening	sqm	-0.785	0.60	0.60		-0.28		
	Inspection door	sqm	-1	0.60	0.60		-0.36		
							<b>159.99</b>	<b>189.00</b>	<b>30239.00</b>
11	Supplying & Fixing CI puddle flanges conforming to IS 7181-1986 with latest amendments, in position for R.C.C. walls including hoisting and conveying them to work spot with all lead and lift etc., complete.								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.40 Item No.III.1.14 )</b>									
a	CI Puddle Flanges								
	200 mm dia	Nos	2				2	8264.48	16529.00
	100 mm dia	Nos	2				2	3552.64	7105.00
b	CI double flanged pipes								
	200 mm dia	Mtr	2	10			20	5776.96	115539.00
	100 mm dia	Mtr	2	10			20	2686.88	53738.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
12	Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vacuum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 16								
<b>Schedule Of Rates KUWS &amp; DB, Karnataka Board 2018-2019 ( Page No.18 Item No.II.2.10.2 )</b>									
	200 mm dia	Each	2				2.00	33691.84	67384.00
	100 mm dia	Each	1				1.00	12138.56	12139.00
13	Providing & Constructing SSM Valve Chamber (as per Typical estimate enclosed )								
		Nos	3				3	24000.00	72000.00
14	Rounding off								967.00
								<b>Total</b>	<b>1075000.00</b>

*K. Allamprath*

*[Signature]*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**SUB ESTIMATE : PROVIDING FENCING TO MBT**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
1	Earth work excavation for foundation and removing the excavated stuff to a distance not exceeding 50 mtrs and with a lift upto 1.50 mtrs. Including shoring, strutting, barricading, danger lighting etc., complete By Manual means								
<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.1 Item No.1.1 )</b>									
<b>a) In Hard Soil</b>									
	For Fencing	Cum	1	80.00	0.60	0.55	26.400		
	for Gate Column	Cum	4	0.90	0.90	1.00	3.240		
							<b>29.640</b>	171.00	5068.00
2	Providing and laying granite or trap or basalt jelly Cement concrete using 40 mm and down size jelly for foundation laid in 15 cm thick layers and well compacted including machine mixing, curing etc. complete as per specifications. Cement concrete M10								
<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.6 Item No.2.2 )</b>									
	For Fencing	Cum	1	80.00	0.60	0.10	4.800		
	for Gate Column	Cum	4	0.90	0.90	0.10	0.324		
							<b>5.124</b>	3984.00	20414.00
3	KSRB 4-6.1 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for foundations, footings, bases of columns for mass concrete including cost of all materials, labour complete as per specifications. Specification No. KBS 4.6.2								
<b>Schedule Of Rates PWD, Mysore Circle 2016-17 ( Page No.15 Item No.4.28 )</b>									
	for Gate Column	Sqm	4	3.00		0.45	5.40	231.00	1247.00
4	KSRB 4.2.2 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, with superplasticiser @3lts conforming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications. Specification No. KBS 4.1, 4.6								
<b>Schedule Of Rates PWD, Mysore Circle 2016-17 ( Page No.13 Item No.4.11 )</b>									
	for Gate Column	Cum	4	0.75	0.75	0.45	1.01	6011.00	6071.00



Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
5	KSRB 4-6.5 : Providing and removing centering, shuttering, strutting, propping etc., for columns, pillars, piers, abutments, post and struts, square / rectangular / polygon in plan including cost of all materials, labour complete as per specification. Specification No. KBS 4.6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.16 Item No.4.32 )</b>									
	for Gate Column	Sqm	4	0.92		2.10	7.73	366.00	2829.00
6	KSRB 4.2.2 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, with superplasticiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications. Specification No. KBS 4.1, 4.6								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.13 Item No.4.11 )</b>									
	for Gate Column	Cum	4	0.23	0.23	2.10	0.44	6011.00	2644.00
7	Providing and constructing granite or trap or basalt or sand stone uncoursed rubble stone masonry with CM 1:6 proportion with bond stones at 2 m apart for foundation including curing etc., complete as per specifications.								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.6 Item No.2.3 )</b>									
		Cum	1	80.00	0.45	0.45	16.200		
							16.200	2291.00	37114.00
8	Providing and laying granite or trap or basalt jelly vibrated cement concrete M-15 proportion using 20 mm and down size jelly including machine mixing, laying, vibrating, tampering, curing and smooth finished for exposed faces with CM 1:3 for tap plaster finished and with necessary centering, form work etc., for flooring of G.L.S.R. cills, coping, bond slab and for any other such work.								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.7 Item No.2.7 )</b>									
	Coping	Cum	1	80.00	0.45	0.075	2.700	4676.00	12625.00
9	Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required, placing in position and tying with binding wire of approved quality and gauge including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 &amp; 2.11 )</b>									
	Raft & Column	Kg		0.44		120.00	52.80		
							52.80		
							0.05	56697.50	2994.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
<b>CHAIN LINK FENCING</b>									
10	Supplying and fixing M.S. Rectangular poles made out of 2 equal angles of 65x65x6 mm welded together and fixed in CC (1:2:4) WITH 2 NOS 16mm dia M.S. hold fast rods each of length 25 cms. Including cost of all materials cutting, bending scaffolding wherever necessary, nicely finishing the welded joints with all lead lifts and as per the directions of the Engineer - in- charge of the work and including providing 2 coats of approved quality paint over one coat of shop painting ( excluding cost of earthwork and concrete)								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.272 Item No.37.2 )</b>									
		Rmt	37	2.15			79.55	819.00	65151.00
11	Providing chain link fencing 50mm size of 8 guage properly stretched between rectangular poles and fixed with suitable bolts & nuts, the free ends shall be welded to the pole and block pipe at top and bottom as required including cost of all materials, labour, lead and lifts and as per the directions of the Engineer-in-charge of work including two coats of approved quality paint over one coat of shop paint								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.272 Item No.37.3 )</b>									
		Sqm	37	1.95		1.50	108.23	659.00	71324.00
12	Providing and fixing M.S. Block pipe of 38mm dia, of heavy guage of 14 including removing the bends, cutting the pipe, and fixing pipe in between the two verticle poles (M.S. rectangular poles) and spot welding the chain link with M.S. block pipe including cost of all materials wastage in cutting, and scaffolding wherever necessary with all lead and lift as directed by the Engineer-in-charge of work etc., complete including two coats of approved quality paint over one coat of shop paint.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.272 Item No.37.4 )</b>									
			37 x 2						
Bottom & Top		Rmt	74	2.00			148.00	324.00	47952.00
13	Providing and fixing M.S. Gate as per Chief Architect Drawing, using 50mm x 50mm 14 guage M.S. hollow pipe frame work bent to ornamental shape as shown in the drawing and 35mm x 6mm and 16 x 16mm Square rods for verticals alternatively spaced at 4cms c/c in two halves and 40mmx6mm M.S. flats for horizontal member and at the top cast iron spikes are provided at alternate vertical members as shown in the drawing etc., complete. All the steel surface should be thoroughly cleaned free of rust and painted with anti corrosive paint (shop paint) etc., complete. The work includes cost of all materials, labour charges for all items of work, hire charges for welding, cutting and grinding equipment, and electricity charges, with lead and lift, loading and unloading charges, etc., complete as per specification.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.42 Item No.7.37 )</b>									
Front Gate		Sqm	2	3.00		1.50	9.00	2934.00	26406.00

James

Koushik Consultant

**SUB ESTIMATE : PROVIDING FENCING TO ZBT**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
1	Earth work excavation for foundation and removing the excavated stuff to a distance not exceeding 50 mtrs and with a lift upto 1.50 mtrs. Including shoring, strutting, barricading, danger lighting etc., complete By Manual means								
	<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.1 Item No.1.1 )</b>								
	<b>a) In Hard Soil</b>								
	For Fencing	Cum	1	40.00	0.60	0.55	13.200		
	for Gate Column	Cum	4	0.90	0.90	1.00	3.240		
							<b>16.440</b>	171.00	2811.00
2	Providing and laying granite or trap or basalt jelly Cement concrete using 40 mm and down size jelly for foundation laid in 15 cm thick layers and well compacted including machline mixing, curing etc. complete as per specifications. Cement concrete M10								
	<b>Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.6 Item No.2.2 )</b>								
	For Fencing	Cum	1	40.00	0.60	0.10	2.400		
	for Gate Column	Cum	4	0.90	0.90	0.10	0.324		
							<b>2.724</b>	3984.00	10852.00
3	KSRB 4-6.1 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for foundations, footings, bases of columns for mass concrete including cost of all materials, labour complete as per specifications. Specification No. KBS 4.6.2								
	<b>Schedule Of Rates PWD, Mysore Circle 2016-17 ( Page No.15 Item No.4.28 )</b>								
	for Gate Column	Sqm	4	3.00		0.45	5.40	231.00	1247.00
4	KSRB 4.2.2 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, with superplasticiser @3lts conforming to IS9103-1999 Reaffirmed-2008, machline mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications. Specification No. KBS 4.1, 4.6								
	<b>Schedule Of Rates PWD, Mysore Circle 2016-17 ( Page No.13 Item No.4.11 )</b>								
	for Gate Column	Cum	4	0.75	0.75	0.45	1.01	6011.00	6071.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
5	KSRB 4-6.5 : Providing and removing centering, shuttering, strutting, propping etc., for columns, pillars, piers, abutments, post and struts, square / rectangular / polygon in plan including cost of all materials, labour complete as per specification. Specification No. KBS 4.6.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.16 Item No.4.32 )</b>									
	for Gate Column	Sqm	4	0.92		2.10	7.73	366.00	2829.00
6	KSRB 4.2.2 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, with superplasticiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications. Specification No. KBS 4.1, 4.6								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.13 Item No.4.11 )</b>									
	for Gate Column	Cum	4	0.23	0.23	2.10	0.44	6011.00	2644.00
7	Providing and constructing granite or trap or basalt or sand stone uncoursed rubble stone masonry with CM 1:6 proportion with bond stones at 2 m apart for foundation including curing etc., complete as per specifications.								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.6 Item No.2.3 )</b>									
		Cum	1	40.00	0.45	0.45	8.100		
							8.100	2291.00	18557.00
8	Providing and laying granite or trap or basalt jelly vibrated cement concrete M-15 proportion using 20 mm and down size jelly including machine mixing, laying, vibrating, tampering, curing and smooth finished for exposed faces with CM 1:3 for tap plaster finished and with necessary centering, form work etc., for flooring of G.L.S.R. cills, coping, bond slab and for any other such work.								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.7 Item No.2.7 )</b>									
	Coping	Cum	1	40.00	0.45	0.075	1.350	4676.00	6313.00
9	Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required, placing in position and tying with binding wire of approved quality and gauge including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 &amp; 2.11 )</b>									
	Raft & Column	Kg		0.44		120.00	52.80		
							52.80		
							0.05	56697.50	2994.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount.
<b>CHAIN LINK FENCING</b>									
10	Supplying and fixing M.S. Rectangular poles made out of 2 equal angles of 65x65x6 mm welded together and fixed in CC (1:2:4) WITH 2 NOS 16mm dia M.S. hold fast rods each of length 25 cms. Including cost of all materials cutting, bending scaffolding wherever necessary, nicely finishing the welded joints with all lead lifts and as per the directions of the Engineer - in- charge of the work and including providing 2 coats of approved quality paint over one coat of shop painting ( excluding cost of earthwork and concrete)								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.272 Item No.37.2 )</b>									
		Rmt	17	2.15			36.55	819.00	29934.00
11	Providing chain link fencing 50mm size of 8 guage properly stretched between rectangular poles and fixed with suitable bolts & nuts, the free ends shall be welded to the pole and block pipe at top and bottom as required including cost of all materials, labour, lead and lifts and as per the directions of the Engineer-in-charge of work including two coats of approved quality paint over one coat of shop paint								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.272 Item No.37.3 )</b>									
		Sqm	17	1.95		1.50	49.73	659.00	32772.00
12	Providing and fixing M.S. Block pipe of 38mm dia, of heavy guage of 14 including removing the bends, cutting the pipe, and fixing pipe in between the two verticle poles (M.S. rectangular poles) and spot welding the chain link with M.S. block pipe including cost of all materials wastage in cutting, and scaffolding wherever necessary with all lead and lift as directed by the Engineer-in-charge of work etc., complete including two coats of approved quality paint over one coat of shop paint.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.272 Item No.37.4 )</b>									
			17 x 2						
	Bottom & Top	Rmt	34	2.00			68.00	324.00	22032.00
13	Providing and fixing M.S. Gate as per Chief Architect Drawing, using 50mm x 50mm 14 guage M.S. hollow pipe frame work bent to ornamental shape as shown in the drawing and 35mm x 6mm and 16 x 16mm Square rods for verticals alternatively spaced at 4cms c/c in two halves and 40mmx6mm M.S. flats for horizontal member and at the top cast iron spikes are provided at alternate vertical members as shown in the drawing etc., complete. All the steel surface should be thoroughly cleaned free of rust and painted with anti corrosive paint (shop paint) etc., complete. The work includes cost of all materials, labour charges for all items of work, hire charges for welding, cutting and grinding equipment, and electricity charges, with lead and lift, loading and unloading charges, etc., complete as per specification.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.42 Item No.7.37 )</b>									
		Sqm	2	3.00		1.5	9.00	2934.00	26406.00

ಶಹಾಬುದ್ದೀನ್ - ಸಹಾಯಕ ಮುಖ್ಯಸ್ಥರು  
ಗ್ರಾಮೀಣ ಕೂಡುವ ನೇರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**SUB ESTIMATE : GRAVITY DISTRIBUTION MAIN FROM MBT**

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
1	Cutting of road surface for pipelline trenches and disposing of the excavated stuff as directed including barricading, danger lighting etc. in the following classification.								
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.3 Item No.1.7 )</b>								
	Cutting Macadam road surface	cum	1	1990.00	0.75	0.15	223.88	174.00	38955.00
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.3 Item No.1.7.1 )</b>								
	Cutting Asphaltting surface road	cum	1	5300.00	0.75	0.20	795.00	225.00	178875.00
	<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.3 Item No.1.7.2 )</b>								
	Cutting cement concret road surface	cum	1	665.00	0.75	0.20	99.75	451.00	44987.00
2	Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100kN static roller in stages to proper grade and camber, applying and brooming, stone screening/binding materials to fillup the interstices of coarse aggregate, watering and compacting to the required density Grading III as per Technical Specification Clause 405. By Manual Means								
	<b>Schedule Of Rates PRE, Mysuru Circle II.2.5.1.6 ( Page No.25 Item No.4.7 - 3 - A )</b>								
		cum	1	1990.00	0.75	0.15	223.88	2143.00	479775.00
3	Providing, laying and rolling of open-graded premix carpet of 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates either using penetration grade bitumen or emulsion to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 80-100 kN static roller capacity, finished to required level and grades to be followed by seal coat .By Mechanical Means (Bitumen (S-65)								
	<b>Schedule Of Rates PRE, Mysuru Circle II.2.5.1.6 ( Page No.32 Item No.5.11 -Case-2 -Type-B II )</b>								
		cum	1	5300.00	0.75	0.20	795.00	104.00	82680.00



Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
4	Providing and constructing un-reinforced plain cement concrete pavement, thickness as per design, over a prepared sub base, with 43 grade cement or any other type as per Clause 1501.2.2 M30 (Grade), coarse and fine aggregates conforming to IS:383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a concrete mixer of not less than 0.2 cum capacity and appropriate weigh batcher using approved mix design, laid in approved fixed side formwork (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the formwork as per drawing), spreading the concrete with shovels, rakes, compacted using needle, screed and plate vibrators and finished in continuous operation including construction joints, , primer, sealant , curing of concrete slabs for 14-days, and water finishing to lines and grade as per drawing and technical specification clause 1501 with all lead, lifts, loading & unloading charges, cost and conveyance of all materials, labour, equipments etc., complete. as per the directions of the Engineer-in-charge of the work.								

**PRE Rural Roads Mysore Circle 2018-19, I No 64, Pg No 20**

cum	1	665.00	0.75	0.20	99.75	6777.00	676006.00
-----	---	--------	------	------	-------	---------	-----------

- 5 Earth work in excavation for water supply and sanitary line, electrica conduits either in pits or trenches (Upto 601mm trench width) as per drawing and technical specification including setting out construction of shoring, strutting barricading, danger lighting, bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, backfilling the excavation earth to the extent required and utilising the remaining earth locally of the work in the following classification by Mechanical Means

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.3 Item No.1.4 )**

75 mm dia pipe	cum	1	19850.92	0.60	0.98	11612.79
90 mm dia pipe	cum	1	5451.71	0.69	0.99	3724.06
110 mm dia pipe	cum	1	7113.79	0.71	1.01	5101.30
125 mm dia pipe	cum	1	986.61	0.73	1.03	733.18
140 mm dia pipe	cum	1	4347.00	0.74	1.04	3345.45
160 mm dia pipe	cum	1	4544.10	0.76	1.06	3660.73
180 mm dia pipe	cum	1	23945.85	0.78	1.08	20171.98
<b>48349.49</b>						

i	In Ordinary soil	cum	48349.49	x	45%	21757.27	45.00	979077.00
ii	In Hard soil	cum	48349.49	x	50%	24174.74	45.00	1087863.00
iii	In Ordinary rock without blasting	cum	48349.49	x	5%	2417.47	60.00	145048.00

- 6 Providing murrum or sand bedding for the pipeline including watering and consolidation by punners etc. complete with all lead and lift, (in black cotton soil and rock reaches).

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.4 Item No.1.9 )**

From MBT to JN-C1	cum	1	183.00	0.60	0.10	10.98
-------------------	-----	---	--------	------	------	-------

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
	From JN-C1 to JN-C2	cum	1	9434.00	0.60	0.10	566.04		
	From JN-C2 to JN-C3	cum	1	3786.00	0.60	0.10	227.16		
	From JN-C3 to Hampapura	cum	1	15.00	0.60	0.10	0.90		
	From JN-C3 to Huralikyathanahalli	cum	1	2648.00	0.60	0.10	158.88		
	From JN-C2 to JN-C4	cum	1	3730.00	0.60	0.10	223.80		
	From JN-C4 to JN-C5	cum	1	200.00	0.60	0.10	12.00		
	From JN-C5 to Chikkanakanahalli OHT1	cum	1	13.00	0.60	0.10	0.78		
	From JN-C5 to Chikkanakanahalli OHT2	cum	1	51.00	0.60	0.10	3.06		
	From JN-C4 to JN-C6	cum	1	510.00	0.60	0.10	30.60		
	From JN-C6 to Chikkanakanahalli OHT3	cum	1	16.00	0.60	0.10	0.96		
	From JN-C6 to JN-C7	cum	1	941.00	0.60	0.10	56.46		
	From JN-C7 to Sugganahalli	cum	1	85.00	0.60	0.10	5.10		
	From JN-C7 to JN-C8	cum	1	1616.00	0.60	0.10	96.96		
	From JN-C8 to Bonthagahalli	cum	1	481.00	0.60	0.10	28.86		
	From JN-C8 to Kokkarehundi	cum	1	224.00	0.60	0.10	13.44		
	From ZBT to JN-M1	cum	1	4544.10	0.60	0.10	272.65		
	From JN-M1 to Krishnapura	cum	1	3252.00	0.60	0.10	195.12		
	From JN-M1 to JN-M2	cum	1	617.00	0.60	0.10	37.02		
	From JN-M2 to JN-M3	cum	1	19.00	0.60	0.10	1.14		
	From JN-M3 to Mahadevapura OHT1	cum	1	7.00	0.60	0.10	0.42		
	From JN-M3 to Mahadevapura OHT2	cum	1	22.00	0.60	0.10	1.32		
	From JN-M2 to JN-M4	cum	1	721.00	0.60	0.10	43.26		
	From JN-M4 to Mahadevapura OHT3	cum	1	223.00	0.60	0.10	13.38		
	From JN-M4 to JN-M5	cum	1	129.00	0.60	0.10	7.74		
	From JN-M5 to JN-M6	cum	1	3201.00	0.60	0.10	192.06		
	From JN-M6 to Channahalli	cum	1	562.00	0.60	0.10	33.72		
	From JN-M6 to Bidarahalli	cum	1	1572.00	0.60	0.10	94.32		
	From JN-M5 to JN-M7	cum	1	2286.00	0.60	0.10	137.16		
	From JN-M7 to Taripura	cum	1	241.00	0.60	0.10	14.46		
	From JN-M7 to Kemmannapura	cum	1	2650.00	0.60	0.10	159.00		
	From MBT to JN-K1	cum	1	14328.85	0.60	0.10	859.73		
	From JN-K1 to K Shettyhalli OHT1	cum	1	161.00	0.60	0.10	9.66		
	From JN-K1 to JN-K2	cum	1	104.03	0.60	0.10	6.24		
	From JN-K2 to K Shettyhalli OHT2	cum	1	31.65	0.60	0.10	1.90		
	From JN-K2 to JN-K3	cum	1	161.58	0.60	0.10	9.69		
	From JN-K3 to JN-K4	cum	1	861.92	0.60	0.10	51.72		
	From JN-K4 to Gowripura	cum	1	31.69	0.60	0.10	1.90		
	From JN-K4 to Garudana Ukkada	cum	1	598.96	0.60	0.10	35.94		
	From JN-K3 to JN-K5	cum	1	2332.79	0.60	0.10	139.97		
	From JN-K5 to M Shettyhalli OHT1	cum	1	17.29	0.60	0.10	1.04		
	From JN-K5 to JN-K6	cum	1	49.71	0.60	0.10	2.98		
	From JN-K6 to M Shettyhalli OHT2	cum	1	11.40	0.60	0.10	0.68		
	From JN-K6 to JN-K7	cum	1	1251.58	0.60	0.10	75.09		
	From JN-K7 to Sabbanakuppe	cum	1	12.42	0.60	0.10	0.75		
	From JN-K7 to JN-K8	cum	1	945.45	0.60	0.10	56.73		

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
	From JN-K8 to Mallegowdanakoppalu	cum	1	270.05	0.60	0.10	16.20		
	From JN-K8 to Chinnenahalli	cum	1	1090.52	0.60	0.10	65.43		
							<b>3974.40</b>	<b>78.00</b>	<b>310003.00</b>

- 7 Supplying HDPE pipes conforming to IS 4984:1995 with latest amendments and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipes and specials by electrofusion welding, including encasing the pipe around to a depth not less than 15cms with soft gravel or selected earth available from the excavation etc., complete giving hydraulic test as per relevant ISS with all lead and lift including testing and commissioning. The rate is exclusive of required specials and fittings etc., complete (Contractor will make his own arrangement for procuring water for testing) Note : a) PE - 80 Rates are based on resin rate of Rs.1,04,200.00 per MT.  
b) PE-100 rates are based on resin rate of Rs.1,05,190.00 per MT.

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.34 Item No.II.2.50.2 )**

**HDPE, PN6**

75 mm Dia	Rmtr	1	6298.47		6298.47	181.44	1142794.22
110 mm Dia	Rmtr	1	129.00		129.00	322.56	41610.24
125 mm Dia	Rmtr	1	721.00		721.00	400.96	289092.16

**HDPE, PN8**

75 mm Dia	Rmtr	1	12497.89		12497.89	209.44	2617557.45
90 mm Dia	Rmtr	1	1665.71		1665.71	278.88	464532.09
110 mm Dia	Rmtr	1	3201.00		3201.00	388.64	1244036.64
140 mm Dia	Rmtr	1	617.00		617.00	609.28	375925.76
180 mm Dia	Rmtr	1	183.00		183.00	935.20	171141.6

**HDPE, PN10**

75 mm Dia	Rmtr	1	1054.57		1054.57	238.56	251577.03
90 mm Dia	Rmtr	1	3786.00		3786.00	319.20	1208491.2
110 mm Dia	Rmtr	1	1451.00		1451.00	448.00	650048
125 mm Dia	Rmtr	1	265.61		265.61	561.12	149040.21
160 mm Dia	Rmtr	1	4544.10		4544.10	882.56	4010440.9

**HDPE, PN12.5**

110 mm Dia	Rmtr	1	2332.79		2332.79	518.56	1209691.06
140 mm Dia	Rmtr	1	3730.00		3730.00	818.72	3053825.6

**HDPE, PN16**

180 mm Dia	Rmtr	1	23762.85		23762.85	1518.72	36089115.55
------------	------	---	----------	--	----------	---------	-------------

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
9	Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vacuum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 10								

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.18  
Item No.II.2.10.1 )**

80 mm dia	Each	43	43.00	9578.24	411864.00
100 mm dia	Each	7	7.00	12138.56	84970.00
150 mm dia	Each	18	18.00	21240.80	382334.00
200 mm dia	Each	31	31.00	33691.84	1044447.00
<b>Total</b>		<b>99</b>			

- 10 Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vacuum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 10

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.18  
Item No.II.2.10.1 )**

80 mm dia	Each	71	71	9578.24	680055.00
100 mm dia	Each	13	13	12138.56	157801.00
150 mm dia	Each	1	1	21240.80	21241.00
<b>Total</b>		<b>85</b>			

- 11 supply and fixing of single chamber triple function tamper proof (both the orifices to be housed in the single chamber) Air valves with body and cover in ductile cast iron of grade GGG 50. all internal parts such as float, shell etc all cover bolts of austitic alloy/ SS 304 steel , DN 50 float of HOSTAFLO /SSRAL5005. The valves Should be designed for all the three functions i.e:
- 1.Large orifice for venting of large air volumes on start up.
  - 2.Large orifice for Intake of large air Volumes
  - 3.Small orifice for Discharge of pressurized air during operation PN10

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.19  
Item No.II.2.10.7 )**

50 mm dia	Each	95	95	18327.68	1741130.00
<b>Total</b>		<b>95</b>			

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
14	Giving hydraulic test for C.I / R.C.C / P.V.C / H.D.P.E or A.C pipelines to the pressure equal to 2 times the working pressure including cost of supply of water								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.16 Item No.3.7 )</b>									
	Up to 80 mm	Mtrs	1		19850.92		19850.92	2.00	39702.00
	80 to 100 mm	Mtrs	1		5451.71		5451.71	2.50	13629.00
	100 to 150 mm	Mtrs	1		12447.40		12447.40	3.00	37342.00
	150 to 200 mm	Mtrs	1		28489.95		28489.95	4.00	113960.00
15	Construction of Thrust block (Sub estimate enclosed)	Nos	130					6000.00	780000.00
16	Construction of Valve Chamber (Sub estimate enclosed)	Nos	280					24000.00	6720000.00
17	Providing and laying reinforced cement concrete pipe NP2 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No.1000 / 2300 450mm dia								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.264 Item No.34.7.4 )</b>									
	450 mm dia pipe	Rmtr					400.00	1509.00	603600.00
	40 Junctions								
18	Miscellaneous and rounding charges								736.29
								<b>Total</b>	<b>69825000.00</b>

*G. Allaynath*

*ಸಹಾಯಕ ಕಾರ್ಯದರ್ಶಿ  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸ್ವ-  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ*

**Abstract of Gravity Main**

SL. NO.	From	To	Dia	Type	Length	CV	SC	AV
<b>ZONE-1: Chottanahalli MBR</b>								
1	MBT	JN-C1	180	HDPE, PN8	183.00	1		1
2	JN-C1	JN-C2	180	HDPE, PN16	9434.00	10		
3	JN-C2	JN-C3	90	HDPE, PN10	3786.00	4	13	14
4	JN-C3	Hampapura	75	HDPE, PN6	15.00	1	6	7
5	JN-C3	Huralikyathanahalli	75	HDPE, PN8	2648.00	3		1
6	JN-C2	JN-C4	140	HDPE, PN12.5	3730.00	4	5	6
7	JN-C4	JN-C5	75	HDPE, PN8	200.00	1	7	7
8	JN-C5	Chikkanakana halli OHT1	75	HDPE, PN8	13.00	1	1	
9	JN-C5	Chikkanakana halli OHT2	75	HDPE, PN8	51.00	1		
10	JN-C4	JN-C6	110	HDPE, PN10	510.00	1		1
11	JN-C6	Chikkanakana halli OHT3	75	HDPE, PN8	16.00	1	1	2
12	JN-C6	JN-C7	110	HDPE, PN10	941.00	1		
13	JN-C7	Sugganahalli	75	HDPE, PN8	85.00	1	1	1
14	JN-C7	JN-C8	90	HDPE, PN8	1616.00	2	1	1
15	JN-C8	Bonthagahalli	75	HDPE, PN6	481.00	1	3	3
16	JN-C8	Kokkarehundi	75	HDPE, PN6	224.00	1	3	3
17	ZBT	JN-M1	160	HDPE, PN10	4544.10	5	1	1
18	JN-M1	Krishnapura	75	HDPE, PN8	3252.00	4	5	6
19	JN-M1	JN-M2	140	HDPE, PN8	617.00	1	1	
20	JN-M2	JN-M3	75	HDPE, PN6	19.00	1		
21	JN-M3	Mahadevapura OHT1	75	HDPE, PN6	7.00	1		
22	JN-M3	Mahadevapura OHT2	75	HDPE, PN6	22.00	1		
23	JN-M2	JN-M4	125	HDPE, PN6	721.00	1	1	1

24	JN-M4	Mahadevapura OHT3	75	HDPE, PN6	223.00	1	1	1
25	JN-M4	JN-M5	110	HDPE, PN6	129.00	1		
26	JN-M5	JN-M6	110	HDPE, PN8	3201.00	4	5	5
27	JN-M6	Channahalli	75	HDPE, PN6	562.00	1	1	2
28	JN-M6	Bidarahalli	75	HDPE, PN6	1572.00	2	5	5
29	JN-M5	JN-M7	75	HDPE, PN8	2286.00	3	2	2
30	JN-M7	Taripura	75	HDPE, PN6	241.00	1	1	1
31	JN-M7	Kemmannapura	75	HDPE, PN6	2650.00	3	7	7
32	MBT	JN-K1	180	HDPE, PN16	14328.85	15		1
33	JN-K1	K Shettyhalli OHT1	75	HDPE, PN10	161.00	1		
34	JN-K1	JN-K2	125	HDPE, PN10	104.03	1	1	
35	JN-K2	K Shettyhalli OHT2	75	HDPE, PN10	31.65	1		1
36	JN-K2	JN-K3	125	HDPE, PN10	161.58	1		
37	JN-K3	JN-K4	75	HDPE, PN10	861.92	1	1	1
38	JN-K4	Gowripura	75	HDPE, PN8	31.69	1	2	2
39	JN-K4	Garudana Ukkada	75	HDPE, PN8	598.96	1		
40	JN-K3	JN-K5	110	HDPE, PN12.5	2332.79	3		
41	JN-K5	M Shettyhalli OHT1	75	HDPE, PN8	17.29	1		
42	JN-K5	JN-K6	90	HDPE, PN8	49.71	1	2	3
43	JN-K6	M Shettyhalli OHT2	75	HDPE, PN8	11.40	1		
44	JN-K6	JN-K7	75	HDPE, PN8	1251.58	2	1	2
45	JN-K7	Sabbanakuppe	75	HDPE, PN6	12.42	1	1	1
46	JN-K7	JN-K8	75	HDPE, PN8	945.45	1	2	2
47	JN-K8	Mallegowdana koppalu	75	HDPE, PN6	270.05	1	2	2
48	JN-K8	Chinnenahalli	75	HDPE, PN8	1090.52	2	2	2
			<b>Total</b>		<b>66239.98</b>			

*Koushik*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**SUB ESTIMATE : ANCHOR BLOCKS AND ENCASING PIPE AT ROAD CROSS DRAIN**

Sl. No	Description of work	Unit	No	L	B	D	Qty	Rate	Amount
--------	---------------------	------	----	---	---	---	-----	------	--------

- 1 KSRB 2-23.1 : Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in Ordinary/hard soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(b) / 2.3.5 Mechanical Means

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.7 Item No.2.23.1 )**

Cum	500	1.20	0.80	0.90	432.00			
					<b>432.00</b>	53.00	22896.00	

- 2 KSRB 4-1.3 : Providing and laying in position plain cement concrete of mix 1:4:8 with OPC cement @ 180kgs, with 40mm and down size graded granite metal coarse aggregates @0.85cum and fine aggregates @ 0.57cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2 ( Page No.12 Item No.4.3 )

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.12 Item No.4.3 )**

Cum	500	1.20	0.80	0.10	48.00	4867.00	233616.00	
-----	-----	------	------	------	-------	---------	-----------	--

- 3 KSRB 4-1.5 : Providing and laying in position plain cement concrete of mix M20 with OPC cement @ 300kgs, with 20mm and down size graded granite metal coarse aggregates @0.64cum and fine aggregates @ 0.43cum, with superplasticiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation,plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.12 Item No.4.5 )**

Cum	500	1.00	0.60	0.30	90.00			
Cum	500	0.80	0.40	2.00	320.00			
					<b>410.00</b>	5542.00	2272220.00	



Sl. No	Description of work	Unit	No	L	B	D	Qty	Rate	Amount
4	Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required, placing in position and tying with binding wire of approved quality and gauge including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)								

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.VIII Item No.79 & 2.11 )**

For Footing	Sqm	0.60	Sqm @	25 Kg/sqm	15.00			
For Anchor block	Sqm	4.80	Sqm @	10 Kg/cum	48.00			
					63.00			
		500		Or MT	31.50	56697.50	1785971.00	

- 5 Refilling the basement and pipeline trenches with selected available earth from trench excavation including watering, Consolidation in layers of 15 cm thick including disposing of the surplus earth with a lead of 200 meters.

**Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.3 Item No.1.6 )**

Qty of Item No 1	Cum	432.00						
Deduction for concrete Qty(40%)					-183.20			
					248.80			0.00

- 6 Supplying Ductile Iron pipes K-7 Class conforming to IS 8329:2000 with latest amendments and conveying to worksite, rolling and lowering into trenches, laying true to line, level and perfect linking at joints, testing and commissioning, including loading and unloading at both destinations and cuts of pipes wherever necessary including jointing of DI pipes and specials, (excluding cost of specials) with rubber gaskets including cleaning the socket and spigot ends with soap solution and applying soft soap to the spigot and socket ends before insertion of rubber gaskets, jacking and fixing in perfect conditions including cost of soap solution, soft soap, waste etc. and giving necessary hydraulic test to the required pressure as per ISS with all lead and lift including cost of jointing materials. (contractor will make his own arrangements for procuring water for testing). DI Pipe rates are based on the Foundry Grade Pig Iron (Si:2%-2.5%) with WPI of 141.1 as on July-2013

**Schedule Of Rates KUWS & DB, Karnataka Board 2018-2019 ( Page No.14 Item No.II.2.5.1 )**

**For Encasing**

100 mm dia pipe	Mtr	1	345.00	345.00	1018.08	351238.00
150 mm dia pipe	Mtr	1	287.00	287.00	1478.40	424301.00
250 mm dia pipe	Mtr	1	963.00	963.00	2684.64	2585308.00

- 7 Miscellaneous and rounding charges

450.00

*G.ellaiyath*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸೈವರ್ಜಿ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

**7676000.00**

Koushik Consultant

## 28. Estimate for SCADA

NAME OF WORK : Mahadevapur & other 18 villages

Sl. No	Description	Unit	Rate	Rate	Amount
	<b>Part A : Installation and commissioning of PLC SCADA system as per scope in the tender with 1 Year defect Liability.</b>				
<b>A)</b>	<b>WTP Jackwell Section:</b>				
1	PLC Panel at Jackwell; Supplying,Installing and succesful Commissioning of Required Automation Accessories for existing PLC Panel at Jackwell.	Nos	1	5,03,251.90	5,03,251.90
	a) PLC with Automatic operation for controlling commands with Reputed make PLC with an operating voltage of 24V DC, with 20 Digital inputs & 12 Digital Outputs.				
	b)PLC with USB port for programming,Ethernet port configurable for MODBUS TCP IP,programming and PC communication, with add on card for atleast 8 inputs and other analog signals,RS 232 or RS 485 port with life time activated licensed Programming and application software.				
	c) Relay module with 2CO,24 V DC ,8 Channel, DIN rail mounting,				-
	d)Selector Switch 2 Position Maintained Command Black				-
	e)Selector Switch 3 Position Maintained Command Black				-
	f) Analog to Modbus Converter				-
	g) Power Supply 24 VDC @ 10A (SMPS)				-
	h) Panel with other switchgear Accessories				-
	i) Push Button & Lamp Indicator				-
2	Wireless Communication System for Jackwell Supply & delivery at site, testing and commissioning of brand new wirelees communication system: at Jackwell for communication of controlling motors with PLC & SCADA.	Nos	1	1398517.1	13,98,517.10
	a) Wireless Module device with Antena				-
	b) Controller with USB cable for interfacing				-

Sl. No	Description	Unit	Rate	Rate	Amount
3	Flow Switch flow switch at jackwell pump outlet for motor Pump protection operation in order to avoid dry Run of motor Pump during absence of water flow.	Nos	2	21428.9	42,857.80
	Flow Switch:-FM4 GPS (SPDT (NO-C-NC) Snap Action,Potential Free change over Contact -15 Amp,250V,50Hz) Polycarbonate Enclosure to IP-65.				-
4	Electrical Actuators Electrical Actuators for existing valves at jackwell Pump Outlet with Automation/Manual Requires Following;	Set	2	1150393.1	23,00,786.20
	Design standards : API 600 Testing Standards : API 598 Face to Face / Dimensions : ASME B 16.10 End connection : Flanged to suit # 150 Class rating : # 150 Body : ASTM A 216 Gr. WCB Bonnet : ASTM A 216 Gr. WCB Wedge : ASTM A 216 Gr. WCB + 13% cr Stem : ASTM A 276 Gr 410 Gland : ASTM A 276 Gr 410 Seat Ring : ASTM A 276 Gr 410 Gasket SPW SS 304 Gland Packing : Graphite/Grafoil Stud / Nut : ASTM A 193 Gr. B7 / ASTM A 194 Gr. 2H				-
	a) 200NB	Set	1	16917.5	16,917.50
	1) Power contractor				-
	2) Over load Relay				-
	3) 3 POLE MCB				-
	d) Other Switchgear Assembly ,Power Wiring & Signal Wiring				-
5	Pressure Sensor Pressure Sensors are to be fixed at Jackwell Outlet Pipe & Pumphouse Outlet for Measuring Pressure of the Water flow	Nos	2	84587.7	1,69,175.40
	WTP Main Plant Section:				-
6	PLC Panel at WTP Plant	Set	1	1740488.3	17,40,488.30

Sl. No	Description	Unit	Rate	Rate	Amount
	a) Design standards : API 600 Testing Standards : API 598 Face to Face / Dimensions : ASME B 16.10 End connection : Flanged to suit # 150 Class rating : # 150 Body : ASTM A 216 Gr. WCB Bonnet : ASTM A 216 Gr. WCB Wedge : ASTM A 216 Gr. WCB + 13% cr Stem : ASTM A 276 Gr 410 Gland : ASTM A 276 Gr 410 Seat Ring : ASTM A 276 Gr 410 Gasket SPW SS 304 Gland Packing : Graphite/Grafoil Stud / Nut : ASTM A 193 Gr. B7 / ASTM A 194 Gr. 2H Size - 300NB	No	1	552639.8	5,52,639.80
	b) Clarifier Bridge Electrical components for existing gear box and motor to drive the bridge assembly for automation	No	1	29323.7	29,323.70
	1) Power contractor				-
	2) Over load Relay				-
	3) 3 POLE MCB				-
	c) Agitator Electrical components for existing gear box and motor to drive for automation				-
	1) Power contractor				-
	2) Over load Relay				-
	3) 3 POLE MCB				-
	d) Other Switchgear Assembly , Power Wiring & Signal Wiring				-
11	Liquid Alum Dosing Unit	Set	3	84700.5	2,54,101.50
	Supply installation and commissioning of Alum mixer and complete drive system.				-
	a) providing 0.5 hp electric motor of make kirloskar / ABB / Siemens or equivalent and Planetary gear box (Kavitsu / Premium / equivalent make) with 1 : 20 reduction ratio with motor cover for safety				-
	b) Paddles and shaft Assembly				-
	Impeller of size Ø258 x 52 mm of MOC Stainless Steel of grade 304 and shaft of size 20 mm of MOC Stainless Steel of grade 304				-

Sl. No	Description	Unit	Rate	Rate	Amount
	c) Electrical panel and starters : installing electrical equipment in a closed out door M.S cubical with electrical arrangement to Alum Mixer unit etc.complete with all the required materials like motor connections, switches, starters, etc complete				-
	i) Providing and fixing triple pole switch of standard (salzer) company 15 to 20 amps				-
	ii) Providing and fixing MCB 2 to 6 amps triple pole (make: siemens / schneider )				-
	iii) Supplying push button operated direct on line starter (make: siemens/schneider) with an antiweld silver cadmium oxide contactor with replaceable fixed and moving contacts and bimetallic thermal overload relay held in anticorrosive treated sheet steel or iron clad enclosure and fixing the same to suitable capacity wires for 400/440volts 3 phase motor				-
	d) Dosing Pump Capacity 0 - 80lph Power 0.5hp Pressure 6kg/cm <sup>2</sup> Connection 1/2" BSP F x 1/2" BSP F	Set	1	40602.1	40,602.10
	Automatic PLC controlled Liquid alum dosing for raw water inlet including suitable positive displacement pump with VFD motor controller and thie Accessories with 3 Phase Induction motor and communication with PLC and SCADA system. It Includes following;				-
	a) VFD Motor Controller	Set	1	169175.5	1,69,175.50
	b) 3 pole MPCB				-
	C) Power Contractor 9 Amp				-
	d) 3 Phase DOL starter 3 Phase,2 Amp				-
	e)Level Sensor				-
	d) Other Switchgear Assembly ,Power Wiring & Signal Wiring				-
12	Flash Mixing Unit	Set	1	16917.5	16,917.50
	Automatic PLC Controlled Flash mixing unit for dosed alum mixing Properly with switch gear and motor assembly for proper mixing of alum with raw water.				-

Sl. No	Description	Unit	Rate	Rate	Amount
	1) Power contractor				-
	2) Over load Relay				-
	3) 3 POLE MCB				-
	d) Other Switchgear Assembly ,Power Wiring & Signal Wiring				-
13	Rapid Sand filter				-
13.1	Rapid Sand Filter Gate Valves with Electrical Actuators				-
	Design standards : API 600 Testing Standards : API 598 Face to Face / Dimensions : ASME B 16.10 End connection : Flanged to suit # 150 Class rating : # 150 Body : ASTM A 216 Gr. WCB Bonnet : ASTM A 216 Gr. WCB Wedge : ASTM A 216 Gr. WCB + 13% cr Stem : ASTM A 276 Gr 410 Gland : ASTM A 276 Gr 410 Seat Ring : ASTM A 276 Gr 410 Gasket SPW SS 304 Gland Packing : Graphite/Grafoil Stud / Nut : ASTM A 193 Gr. B7 / ASTM A 194 Gr. 2H				-
	a) 150NB	Set	3	287151.6	8,61,454.80
	b) 400NB	Set	3	746627.7	22,39,883.10
	c) 350NB	Set	3	665423.4	19,96,270.20
	d) 400NB	Set	3	746627.7	22,39,883.10
13.2	Rapid Sand filter ( Electrical System with Automation for Above gate valves )	set	1	1152964.5	11,52,964.50
	Electrical Actuators for RSF Inlet & Outlet Auto/Manual operation & Electrical Actuators for Backwash Inlet & Outlet Auto/Manual operation with PLC Panel with PLC Controller for Electrical Actuators at RSF & switch				-
	a) PLC with Automatic operation for controlling commands with Reputed make PLC with an operating voltage of 24V DC, with 20 Digital inputs & 12 Digital Outputs.				-
	b) PLC with USB port for programming, Ethernet port configurable for MODBUS TCP IP, programming and PC communication, with add on card for atleast 8 inputs and other analog signals, RS 232 or RS 485 port with life				-

Sl. No	Description	Unit	Rate	Rate	Amount
	c) 32 Point Digital Input Expansion Module				-
	d) 32 Point Digital Output Expansion Module				-
	e) 4 Point Analog Input Module				-
	c) Relay module with 2CO,24 V DC ,8 Channel, DIN rail mounting,				-
	d)Selector Switch 2 Position Maintained Command Black				-
	e)Selector Switch 3 Position Maintained Command Black				-
	f) Analog to Modbus Converter				-
	g) Power Supply 24 VDC @ 10A (SMPS)				-
	h) Panel with other switchgear Accessories				-
	1) Power contractor				-
	2) Over load Relay				-
	3) 3 POLE MCB				-
	l) Push Button & Lamp Indicator				-
14	Ultrasonic Level Sensors	Nos	3	95866.1	2,87,598.30
	Supply & Delivery,assembly at site erection,testing,trial run & Commissioning of non contact type ultrasonic level sensors with calibration required for RSF bed & 2 water tanks.(one at overhead backwash tank & another for Pure water sump tank) a) Minimum Range -0 to 10 meter b) 2 wire sensor with Output-4-20mA/2 Wire				-
	installation of ultrasonic sensor with power wiring with neccessary bracket and protection cover arrangement.				-
	d) Other Switchgear Assembly ,Power Wiring & Signal Wiring				-
15	Chlorination Unit & Online pH Meter				-
	1) Online Automatic chlorine unit:	Set	1	665423.4	6,65,423.40
	Supplying,Designing & modifying existing Chlorination unit at WTP plant for Auto/Manual operation fixed with Pure sump water tank inlet for monitoring chlorine content. And shall be connected to the PLC and SCADA system for real time chlorine level monitoring and data accumulation from the conrol room.				-

Sl. No	Description	Unit	Rate	Rate	Amount
	a) Amperometric Chlorine analysis with mmeasuring range of 0-10ppm of TRC/FRC/RC along with pH probe with display unit				
	2) Online pH Meter:	Set	1	552639.8	5,52,639.80
	Supplying & Installing of online pH meter for monitoring pH Level at Pure sump tank outlet,pH should have automatic temp compensastion and auto calibration supply.				
	d) Other Switchgear Assembly ,Power Wiring & Signal Wiring				
16	Power Backup (UPS)	Nos	1	180453.8	1,80,453.80
	a) 4 KVA Power Backup unit with 6- 8 hours Backup for monitoing SCADA & PLC data.				
	Power Backup unit with all mains power wiring & MCB's DB Box power wiring etc.				
17	PLC Panel at Pump House & other Accessories	Nos	1	564053.5	5,64,053.50
	Supplying,Installing and succesful Commissioning of Additional New Panel with PLC for Automatic operation control with existing Panel at Pump House				
	a) PLC with Automatic operation for controlling commands with Reputed make PLC with an operating voltage of 24V DC, with 20 Digital inputs & 12 Digital Outputs.				
	b)PLC with USB port for programming,Ethernet port configurable for MODBUS TCP IP,programming and PC communication, with add on card for atleast 8 inputs and other analog signals,RS 232 or RS 485 port with life time activated licensed Programming and application software.				
	c) Relay module with 2CO,24 V DC ,8 Channel, DIN rail mounting,				
	d) Selector Switch 2 Position Maintained Command Black				
	e) Selector Switch 3 Position Maintained Command Black				
	f) Analog to Modbus Converter				
	g) Power Supply 24 VDC @ 10A (SMPS)				
	h) Panel with other switchgear Accessories				
	I) Push Button & Lamp Indicator				
	d) Other Switchgear Assembly ,Power Wiring & Signal Wiring				



Sl. No	Description	Unit	Rate	Rate	Amount
18	SCADA System Software a) Design development of SCADA application software: for data storage communication with all instruments; to provide Run/Stop instruction for all Motors/Actuators, Providing Automatic logical operating sequence of all systems as per the instruction of the Engineer in charge	Nos	1	361133.2	3,61,133.20
	b) SCADA Runtime and Development Key				-
	C) Other Switchgear Assembly ,Power Wiring & Signal Wiring				-
19	Installation of LED Display Screen at Control Station for SCADA Monitoring	Nos	2	110076.8	2,20,153.60
	Supply install and commissioning of reputed make brand new LED Display screen of minimum 40" (Inches) screen size with all mounting bracket arrangement and accessories for displaying realtime overview of the SCADA.				-
	Necessary Cabling, electrification work etc. to be connected to SCADA system				-
20)	Electrical Panel with Computer server	Nos	1	432998.9	4,32,998.90
	SCADA & Instrumentation Computer Server with Control Panel and other Accessories				-
21)	Intermediate Wiring	Nos	1	721815.3	7,21,815.30
				<b>Part A + B Total</b>	<b>2,32,43,863.20</b>

Sl. No	Description	Unit	Rate	Rate	Amount
	<b>Part C : Over head tank Water Flow Count</b>				
1	Electromagnetic Flowmeter Model : MagFlow 6410 Transmitter Type : Remote View Software : Not Required Power Supply : Solar Powered with Battery backup Output : 4 - 20 mA DC Communication Interface : GSM (SIM Card is in your scope) Data Logger : Not Required Line Size : Refer below table Pressure Rating : 10 kg/cm2 Design of the measuring sensor : DIN PN 10 Flange Material : Carbon Steel Sensor Lining : Hard Rubber Electrode Material : SS B52 Earthing Rings : SS 316 Measuring Tube : SS 316 Coil Housing : Carbon Steel Protection Class for Sensor : IP 68 Approval : None Sensor Cable : 10 meters Accuracy : $\pm 0.5\%$ of measured value				
	a) 80 NB	Nos	11	1,20,511.40	13,25,625.40
	b) 100 NB	Nos	8	1,42,441.60	11,39,532.80
	Solar System Arrangement : Solar Operated Inverter with battery backup with necessary mounting arrangement Security barbed wire fencing shall be provided to panel Module : 100 W Multi Crystalline solar photovoltaic modules Structure : Mounting structure for solar photovoltaic modules With anti-corrosive coating Junction Box : Junction boxes with anti-corrosive coating Battery : 12 V 100 Ah with charger make Exide				
		Nos	19	1,14,872.20	21,82,571.80
	<b>Part C - Total</b>				
	<b>Total Amount (A+B+C)</b>				<b>46,47,730.00</b>
					<b>2,78,91,593.20</b>

Note: The lowest rates quoted by Creintors Environmental Solutions Pvt. Ltd Belagavi are recommended for approval for estimate purpose.

*S. S. Srinivas*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್

ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸ್ವಚ್ಛತೆ

ಸಂಖ್ಯೆ-ಬಿ.ಎಸ್. 160 of 190

ಶ್ರೀರಂಗಪಟ್ಟಣ

## SUB ESTIMATE : CONSTRUCTION OF VALVE CHAMBER

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
1	KSRB 2-23.1 : Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in Ordinary/hard soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(b) / 2.3.5 Mechanical Means								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.7 Item No.2.23.1 )</b>									
		Cum	1	2.10	2.10	1.45	6.39	53.00	339.00
2	KSRB 4-1.3 : Providing and laying in position plain cement concrete of mix 1:4:8 with OPC cement @ 180kgs, with 40mm and down size graded granite metal coarse aggregates @0.85cum and fine aggregates @ 0.57cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2 ( Page No.12 Item No.4.3 )								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.12 Item No.4.3 )</b>									
		Cum	1	2.10	2.10	0.15	0.66	4867.00	3212.00
3	KSRB 4-1.7 : Providing and laying in position plain cement concrete of mix M10 with OPC cement @ 220kgs, with 20mm and down size graded granite metal coarse aggregates @0.84cum and fine aggregates @ 0.56cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation,plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.13 Item No.4.7 )</b>									
		Cum	1	1.05	1.05	0.10	0.11	5282.00	581.00
4	KSRB 5.1-3 : Providing and constructing granite / trap / basalt rubble stone masonry in foundation with cement mortar 1:6 (uncoursed ), bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.12								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.25 Item No.5.3 )</b>									
		Cum	1	5.10	0.45	1.30	2.98		
				(3.142x(0.09x0.09)/4					
	Deduction Pipe portion	Cum	-2	0.01	0.45		-0.01		
							2.97	3249.00	9650.00
5	KSRB 15.1.3 -do- Providing ruled pointing to coursed stone masonry with cement mortar 1:3, 20mm deep, after raking joints to depth of 20mm nicely lining, including cost of materials, labour, curing complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.115 Item No.15.3 )</b>									
		Sqm	1	4.20	1.30		5.46	98.00	535.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
6	KSRB 4.2.3 : Providing and laying in position reinforced cement concrete of mix M15 with OPC cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications.(Excluding cost of steel fabrication & plastering charges) Specification No. KBS 4.1, 4.6								

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.14 Item No.4.12 )**

A) Percast Slab	Cum	1	1.95	1.95	0.15	0.57			
B) For Coping	Cum	1	5.10	0.45	0.10	0.23			
						<u>0.80</u>	6367.00	5094.00	

- 7 Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required,placing in position and tying with binding wire of approved quality and guage including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 & 2.11 )**

Qty of Item No 6	0.80 @	80.00 Kg/Cum	64.00			
	MT		<u>0.06</u>	56697.50	3402.00	

- 8 Miscellaneous and rounding off 1187.00



24000.00

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

## SUB ESTIMATE : CONSTRUCTION OF VALVE CHAMBER

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
1	KSRB 2-23.1 : Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in Ordinary/hard soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(b) / 2.3.5 Mechanical Means								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.7 Item No.2.23.1 )</b>									
		Cum	1	2.40	2.40	1.75	10.08	53.00	534.00
2	KSRB 4-1.3 : Providing and laying in position plain cement concrete of mix 1:4:8 with OPC cement @ 180kgs, with 40mm and down size graded granite metal coarse aggregates @0.85cum and fine aggregates @ 0.57cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2 ( Page No.12 Item No.4.3 )								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.12 Item No.4.3 )</b>									
		Cum	1	2.40	2.40	0.15	0.86	4867.00	4186.00
3	KSRB 4-1.7 : Providing and laying in position plain cement concrete of mix M10 with OPC cement @ 220kgs, with 20mm and down size graded granite metal coarse aggregates @0.84cum and fine aggregates @ 0.56cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation,plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.13 Item No.4.7 )</b>									
		Cum	1	1.35	1.35	0.10	0.18	5282.00	951.00
4	KSRB 5.1-3 : Providing and constructing granite / trap / basalt rubble stone masonry in foundation with cement mortar 1:6 (uncoursed ), bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.12								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.25 Item No.5.3 )</b>									
		Cum	1	6.30	0.45	1.60	4.54		
				(3.142x(0.09x0.09)/4					
	Deduction Pipe portion	Cum	-2	0.01	0.45		-0.01		
							<u>4.53</u>	3249.00	14718.00
5	KSRB 15.1.3 -do- Providing ruled pointing to coursed stone masonry with cement mortar 1:3, 20mm deep, after raking joints to depth of 20mm nicely lining, including cost of materials, labour, curing complete as per specifications.								
<b>Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.115 Item No.15.3 )</b>									
		Sqm	1	5.40	1.60		8.64	98.00	847.00

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
6	KSRB 4.2.3 : Providing and laying in position reinforced cement concrete of mix M15 with OPC cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications.(Excluding cost of steel fabrication & plastering charges) Specification No. KBS 4.1, 4.6								

**Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.14 Item No.4.12 )**

A) Percast Slab	Cum	1	2.25	2.25	0.15	0.76			
B) For Coping	Cum	1	6.30	0.45	0.10	0.28			
						<u>1.04</u>	6367.00	6622.00	

- 7 Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required,placing in position and tying with binding wire of approved quality and guage including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)

**Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 & 2.11 )**

Qty of Item No 6	1.04 @	80.00 Kg/Cum	83.20			
	MT		<u>0.08</u>	56697.50	4536.00	

- 8 Miscellaneous and rounding off

33000.00

*Adhinarayana*

*[Signature]*

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸ್ವಚ್ಛತ್ವ  
ಉಪ-ವಿಭಾಗ, ಶ್ರೀರಂಗಪಟ್ಟಣ

## ESTIMATE FOR CONSTRUCTION OF THRUST BLOCK (0.75m x 0.75m)

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
---------	-----------------------	------	-----	---	---	---	-----	------	--------

- 1 KSRB 2-23.1 : Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in Ordinary/hard soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(b) / 2.3.5 Mechanical Means

## Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.7 Item No.2.23.1 )

Cum	1	1.15	1.15	1.13	1.49			
					1.49	53.00	79.00	

- 2 KSRB 4-1.3 : Providing and laying in position plain cement concrete of mix 1:4:8 with OPC cement @ 180kgs, with 40mm and down size graded granite metal coarse aggregates @0.85cum and fine aggregates @ 0.57cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2 ( Page No.12 Item No.4.3 )

## Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.12 Item No.4.3 )

Cum	1	1.15	1.15	0.10	0.13	4867.00	633.00	
-----	---	------	------	------	------	---------	--------	--

- 3 KSRB 4-1.5 : Providing and laying in position plain cement concrete of mix M20 with OPC cement @ 300kgs, with 20mm and down size graded granite metal coarse aggregates @0.64cum and fine aggregates @ 0.43cum, with superplasticiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation,plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2

## Schedule Of Rates PWD,Mysore Circle 2016-17 ( Page No.12 Item No.4.5 )

Cum	1	0.95	0.95	0.25	0.23			
Cum	1	0.75	0.75	0.475	0.27			
				(3.142x(0.09x0.09)/4				
Deduction for pipe portion	Cum	-1	1.00	0.01	-0.01			
					0.49	5542.00	2716.00	

- 4 Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required,placing in position and tying with binding wire of approved quality and guage including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)

## Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.VIII Item No.79 &amp; 2.11

Qty of Item No 3	0.49	@	80.00 Kg/Cum	39.20				
MT				0.04	56697.50	2223.00		

6000.00

## ESTIMATE FOR CONSTRUCTION OF THRUST BLOCK (1.00m x 1.00m)

Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
---------	-----------------------	------	-----	---	---	---	-----	------	--------

- 1 KSRB 2-23.1 : Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in Ordinary/hard soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(b) / 2.3.5 Mechanical Means

## Schedule Of Rates PWD, Mysore Circle 2016-17 ( Page No.7 Item No.2.23.1 )

Cum	1	1.40	1.40	1.13	2.21			
					2.21	53.00	117.00	

- 2 KSRB 4-1.3 : Providing and laying in position plain cement concrete of mix 1:4:8 with OPC cement @ 180kgs, with 40mm and down size graded granite metal coarse aggregates @0.85cum and fine aggregates @ 0.57cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2 ( Page No.12 Item No.4.3 )

## Schedule Of Rates PWD, Mysore Circle 2016-17 ( Page No.12 Item No.4.3 )

Cum	1	1.40	1.40	0.10	0.20	4867.00	973.00	
-----	---	------	------	------	------	---------	--------	--

- 3 KSRB 4-1.5 : Providing and laying in position plain cement concrete of mix M20 with OPC cement @ 300kgs, with 20mm and down size graded granite metal coarse aggregates @0.64cum and fine aggregates @ 0.43cum, with superplasticiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2

## Schedule Of Rates PWD, Mysore Circle 2016-17 ( Page No.12 Item No.4.5 )

Cum	1	1.20	1.20	0.25	0.36			
Cum	1	1.00	1.00	0.475	0.48			
				(3.142x0.2x0.2)/4				
Deduction for pipe portion	Cum	-1	1.00	0.03	-0.03			
					0.81	5542.00	4489.00	

- 4 Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required, placing in position and tying with binding wire of approved quality and gauge including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages ect., complete as per design specification and directions (laps and wastages not to be measured and paid)

## Schedule Of Rates PRE, Mysore Circle 2012-13 ( Page No.VIII Item No.79 &amp; 2.11 )

Qty of Item No 3	Cum	0.81	@	80.00 Kg/Cum	64.80			
		MT			0.06	56697.50	3674.00	



Sl. No.	Description of works.	Unit	No.	L	B	D	Qty	Rate	Amount
5	Refilling the basement and pipeline trenches with selected available earth from trench excavation including watering, Consolidation in layers of 15 cm thick including disposing of the surplus earth with a lead of 200 meters.								
<b>Schedule Of Rates PRE,Mysore Circle 2012-13 ( Page No.3 Item No.1.6 )</b>									
	Qty of Item No 1	Cum					2.21		
							<u>2.21</u>	61.00	135.00
6	Miscellaneous and rounding off								612.00
									<u>10000.00</u>




ಸಹಾಯಕ ಕಾರ್ಯದರ್ಶಿ ಇಂಜಿನಿಯರ್  
ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ಸೈರ್ಮಲ್ಯ  
ಉಪ-ವಿಭಾಗ. ಶ್ರೀರಂಗಪಟ್ಟಣ

Panchayath Raj Engineering Mysore Circle 2012-2013, PWD SR Mysore Circle 2016-2017 & KUWS & DB SR 2015-2016

SI No	Item of Work	Item No	Page No	Unit	Zone-1
	<b>CONCRETE AND masonry WORKS</b>				
1	Earth work excavation for foundation and removing the excavated stuff to a distance not exceeding 50 mtrs and with a lift upto 1.50 mtrs. Including shoring, strutting, barricading, danger lighting etc., complete By Manual means	1.1	1		
2	In Ordinary Soil	1.1.1	1	cum	123.00
3	In Hard Soil	1.1.2	1	cum	171.00
4	In Ordinary rock without blasting	1.1.3	1	cum	395.00
5	In Hard rock with blasting	1.1.4	1	cum	409.00
6	In Hard rock by chiselling and Wedging (Where blasting is prohibited)	1.1.5	1	cum	820.00
7	In Marshy soil	1.1.6	1	cum	319.00
8	Earth work excavation for foundation of structure as per drawing and technical specification including setting out, construction of shoring, strutting, barricading, danger lighting, bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, backfilling the excavation earth to the extent required and utilising the remaining earth locally of the work etc, complete by Mechanical Means.	1.3	2		
9	Ordinary/ Hard soil (upto 3 mtrs)	1.3.1	2	cum	30.00
10	Hard soil (upto 3 mtrs)		2	cum	30.00
11	Ordinary rock (not requiring blasting)	1.3.2	2	cum	40.00
12	Hard rock (requiring blasting)	1.3.3	2	cum	500.00
13	In Marshy soil	1.3.4	2	cum	135.00
14	Earthwork excavatin for pipeline trenches including depositing on bank upto a lead of 50 mtrs. Including shoring and strutting, danger lighting and using sight rails and boning rods at every 100 mtrs. Wherever necessary as directed in the following strata By Manual means	1.2	1		
15	In Ordinary soil	1.2.1	1	cum	135.00
16	In hard soil	1.2.2	1	cum	188.00
17	In Ordinary rock without blasting	1.2.3	1	cum	434.00
18	In Hard rock with blasting	1.2.4	1	cum	450.00
19	In Hard rock by chiselling and Wedging	1.2.5	2	cum	902.00
20	In Marshy soil	1.2.6	2	cum	351.00
21	Earth work in excavation for water supply and sanitary line, electrica conduits either in pits or trenches (Upto 601mm trench width) as per drawing and technical specification including setting out construction of shoring, strutting, barricading, danger lighting, bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, backfilling the excavation earth to the extent required and utilising the remaining earth locally of the work in the following clasification by Mechanical Means	1.4	3		
22	Ordinary/ Hard soil - (Depth upto 3 mtrs)	1.4.1	3	cum	45.00
23	Ordinary rock (not requiring blasting)	1.4.2	3	cum	60.00
24	Hard rock (requiring blasting)	1.4.3	3	cum	750.00
25	In Marshy soil	1.4.4	3	cum	202.00
26	Earth work in excavation for water supply and sanitary line, electrica conduits either in pits or trenches (from 601mm to 1500mm trench width) as per drawing and technical specification including setting out construction of shoring, strutting, barricading, danger lighting, bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, backfilling the excavation earth to the extent required and utilising the remaining earth locally of the work in the following clasification by Mechanical Means	1.5	3		
27	Ordinary/ Hard soil - (Depth upto 3 mtrs)	1.5.1	3	cum	38.00
28	Ordinary rock (not requiring blasting)	1.5.2	3	cum	50.00
29	Hard rock (requiring blasting)	1.5.3	3	cum	625.00
30	In Marshy soil	1.5.4	3	cum	169.00
31	Cutting of road surface for pipeline trenches and disposing of the excavated stuff as directed including barricading, danger lighting etc. in the following classification.	1.7	3		
32	Cutting macadam road Surface	1.7.1	3	cum	174.00
33	Cutting Asphalt surface road Surface	1.7.2	3	cum	225.00
34	Cutting in Cement Concrete road Surface	1.7.3	3	cum	451.00
35	Refilling the basement and pipeline trenches with selected available earth from trench excavation including watering, Consolidation in layers of 15 cm thick including disposing of the surplus earth with a lead of 200 meters.	1.6	3	Cum	61.00
36	Providing murrum or sand bedding for the pipeline including watering and consolidation by punners etc. complete with all lead and lift, (in black cotton soil and rock reaches).	1.9	4	Cum	78.00
37	Providing and laying granite or basalt or trap jelly cement concrete using 40 mm and down size jelly for foundation laid in 15 cm thick layers and well cum compacted including mixing by using hand mixers, curing etc. complete as per specifications. Cement concrete M10	2.1	6	Cum	3864.00
38	Providing and laying granite or trap or basalt jelly Cement concrete using 40 mm and down size jelly for foundation laid in 15 cm thick layers and well compacted including machline mixing, curing etc. complete as per specifications. Cement concrete M10	2.2	6	Cum	3984.00

SI No	Item of Work	Item No	Page No	Unit	Zone-1
39	Providing and constructing granite or trap or basalt or sand stone uncoursed rubble stone masonry with CM 1:6 proportion with bond stones at 2 m apart for foundation including curing etc., complete as per specifications.	2.3	6	Cum	2291.00
40	Providing and constructing granite or trap or basalt or Sand stone, coursed rubble second sort size stone masonry with CM 1:6 proportion, courses not less than 20 cm high with bond stones at 2 M apart in each course, edges of stone chisel dressed and all corners 2 lline dressed 5 cms wide on each face including scaffolding curing etc., complete as per specifications. For Basement	2.4	7	Cum	2997.00
41	Providing and laying granite or trap or basalt jelly cement concrete M-10 proportion on using 20 mm and down size jelly including machine mixing, laying tamping, curing and plastering for exposed face with cement mortar 1:4 proportion and with necessary centering, form work etc., complete	2.6	7	Cum	
42	Providing and laying granite or trap or basalt jelly cement concrete M-10 proportion on using 20 mm and down size jelly including machine mixing, laying tamping, curing and plastering for exposed face with cement mortar 1:4 proportion and with necessary centering, form work etc., complete For Basement	2.6.1	7	Cum	4130.00
43	Providing and laying granite or trap or basalt jelly cement concrete M-10 proportion on using 20 mm and down size jelly including machine mixing, laying tamping, curing and plastering for exposed face with cement mortar 1:4 proportion and with necessary centering, form work etc., complete For Cill coping bond slabs	2.6.2	7	Cum	4272.00
44	Providing and laying granite or trap or basalt jelly vibrated cement concrete M-15 proportion using 20 mm and down size jelly including machine mixing, laying, vibrating, tamping, curing and smooth finished for exposed faces with CM 1:3 for tap plaster finished and with necessary centering, form work etc., for flooring of G.L.S.R. cills, coping, bond slab and for any other such work.	2.7	7	Cum	4676.00
45	Providing and laying vibrated cement concrete of design mix M-20 proportion for RCC work excluding cost of reinforcement with 20 mm and down size of broken granite or trap or basalt or any other approved hard jelly with Super plasticiser @ 3 ltrs confirming to IS 9103-1999 Reaffirmed 2008 including cost and conveyance of all materials including form work, centering scaffolding cement mortar plastering 1:3 proportion, 20 mm thick for inside including machine mixing, vibrating, curing making construction joint wherever necessary and giving satisfactory water proof testing etc., (Exclusive of cost of steel & fabrication charges) (KSR84.2.2). For Flat or sloping floor slab	2.8.1	8	Cum	5414.00
46	For Vertical side walls	2.8.2	8	Cum	6634.00
47	Providing and laying vibrated cement concrete of design mix M-30 proportion for RCC work excluding cost of reinforcement with 20 mm and down size of granite or trap or basalt or any other approved hard jelly with Super plasticiser @ 3lrs confirming to IS 9103-1999 Reaffirmed - 2008 including cost and conveyance of all materials including form work centering scaffolding, cement mortar plastering 1:3 proportion, 20 mm thick for inside including machine mixing, vibrating, curing making construction joint wherever necessary and giving satisfactory water proof testing etc. (Exclusive of cost of steel & fabrication charges). For vertical side walls (M-30)	2.10.2	9	cum	6879.00
48	Providing and laying vibrated cement concrete of design mix M-30 proportion for RCC work excluding cost of reinforcement with 20 mm and down size of granite or trap or basalt or any other approved hard jelly with Super plasticiser @ 3lrs confirming to IS 9103-1999 Reaffirmed - 2008 including cost and conveyance of all materials including form work centering scaffolding, cement mortar plastering 1:3 proportion, 20 mm thick for inside including machine mixing, vibrating, curing making construction joint wherever necessary and giving satisfactory water proof testing etc. (Exclusive of cost of steel & fabrication charges). For flat or floor slab (M-30)	2.10.1	9	cum	5774.00
49	Providing and laying using design mix M-30 cement concrete using clean graded granite or trap or basalt jelly 20 mm and downsize with Superplasticiser @ 3 ltrs confirming to IS 9103-1999 Reaffirmed - 2008 for RCC -roof slab and canopies for all spans with steel or plank centering and sheltering including machine mixing, lifting, laying, vibrating, tamping, Plastering to ceiling 12 mm thick in CM 1:3 curing etc., complete (exclusive of cost and steel and fabrication charges)	2.14	11	Cum	6292.00
50	Providing pointing to stone masonry walls in cm 1:3 proportion after racking the joints to a depth of 20mm and nicely lining including scaffolding, curing etc. complete as per specification.	2.15	11	Sqm	70.00
51	Providing plastering to masonry including providing and removing scaffolding, rounding off all corners whenever required smooth rendering, curing etc., complete. For Masonry plain plastering 12 mm thick in CM 1:3	2.16.2	11	Sqm	152.00
52	For Masonry plain plastering 20 mm thick in CM 1:3	2.16.1	11	Sqm	214.00
53	Laying cast iron pipes and specials of all classes without earth work, true to lline and level including rolling and lowering into trenches and perfect linking of joints.	3.2	13		
54	80mm	3.2.1	13	Mtr	21.50
55	100mm	3.2.2	13	Mtr	22.50
56	150mm	3.2.3	13	Mtr	30.00
57	200mm	3.2.4	14	Mtr	42.00
58	Providing and installing at site of work P.V.C. 4Ksc pipes including cost of pipes and specials and labour, including lowering into trenches, laying true to line, level and perfect linking at joints leak proof including jointing of approved type with all labour and lift charges, handling charges including encasing the pipe around to a depth not less than 15 cm with gravel or selected earth available from the excavation etc., complete.	3.4.1	14		
59	63 mm dia pipe	3.4.1 (a)	14	Mtr	78.00

SI No	Item of Work	Item No	Page No	Unit	Zone-1
60	75 mm dia pipe	3.4.1 (b)	14	Mtr	106.00
61	90 mm dia pipe	3.4.1 (c)	15	Mtr	141.00
62	110 mm dia pipe	3.4.1 (d)	15	Mtr	199.00
63	140 mm dia pipe	3.4.1 (e)	15	Mtr	308.00
64	160 mm dia pipe	3.4.1 (f)	15	Mtr	395.00
65	200 mm dia pipe	3.4.2 (g)	15	Mtr	552.00
66	Providing and installing at site of work P.V.C. pipes including cost of pipes and specials and labour, including lowering into trenches, laying true to line, level and perfect linking at joints leak proof including jointing of approved type with all labour and lift charges,handling charges including encasing the pipe around to a depth not less than 15 cm with gravel or selected earth available from the excavation etc., complete.	3.4.2	15		
67	63 mm dia pipe	3.4.2 (a)	15	Mtr	104.00
68	75 mm dia pipe	3.4.2 (b)	15	Mtr	123.00
69	90 mm dia pipe	3.4.2 (c)	15	Mtr	210.00
70	110 mm dia pipe	3.4.2 (d)	15	Mtr	275.00
71	140 mm dia pipe	3.4.2 (e)	15	Mtr	434.00
72	160 mm dia pipe	3.4.2 (f)	15	Mtr	555.00
73	200 mm dia pipe	3.4.2 (g)	15	Mtr	858.00
74	Providing and installing at site of work P.V.C. pipes including cost of pipes and specials and labour, including lowering into trenches, laying true to line, level and perfect linking at joints leak proof including jointing of approved type with all labour and lift charges,handling charges including encasing the pipe around to a depth not less than 15 cm with gravel or selected earth available from the excavation etc., complete.	3.4.3	15		
75	63 mm dia pipe	3.4.3 (a)	15	Mtr	132.00
76	75 mm dia pipe	3.4.3 (b)	15	Mtr	168.00
77	90 mm dia pipe	3.4.3 (c)	15	Mtr	254.00
78	110 mm dia pipe	3.4.3 (d)	15	Mtr	434.00
79	140 mm dia pipe	3.4.3 (e)	15	Mtr	561.00
80	160 mm dia pipe	3.4.3 (f)	15	Mtr	797.00
81	200 mm dia pipe	3.4.3 (g)	15	Mtr	1225.00
82	Labour charges for making flanged joints for cast iron pipes and specials with rubber insertion and necessary bolts and nuts and giving necessary hydraulic pressure test including jointing materials	3.6	16		
83	Upto80mm	3.6.1	16	Each	79.00
84	Above 80 mm & upto 100mm	3.6.2	16	Each	87.00
85	Above 100 mm & upto 150mm	3.6.3	16	Each	95.00
86	Above 150 mm & upto 200mm	3.6.4	16	Each	103.00
87	Giving hydraulic test for C.I / R.C.C /P.V.C / H.D.P.E or A.C pipelines to the pressure equal to 2 times the working pressure including cost of supply of water	3.7	16		
88	Upto80mm	3.7.1	16	Mtr	2.00
89	Above 80 mm & upto 100mm	3.7.2	16	Mtr	2.50
90	Above 100 mm & upto 150mm	3.7.3	16	Mtr	3.00
91	Above 150 mm & upto 200mm	3.7.4	16	Mtr	4.00
92	Above 200 mm dia	3.7.5	16	Mtr	5.00
93	Labour charges for giving 50mm dia G.I pipe end connection from rising main to cistern including cutting,threading,conveying, laying and jointing etc., complete, inclusive of fixing 4 Nos of 20mm dia G I Pipes with laps to the cistern.	3.13	19	Each	1414.00
94	Providing and laying Reinforced cement concrete of mix design of M-25 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick , well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in CM.1:3 proportion wherever necessary etc., complete for RCC rafts raft ring beam, column footing, columns below ground level (exclusive cost of steel and fabrication charges)	4.1(b)	21	Cum	6322.00
95	Providing and laying Reinforced cement concrete of mix design of M-25 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in CM.1:3 proportion wherever necessary etc., complete as per design specification for staging,columns and braces above ground level (exclusive cost of steel and fabrication charges)	4.2(b)	22-23		
96	a)6 m staging	4.2b.1	22-23	Cum	7370.00
97	b) 7.5 m staging	4.2b.2	22-23	Cum	7559.00
98	c) 9.0 m staging	4.2b.3	22-23	Cum	7753.00
99	d) 10.5 m staging	4.2b.4	22-23	Cum	7952.00
100	e) 12.0 m staging	4.2b.5	22-23	Cum	8156.00
101	f) 15.0 m staging	4.2b.6	22-23	Cum	8366.00
102	g) 18.0 m staging	4.2b.7	22-23	Cum	8581.00
103	h) 21.0 m staging	4.2b.8	22-23	Cum	8796.00

SI No	Item of Work	Item No	Page No	Unit	Zone-1
104	Providing and laying Reinforced cement concrete of mix design of M-30 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in CM.1:3 proportion wherever necessary etc., complete as per design specification for staging, columns and braces above ground level (exclusive cost of steel and fabrication charges)	4.2C	23		
105	a) 6 m staging	4.2 c.1	23	Cum	7503.00
106	b) 7.5 m staging	4.2 c.2	24	Cum	7696.00
107	c) 9.0 m staging	4.2 c.3	24	Cum	7894.00
108	d) 10.5 m staging	4.2 c.4	24	Cum	8097.00
109	e) 12.0 m staging	4.2 c.5	24	Cum	8305.00
110	f) 15.0 m staging	4.2 c.6	24	Cum	8518.00
111	g) 18.0 m staging	4.2 c.7	24	Cum	8737.00
112	h) 21.0 m staging	4.2 c.8	24	Cum	8956.00
113	KSRB 4-6.2 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for flat surface such as suspended floors, roofs, landings, balconies and likes, thickness upto 200 mm including cost of all materials, labour complete as per specifications. Specification No. KBS 4.6.2 Rates for centering height more than 3.5 mtrs.	4.29	15	Sqm	
114	-do-0 to 5 mtrs	4.29.2	15	Sqm	550.00
115	Providing and laying Reinforced cement concrete of mix design of M-25 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in C.M.1:3 proportion wherever necessary etc., complete as Per design and specification and giving satisfactory ,water proof test including construction joints wherever necessary as per the directions of the departmental Officers complete for ring beam, side walls, bottom dome or bottom slab, shell portion and bottom ribs (exclusive of cost of steel and fabrication charges and jointing materials)	4.3b	25		
116	a) 6 m staging	4.3b.1	25	Cum	11283.00
117	b) 7.5 m staging	4.3b.2	25	Cum	11458.00
118	c) 9.0 m staging	4.3b.3	25	Cum	11633.00
119	d) 10.5 m staging	4.3b.4	25	Cum	11808.00
120	e) 12.0 m staging	4.3b.5	25	Cum	11983.00
121	f) 15.0 m staging	4.3b.6	25	Cum	12158.00
122	g) 18.0 m staging	4.3b.7	26	Cum	12333.00
123	h) 21.0 m staging	4.3b.8		Cum	12508.00
124	Providing and laying Reinforced cement concrete of mix design of M-30 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in C.M.1:3 proportion wherever necessary etc., complete as Per design and specification and giving satisfactory ,water proof test including construction joints wherever necessary as per the directions of the departmental Officers complete for ring beam, side walls, bottom dome or bottom slab, shell portion and bottom ribs (exclusive of cost of steel and fabrication charges and jointing materials)	4.3C	26		
125	a) 6 m staging	4.3c.1	26	Cum	11416.00
126	b) 7.5 m staging	4.3c.2	26	Cum	11591.00
127	c) 9.0 m staging	4.3c.3	26	Cum	11766.00
128	d) 10.5 m staging	4.3c.4	26	Cum	11941.00
129	e) 12.0 m staging	4.3c.5	26	Cum	12116.00
130	f) 15.0 m staging	4.3c.6	26	Cum	12291.00
131	g) 18.0 m staging	4.3c.7	26	Cum	12466.00
132	h) 21.0 m staging	4.3c.8	26	Cum	12641.00
133	Providing and laying Reinforced cement concrete of mix design of M-25 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in CM.1:3 proportion wherever necessary etc., complete as per design and specifications etc., complete for top rib and top dome or top slab (exclusive cost of steel and fabrication charges)	4.4b	27		
134	a) 6 m staging	4.4b.1	28	Cum	9384.00
135	b) 7.5 m staging	4.4b.2	28	Cum	9559.00
136	c) 9.0 m staging	4.4b.3	28	Cum	9734.00
137	d) 10.5 m staging	4.4b.4	28	Cum	9909.00
138	e) 12.0 m staging	4.4b.5	28	Cum	10084.00
139	f) 15.0 m staging	4.4b.6	28	Cum	10259.00
140	g) 18.0 m staging	4.4b.7	28	Cum	10434.00
141	h) 21.0 m staging	4.4b.8	28	Cum	10609.00

SI No	Item of Work	Item No	Page No	Unit	Zone-1
142	Providing and laying Reinforced cement concrete of mix design of M-30 Grade using clean graded granite or trap or basalt jelly of approved quality of 20mm and down size, with super plasticiser @ 3lts confirming to IS-9103-2008 in layers of not more than 15 cms thick, well consolidated including centering, formwork, vibrating, curing, smooth finishing to the required plumb and face in CM.1:3 proportion wherever necessary etc., complete as per design and specifications etc., complete for top rib and top dome or top slab (exclusive cost of steel and fabrication charges)	4.4C	28		
143	a) 6 m staging	4.4c.1	28	Cum	9525.00
144	b) 7.5 m staging	4.4c.2	28	Cum	9700.00
145	c) 9.0 m staging	4.4c.3	28	Cum	9875.00
146	d) 10.5 m staging	4.4c.4	28	Cum	10050.00
147	e) 12.0 m staging	4.4c.5	28	Cum	10225.00
148	f) 15.0 m staging	4.4c.6	28	Cum	10400.00
149	g) 18.0 m staging	4.4c.7	28	Cum	10575.00
150	h) 21.0 m staging	4.4c.8	28	Cum	10750.00
151	Providing and fabricating TMT reinforcement including, straightening cutting, bending, hooking, lapping and / or welding wherever required, placing in position and tying with binding wire of approved quality and gauge including cost of binding wire and anchoring to the adjoining members wherever necessary including all laps and wastages etc., complete as per design specification and directions (laps and wastages not to be measured and paid)	79 & 2.11	VIII		
152	a) Cost of steel per quintal as per schedule A		VIII	MT	43400.00
153	b) Add 5% towards Laps		10	MT	2170.00
154	c) Add 5% towards Wastage		10	MT	2170.00
155	d) Deduct 1/4 of (c) for realisation from wastage		10	MT	-542.50
156	e) Fabrication charges		10		9500.00
157	f) Fabrication charges (for over head tank only)		29		11000.00
158	g) Grand Total	2.11 f.	10	MT	56697.50
159	g) for over head tank	4.5	29	MT	58197.50
160	Providing and fixing M.S. Ladder 45 cm wide with an angle iron and 20mm M.S. Bars at 25 cms C/C duly fixing by holes to full depth of angle & welding with necessary supports and angle iron of same section at braces including fixing in ground with CC (M-15) bed and 2 coats of non-poisonous anti-corrosive bituminous, paints as directed. (including inserting in the angle iron and welding) outside	4.6 a	29	Mtr	1823.00
161	Ladder inside the container : Providing and Anodised Aluminium ladder, using 65 mm x 32 mm (approx.) "C" Section x 3.0 mm of ladder side channels in to 25mm dia fluted pipe for rungs at 250 mm C/C ladder fixed at an angle of 70 degrees to horizontal including necessary 25mm dia., G.I. shutters with necessary G.I. fasteners for bracing the ladders to the Tank walls to prevent buckling of the ladder with necessary C.C. (M15) bed for embedding the ladder bottom complete	4.6 b	29	Mtr	2609.00
162	Providing and fixing G.I. pipe railing 32 mm dia G.I. pipe 'B' Class in two rows of roof dome, flat slab of landings of elevated storage reservoir including cutting, welding, threading, painting, embedding in C.M. pillars with all lead and lifts etc., complete.	4.7	30	Mtr	451.00
163	Providing and constructing RCC hexagonal ventilator final for RCC overhead tank the final to be constructed with CC (M-20) proportion using 20mm and down size jelly with reinforcement using 6mm dia., M.S rods 4 nos., for each of the pillars both ways for full width of dome at 12cm c/c, the ventilator to be of 0.45 M x 0.5 M size provided with 25mm x 25mm x 5mm M.S. frame welded with diamond mesh to its full width and depth fully covered with aluminum mosquito mesh finished smooth with CM 1:3 proportion to required shape and size and ornamental finish including two coats of anti-corrosive paint for frame and mesh and two coats of cement paint matching to over head tank etc., complete	4.8	30	Each	3970.00
164	Providing and fixing 60x60 cms M.S. inspection door with necessary M.S. frame made out of M.S. angle 50x50x6mm and M.S. shutters of 31.5mm or B.G. 10 thick with hinges on top and locking arrangement, painting etc., complete (for RCC overhead tank and G.L.S.R.)	4.9	30	Each	1787.00
165	Providing and fixing enameled gauge plate 3 mm thick, 0.23 M wide with plastic float thick plastic indicator and flexible nylon wire etc., complete to 2.50 M height.	4.10	30	Mtr	2169.00
166	Labour charges for fixing puddle flanges in position for R.C.C. tanks including hoisting (80mm to 200 mm )	4.11	31	Each	188.00
167	Labour charges for hoisting C.I. flanged pipes in position aligning to plumb and jointing for R.C.C. overhead tanks (80 mm to 200 mm)	4.12	31	Each	166.00
168	Providing 2 coats of snowcem painting over one coat of primer including scrapping the exposed faces, removing loose plastering removal of vegetations, fungus, cleaning the surface, replastering wherever required in C.M 1:3 to the required shape with necessary scaffolding & curing etc. (Including cost of materials)	4.14	31	Sqm	189.00
169	Providing & fixing copper lightning arrester with five spikes and 20mm dia copper tube or suitable length of aluminium strip of spike 25mmx3mm including grounding as per KEB specification. The aluminium strip is to be encased in G. I conduct pipe or 40mm dia., 6 M long suitably joined by collar with all specials, fixed to one of the columns etc. complete up to 6 M staging.	4.15	31	Each	7300.00
170	Earthwork excavaton including shoring, strutting, baricading, danger lighting, bailing out water wherever necessary with stacking the materials as directed upto a lead of 50 M and lift of 1.5 Mtr etc complete	8.1	41		

SI No	Item of Work	Item No	Page No	Unit	Zone- I
171	Earthwork excavaton in soil, clay sand, shedu soil, soft murrum, including shoring, strutting, baricading, danger lighting, bailing out water wherever necessary with stacking the materials as directed upto a lead of 50 M and lift of 1.5 Mtr etc complete	8.1	41		
172	Upto 1.50 M	8.1 a	41	Cum	144.00
173	Add 24 for additional Lift charges	8.1 b	41		
174	1.50 to 3.00 M	8.1 c	41	Cum	168.00
175	3.00 to 4.50 M	8.1 d	41	Cum	192.00
176	4.50 to 6.00 M	8.1 e	41	Cum	216.00
177	6.00 to 7.50 M	8.1 f	41	Cum	240.00
178	7.50 to 9.00 M	8.1 g	41	Cum	264.00
179	9.00 to 10.50 M	8.1 h	41	Cum	288.00
180	Add 49 for additional Lift charges		41		
181	10.50 to 12.00 M	8.1 i	41	Cum	337.00
182	12.00 to 13.50 M	8.1 j	41	Cum	386.00
183	13.50 to 15.00 M	8.1 k	41	Cum	435.00
184	15.00 to 17.50 M	8.1 l	41	Cum	484.00
185	Earthwork excavation in hard murrum, boulders, hard Katak including shoring strutting, barricading, danger lighting, bailing out water wherever necessary, with stacking the materials as directed up to a lead of 50 M & lift of 1.50 etc. Complete	8.2	41		
186	Upto 1.50 M	8.2 a	41	Cum	174.00
187	Add 36 for additional depths	8.2 b	41		
188	1.50 to 3.00 M	8.2 c	41	Cum	210.00
189	3.00 to 4.50 M	8.2 d	41	Cum	246.00
190	4.50 to 6.00 M	8.2 e	41	Cum	282.00
191	6.00 to 7.50 M	8.2 f	41	Cum	318.00
192	7.50 to 9.00 M	8.2 g	41	Cum	354.00
193	9.00 to 10.50 M	8.2 h	41	Cum	390.00
194	Add 54 for additional Lift charges		41		
195	10.50 to 12.00 M	8.2 i	41	Cum	444.00
196	12.00 to 13.50 M	8.2 j	41	Cum	498.00
197	13.50 to 15.00 M	8.2 k	41	Cum	552.00
198	15.00 to 17.50 M	8.2 l	41	Cum	606.00
199	Earthwork excavation in soft rock including shoring, strutting, barricading, danger lighting, bailing out water wherever necessary with stacking the materials as directed up to a lead of 50 M and lift of 1.5 M etc., complete	8.3	42		
200	Upto 1.50 M	8.3 a	42	Cum	390.00
201	Add 54 for additional depths	8.3 b	42		
202	1.50 to 3.00 M	8.3 c	42	Cum	444.00
203	3.00 to 4.50 M	8.3 d	42	Cum	498.00
204	4.50 to 6.00 M	8.3 e	42	Cum	552.00
205	6.00 to 7.50 M	8.3 f	42	Cum	606.00
206	7.50 to 9.00 M	8.3 g	42	Cum	660.00
207	9.00 to 10.50 M	8.3 h	42	Cum	714.00
208	Add 72 for additional Lift charges		42		
209	10.50 to 12.00 M	8.3 i	42	Cum	786.00
210	12.00 to 13.50 M	8.3 j	42	Cum	858.00
211	13.50 to 15.00 M	8.3 k	42	Cum	930.00
212	15.00 to 17.50 M	8.3 l	42	Cum	1002.00
213	Eadhwork excavation in hard rock requiring blasting including shoring, strutting, baricading, danger lighting, bailing out water wherever necessary with stacking the materials as directed upto a lead of 50 M and lift of 1.5 Mtr etc complete		42		
214	Upto 1.50 m	8.4 a	42	Cum	616.00
215	Add 90 for additional depths	8.4 b	42		
216	1.50 to 3.00 M	8.4 c	42	Cum	706.00
217	3.00 to 4.50 M	8.4 d	42	Cum	796.00
218	4.50 to 6.00 M	8.4 e	42	Cum	886.00
219	6.00 to 7.50 M	8.4 f	42	Cum	976.00
220	7.50 to 9.00 M	8.4 g	42	Cum	1066.00
221	9.00 to 10.50 M	8.4 h	42	Cum	1156.00
222	Add 145 for additional Lift charges		42		
223	10.50 to 12.00 M	8.4 i	42	Cum	1301.00
224	12.00 to 13.50 M	8.4 j	42	Cum	1446.00
225	13.50 to 15.00 M	8.4 k	42	Cum	1591.00
226	15.00 to 17.50 M	8.4 l	42	Cum	1736.00

Sl No	Item of Work	Item No	Page No	Unit	Zone-1
227	Providing and laying Cement Concrete M-10(1:3:6) grade using hard granite or trap or basalt jelly 40mm and down size including machine mixing, laid in layers of 15cms thick and well compacted including lowering to any depth, dewatering and curing etc., complete as per specifications with all lead and lifts for Foundation of staining	8.5	42-43	Cum	4285.00
228	Sand(Coarse)	73	ii	Cum	950.00
229	Sand(Fine)	74	ii	Cum	950.00
	PWD				
1	KSRB 2-2.1 : Earthwork excavation for foundation of buildings, culverts, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in ordinary soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(a) / 2.3.5	2.3	5	Cum	189.00
2	KSRB 2-2.2 : Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in hard soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(b) / 2.3.5	2.4	5	Cum	283.00
3	KSRB 2-23.1 : Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in Ordinary/hard soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(b) / 2.3.5 Mechanical Means	2.23.1	7	Cum	53.00
3	KSRB 2.3 : Filling available excavated earth ( excluding rock ) in sides of foundations upto plinth in layers not exceeding 20 cms. in depth, compacting each deposited layer by ramming after watering with lead upto 50 m. and lift upto 1.5 m. including cost of all labour complete as per specifications. specification. No. KBS 2.9	2.10	6	Cum	127.00
4	KSRB 2.8 : Providing and Filling in foundation with granite / trap broken metal 100mm. and down size, with approved sand including hand packing, ramming, watering, including cost of all materials and labour with all lead and lift. complete as per specifications. specification. No. KBS	2.15	6	Cum	2114.00
5	KSRB 4-1.3 : Providing and laying in position plain cement concrete of mix 1:4:8 with OPC cement @ 180kgs, with 40mm and down size graded granite metal coarse aggregates @0.85cum and fine aggregates @ 0.57cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2 ( Page No.12 Item No.4.3 )	4.3	12	Cum	4867.00
5	KSRB 4.2.2 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, with superplasticiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications. Specification No. KBS 4.1, 4.6	4.11	13	Cum	6011.00
6	KSRB 4.2.3 : Providing and laying in position reinforced cement concrete of mix M15 with OPC cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls ( any thickness ) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications.(Excluding cost of steel fabrication & plastering charges) Specification No. KBS 4.1, 4.6	4.12	14	Cum	6367.00
7	KSRB 4.2.8 : Providing and laying in position reinforced cement concrete of design mix M25 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregates @ 0.46cum, with superplasticiser @3lts confirming to IS9103- 1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for R.C.C. beams, columns of all sizes in foundation plinth and superstructure ground floor level for roof slabs, staircase, lintels, columns, including cost of all materials, labour, HOM of machinery, curing, complete as per specifications.(Excluding cost of steel, fabrication & plastering charges) Specification No. KBS 4.1, 4.6	4.16	15	Cum	6158.00
8	KSRB 4.2.8 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregates @ 0.46cum, with superplasticiser @3lts confirming to IS9103- 1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for R.C.C. beams, columns of all sizes in foundation plinth and superstructure ground floor level for roof slabs, staircase, lintels, columns, including cost of all materials, labour, HOM of machinery, curing, complete as per specifications.(Excluding cost of steel, fabrication & plastering charges) Specification No. KBS 4.1, 4.6	4.11	13	Cum	6011.00



SI No	Item of Work	Item No	Page No	Unit	Zone-1
9	KSRB 4.2.8 : Providing and laying in position reinforced cement concrete of mix M20 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregates @ 0.46cum, with superplasticiser @ 3lts conforming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in ground floor level for roof slabs, staircase, lintels and beams, retaining walls, return walls, walls (any thickness) including attached pilasters, columns, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete byt excluding cost of reinforcement as per specifications. Specification No. KBS 4.1, 4.6	4.13	13	Cum	6158.00
10	KSRB 4.2.10 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 24kgs, with 12mm and down size graded granite metal coarse aggregates @0.5175cum and fine aggregates @ 0.345cum, with superplasticiser @0.225lts, machine mixed, well compacted for plain chejja of 7.5 cms. average thickness, upto ground floor level, including cost of all materials, labour, HOM of machinery, finishing, curing, complete as per specifications (Excluding cost of steel, fabrication and plastering charges). Specification No. KBS 4.1, 4.6	4.19	14	Sqm	456.00
11	KSRB 4-1.2 : Providing and laying in position plain cement concrete of mix M10 with OPC cement @ 220kgs, with 40mm and down size graded granite metal coarse aggregates @0.892cum and fine aggregates @ 0.465cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation and plinth, cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2	4.2	12	Cum	5046.00
12	KSRB 4-4.2 : Extra for use of water proofing compound in Cement concrete of mix M20 at one kg of compound per bag of cement. Specification No. KBS	4.25	15	Cum	189.00
13	KSRB 4-6.1 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for foundations, footings, bases of columns for mass concrete including cost of all materials, labour complete as per specifcations. Specification No. KBS 4.6.2	4.28	15	Sqm	231.00
14	KSRB 4-1.3 : Providing and laying in position plain cement concrete of mix M7.5 with OPC cement @ 180kgs, with 40mm and down size graded granite metal coarse aggregates @0.85cum and fine aggregates @ 0.57cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation and plinth, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2	4.3	12	Cum	4867.00
15	KSRB 4.9.2 : Providing T.M.T steel reinforcement for R.C.C work including straightening, cutting, bending, hooking, placing in position, lapping and or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM of machinery complete as per specifications. Specification No. KBS 4.6.3 TMT bars Fe 500	4.46.2	19	Tonne	60607.00
16	KSRB 4-1.5 : Providing and laying in position plain cement concrete of mix M20 with OPC cement @ 300kgs, with 20mm and down size graded granite metal coarse aggregates @0.64cum and fine aggregates @ 0.43cum, with superplasticiser @3lts conforming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation,plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2	4.5	12	Cum	5542.00
17	KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation,plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2	4.6	13	Cum	5441.00
18	KSRB 4-1.7 : Providing and laying in position plain cement concrete of mix M10 with OPC cement @ 220kgs, with 20mm and down size graded granite metal coarse aggregates @0.84cum and fine aggregates @ 0.56cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation,plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2	4.7	13	Cum	5282.00
19	KSRB 4-5 : Providing lath plaster with cement mortar 1:3, 5cms thick with 6mm dia mild steel bars at 20 cms. c to c both horizontally and vertically fixing chicken mesh for drop chejja, facia, backing to cup boards including cost of all materials, labour, providing and removing form work HOM of machineries, curing, complete as per specifications. Specification No. KBS	4.27	15	Sqm	967.00
20	KSRB 4-6.2 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for flat surface such as suspended floors, roofs, landings, balconies and likes, thickness upto 200 mm including cost of all materials, labour complete as per specifcations. Specification No. KBS 4.6.2 Rates for centering height more than 3.5 mtrs.	4.29.2	15	Cum	550.00
21	KSRB 4-6.4 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for vertical surface such as walls at any thickness, including attached pilasters, buttresses, plinth and string courses cost of all materials, labour complete as per specifcations. Specification No. KBS 4.6.2	4.31	16	Cum	293.00
22	KSRB 4-6.5 : Providing and removing centering, shuttering, strutting, propping etc., for columns, pillars, piers, abutments, post and struts, square / rectangular / polygon in plan including cost of all materials, labour complete as per specifcations. Specification No. KBS 4.6.2	4.32	16	Sqm	366.00

SI No	Item of Work	Item No	Page No	Unit	Zone-1
23	KSRB 4-6.7 :Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for sides and soffits of beams, beam haunchings, cantilever girders, bressumers and lintels not exceeding 1m in depth including cost of all materials, labour complete as per specifcations. Specification No. KBS 4.6.2	4.34	16	Sqm	256.00
24	KSRB 4-6.9 :Providing and removing centering, shuttering, strutting, propping etc., for edges of slabs and breaks in floor, cills, plinth including cost of all materials, labour complete as per specifcaiton. Specification No. KBS 4.6.2	4.36	17	Cum	678.00
25	KSRB 4-6.10 :Providing and removing centering, shuttering, strutting, propping etc., for chejjas, corbels etc., including edges including cost of all materials, labour complete as per specifcaiton. Specification No. KBS 4.6.2	4.37	17	Sqm	270.00
26	KSRB 4-6.11 :Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for Stairs (excluding landing) except spiral staircase including cost of all materials, labour complete as per specifcaiton. Specification No. KBS 4.6.2	4.38	17	Sqm	475.00
27	KSRB 5.1-3 : Providing and constructing granite / trap / basalt rubble stone masonry in foundation with cement mortar 1:6 (uncoursed ), bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.12	5.3	25	Cum	3249.00
28	KSRB 5.2-3 : Providing and constructing granite / trap / basalt size stone masonry in foundation cement mortar 1:6, stone hammered dressed in courses not less than 20 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.13	5.6	25	Cum	4187.00
29	KSRB 5.3-3 : Providing and constructing granite / trap / basalt size stone masonry in basement with cement mortar 1:6, edges of stones chistle dressed in courses not less than 15 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.13	5.9	25	Cum	5005.00
30	Providing granite slabs of selected quality roughly dressed and fixed in cement mortar (1:6) including fixing curing etc., complete. 7.5 cms thick	5.31.1	27	Each	628.00
31	KSRB 6-2.3 : Providing and constructing burnt brick masonry with approved quality of non-modular bricks of standard size of class designation 50 (table moulded) with cement mortar 1:6 for basement and superstructure including cost of materials, labour charges, scaffolding, curing complete as per specifications. Specification No. KBS 6.2	6.6	29	Cum	6685.00
32	KSRB 6-7.4 :Construction of partition wall 11.2 cms thick with non modular table moulded burnt bricks of class designation 50 with cement mortar 1:4 including cost of materials, labour charges, scaffolding, curing complete as per specifications. Specification No. KBS 6.2	6.26	31	Sqm	891.00
33	KSRB 7.3 : Providing and fixing 1mm thick M.S. sheet garage door with frame and diagonal braces of size 40x40x6 mm angle iron, 3.15mm thick M.S. Gusset plates at the junctions and corners, with handles, stoppers and locking arrangements etc., including applying a priming coat of red lead paint cost of materials, labour, HOM of machinery complete as per specifications. Double leaf door of size 2.4x2.4m Specification No. KBS 7.9 / 7.12	7.3	34	Sqm	2332.00
34	KSRB 7.5 : Providing and fixing pull and push type rolling shutters of approved make out of 18 guage, 75mm wide cold rolled steel laths of convex corrugation, with side guides and bottom rail, with interlocking arrangements for steel laths by means of alternate clips, suspension shaft with High tension coil type springs two numbers, mounted on specially designed pipe shaft, with bracket plates, guide channels, ball bearing arrangements, for inside & outside locking with push & pull operations complete including pulling hooks, 4Nos. handles with all fittings and accessories, painted with a coat of red lead paint (without top cover) cost of materials, labour, HOM of machinery complete as per specifications. Shutter size 3mx2.8 m Specification No. KBS 7.10 / 7.12	7.5	34	Sqm	2862.00
35	KSRB 7.6 : Providing and fixing top covers made out of 20 guage M.S. sheet over pull and push rolling shutters bent to shape including cost of red lead primer coat of painting , materials, labour, HOM of machinery complete as per specifications. Specification No. KBS 7.10.6 / 7.12	7.6	35	Mtr	473.00
36	KSRB 7.7 : Providing and fixing in position in cement concrete 1:3:6 steel glazed windows and ventilators side hung/top hung fully openable as per approved drawings using Z angles of 25x33x3mm, weighing 1.419 Kg/m both for outer and inner frames and central mullion section of size 25x46x3mm. weighing 2.28Kg/m duly providing T section 19x19x3mm weighing 0.839 kg/m for glazing of windows not more than 34 cms. c to c including providing and fixing 4mm. thick reeded glass with teakwood beading of required size, all steel sections should confirm to I.S 7452:1990, 4nos. of holdfasts of approved size, section should be cut to length welded and electrically grinded subdividing frames of unit shall be tenonned and revetted into the frames electrically. All the steel surface shall be thoroughly cleaned free of rust and painted with one coat of anti-corrosive paint and finishing with two coats of ready mix paint of approved colour and make including cost of materials, fixtures, labour and HOM of machinery complete as per specifications. Specification No. KBS 7.12.1 / 7.12.2 / 7.12.3 / 7.12	7.7	35	Sqm	3530.00
37	KSRB 7.9 : Providing and fixing M.S.grill work for windows and ventilators weighing 21kg/sqm using M.S. flats, or M.S. square rods, or combination of M.S. flats and square rods as per approved design, drawing including cutting steel sections and welding the same to required pattern with a coat of red lead primer, cost of materials, fixtures, labour and HOM of machinery complete as per specifications. Specification No. KBS 7.12	7.9	35	Kg	78.00

SI No	Item of Work	Item No	Page No	Unit	Zone-I
38	Fabricating, providing and erecting in position of M S Ornamental security Grill Gate without hot dip using 75 x 12mm M S Flat for around frame work with verticals at the centre and horizontal centre support M S Square of 20 x20 mm of different heights as shown in the drawing are to be fixed at 16 cms C/C for square bars of full height and at 8cms C / C for bottom rods providing ornamental C I Designers at the bottom and C I arrows in the middle and top. The entire frame work is to be fixed by means of expansion bolts to the brick pillars with necessary drilling holes. the work includes providing two coats of enamel painting over one coat of red lead ready mix primer coat etc complete cost of all labour, painting, erection charges using hoist pulley cranes with all lead and lift, loading, transporting and unloading using hoist pulley cranes, scaffolding charges and all other incidental charges required for successful completion for the work as per specification and drawings	7.31	44	Kgs	126.00
39	Fabricating, providing and erecting in position of M S Ornamental security Grill without hot dip using 75 x 12mm M S Flat for around frame work with verticals at the centre and horizontal centre support M S Square of 20 x20 mm of different heights as shown in the drawing are to be fixed at 16 cms C/C for square bars of full height and at 8cms C / C for bottom rods providing ornamental C I Designers at the bottom and C I arrows in the middle and top. The entire frame work is to be fixed by means of expansion bolts to the brick pillars with necessary drilling holes. the work includes providing two coats of enamel painting over one coat of red lead ready mix primer coat etc complete cost of all labour, painting, erection charges using hoist pulley cranes etc as per specification and drawings.	7.33	44	Kgs	131.00
40	KSRB 8.6-3 : Providing and fixing on wall surface asbestos cement rain down water pipes 75mm dia including filling the joints with spun yarn soaked in neat cement slurry 1:2 with necessary specials like shoes, bends and offsets fixed with iron clamps, wall plugs, screws, including cost of materials, labour, curing complete as per specifications. Specification No. KBS 8.27, 8.28	8.14	50	Mtr	409.00
41	KSRB 9.4-3 : Providing Mathi / Nandi wood frames of doors, windows, clerestory windows, ventilators and other frames, wrought, framed or assembled including making plaster grooves ( excluding cost of cement concrete and side clamps ), but including cost of materials, labour, HOM of machineries complete as per specifications. Specification No. KBS 9.33	9.12	54	Cum	80792.00
42	KSRB 9.5-3 : Providing and fixing in position fully panelled Mathi/Nandi wood shutters for doors, styles and rails of 40mm. thick with bottom and lock rails 180mm wide top rail and styles 100mm wide as per drawing and panels of 25mm thick including cost of materials, labour, HOM of machineries complete as per specifications. ( excluding cost of fixtures) Specification No. KBS 9.34	9.16	54	Sqm	3925.00
43	KSRB 10-3 : Providing and laying integral cement based water proofing treatment including preparation of surfaces as required application. (a) Applying and grouting a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with proprietary water proofing compound conforming to IS:2645 over the RCC slab after cleaning the surface before treatment. (b) Laying cement concrete using broken brick bats 25mm to 100mm size with 50% of cement mortar 1:5 admixed with proprietary water proofing compound conforming IS:2645 over 20mm thick layer of cement mortar 1:5 admixed with proprietary water proofing compound to required slope and treating similarly the adjoining walls upto 300mm height including rounding off junctions of walls and slabs. (c) After two days of proper curing, applying a second coat of cement slurry admixed with proprietary water proofing compound (d) Finishing the surface with 20mm thick jointless cement mortar of mix 1:4 admixed with proprietary water proofing compound and finally finishing the surface with trowel and neat cement slurry and making of 300x300mm square. (e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test including cost of materials, labour complete as per specifications.	10.2	67	Sqm	904.00
44	KSRB13-3.2 : Providing and fixing in trenches galvanised / mild steel tubes (medium grade) 20mm dia nominal bore with all fittings ( earth work in trenches to be measured and paid for separately ) including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.14 / 13.6	13.11	92	Mtr	185.00
45	KSRB13-3.3 : Providing and fixing in trenches galvanised / mild steel tubes (medium grade) 25mm dia nominal bore with all fittings ( earth work in trenches to be measured and paid for separately ) including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.14 / 13.6	13.12	92	Mtr	267.00
46	KSRB13-3.4 : Providing and fixing in trenches galvanised / mild steel tubes (medium grade) 32mm dia nominal bore with all fittings ( earth work in trenches to be measured and paid for separately ) including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.14 / 13.6.	13.13	92	Mtr	301.00
47	KSRB13-3.5 : Providing and fixing in trenches galvanised / mild steel tubes (medium grade) 40mm dia nominal bore with all fittings ( earth work in trenches to be measured and paid for separately ) including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.14 / 13.6	13.14	92	Mtr	377.00
48	KSRB13-3.6 : Providing and fixing in trenches galvanised / mild steel tubes (medium grade) 50mm dia nominal bore with all fittings ( earth work in trenches to be measured and paid for separately ) including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.14 / 13.6	13.15	92	Mtr	432.00

SI No	Item of Work	Item No	Page No	Unit	Zone-1
49	KSRB13-3.7 : Providing and fixing in trenches galvanised / mild steel tubes (medium grade) 65mm dia nominal bore with all fittings ( earth work in trenches to be measured and paid for separately ) including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.14 / 13.6	13.16	92	Mtr	651.00
50	KSRB13-3.8 : Providing and fixing in trenches galvanised / mild steel tubes (medium grade) 80mm dia nominal bore with all fittings ( earth work in trenches to be measured and paid for separately ) including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.14 / 13.6	13.17	92	Mtr	821.00
51	KSRB13-3.9 : Providing and fixing in trenches galvanised / mild steel tubes (medium grade) 100mm dia nominal bore with all fittings ( earth work in trenches to be measured and paid for separately ) including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.14 / 13.6	13.18	92	Mtr	1082.00
52	KSRB13-3.10 : Providing and fixing in trenches galvanised / mild steel tubes (medium grade) 150mm dia nominal bore with all fittings ( earth work in trenches to be measured and paid for separately ) including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.14 / 13.6	13.19	92	Mtr	1620.00
53	KSRB13-6.5-3 : Providing and fixing in position 25mm nominal bore brass ferrule with C.I mouth cover including boring and tapping the main, cost of all materials, labour and HOM of equipments with all leads complete as per specifications. Specification No.KBS 13.2.3 / 13.14	13.45	94	Each	270.00
54	KSRB13-8.2 : Providing and fixing to wall, ceiling and floor, low density polyethylene pipes 6.00 kg/sq.cm working pressure 25mm outside diameter with special flange, compression type fittings, wall clips, making good the wall, ceiling and floor, including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.15.1 / 13.9	13.67	95	Mtr	117.00
55	KSRB13-8.3 : Providing and fixing to wall, ceiling and floor, low density polyethylene pipes 6.00 kg/sq.cm working pressure 32mm outside diameter with special flange, compression type fittings, wall clips, making good the wall, ceiling and floor, including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.15.1 / 13.9	13.68	95	Cum	185.00
56	KSRB13-8.4 : Providing and fixing to wall, ceiling and floor, low density polyethylene pipes 6.00 kg/sq.cm working pressure 40mm outside diameter with special flange, compression type fittings, wall clips, making good the wall, ceiling and floor, including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.15.1 / 13.9	13.69	95	Cum	225.00
57	KSRB13-8.5 : Providing and fixing to wall, ceiling and floor, low density polyethylene pipes 6.00 kg/sq.cm working pressure 50mm outside diameter with special flange, compression type fittings, wall clips, making good the wall, ceiling and floor, including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.15.1 / 13.9	13.70	95	Cum	263.00
58	KSRB 14.7-3 : Providing and laying flooring 40 mm thick, with an under layer of 30mm thick M-15 cement concrete, using broken granite metal of 12.5mm nominal size and top layer of 10mm thick plaster with cement mortar 1:3, finished with floating coat of neat cement , including cost of materials, labour, curing, complete as per specifications. Specification No. KBS 14.3	14.10	104	Sqm	517.00
59	KSRB 14.9-2 : Providing and laying M-15 cement concrete flooring 60 mm thick with metallic concrete hardner topping, under layer of 45mm thick M-15 cement concrete using broken granite metal of 20mm and down size and top layer of 15mm thick metallic cement hardner consisting of mix 1:2 ( 1 cement hardner mix : 2 granite metal 10mm nominal size ) by volume, with metallic hardening compound of approved quality mix in the ratio of 4:1 ( 4 part of cement = 1 part of metallic floor hardening compound of approved quality by wt ) , including finishing, cost of materials, labour, curing, complete as per specifications. Specification No. KBS 14.4	14.14	104	Sqm	673.00
60	KSRB 14-17.2 : Providing skirting, dado, rises of steps with colour glazed tiles on 10mm thick cement plaster 1:3 and jointed with white cement slurry over rough plaster surface ( excluding cost of rough plastered surface which should be measured and paid separately) using glazed tiles of approved make and size including cost of materials, labour, complete as per specifications. Specification No.KBS 14.16, 14.17 Colour glazed tiles 30x45 cms 6mm thick with border of size 30 x 10 cms.	14.41.3	108	Sqm	1119.00
61	KSRB 15.1.3 -do- Providing ruled pointing to coursed stone masonry with cement mortar 1:3, 20mm deep, after raking joints to depth of 20mm nicely lining, including cost of materials, labour, curing complete as per specifications.	15.3	115	Sqm	98.00
62	KSRB15-3.3 : Providing 12mm thick cement plaster in single coat with cement mortar 1:6, to brick masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.	15.11	115	Sqm	150.00
63	KSRB15-3.9 :Providing 18mm thick cement plaster in single coat with cement mortar 1:6, to brick masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.	15.17	116	Sqm	198.00
64	KSRB15-3.10 : Providing 20mm thick cement plaster in single coat with cement mortar 1:3, to stone masonry & concrete surface including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.	15.18	116	Sqm	259.00

Sl No	Item of Work	Item No	Page No	Unit	Zone-1
65	KSRB15-3-13 : Providing 12mm thick cement plaster in single coat with cement mortar 1:3, to ceiling including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.	15.21	116	Sqm	193.00
66	KSRB15-4.5 Extra for providing and mixing water proofing compound in cement plaster for stone masonry work at one kg per bag or in the proportion recommended by the manufacturers, for cement mortar 1:4, 20mm thick cost of materials complete as per specifications.	15.27	116	Sqm	9.00
67	KSRB15-5.2 : Providing rough cement plastering 15mm thick in single coat with cement mortar 1:6, to brick masonry for base of dadoing works with sand of approved quality, providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.	15.31	117	Sqm	157.00
68	KSRB15-7 : Providing lime rendering for plastering to wall and ceiling, including cost of materials, labour, curing complete as per specifications.	15.33	124	Sqm	25.00
69	KSRB 15-14.1 : Providing and applying two coats with oil bound washable distemper of approved brand and shade on wall surface including priming coat with distemper primer after thoroughly brooming the surface free from mortar drops and other foreign matter including preparing the surface even and sand paper smooth, cost of materials, labour, complete as per specifications.	15.49.1	119	Sqm	71.00
70	KSRB 15-16.1 : Providing and finishing external walls in two coats with waterproof cement paint of approved brand and shade to give an even shade after thoroughly brooming the surface to remove all dirt and loose powdered material, free from mortar drops and other foreign matter cost of materials, labour, complete as per specifications.	15.53.1	120	Sqm	69.00
71	KSRB 15-17.6 : Providing and applying painting two coats ( excluding priming coat ) on new wood surface and / or wood based surface with enamel paint to give an even shade, cleaning the surface of all dirt, dust and foreign matter, sand papering including cost of materials, labour, complete as per specifications.	15.60.1	121	Sqm	84.00
72	KSRB 15-18.1 : Applying red lead ready mix priming coat over new steel or other metal surface including preparing the surface after thoroughly cleaning oil, grease, dirt and other foreign matter, and scoured with wire brushes, fine steel wool, sand papers including cost of materials, labour, complete as per specifications.	15.73	123	Sqm	29.00
73	KSRB 15-18.6 : Providing and applying black japan paint one coat (excluding priming coat ) on previously painted steel or other metal surface brushing to give an even shade after cleaning oil, grease, dirt and other foreign matter, including cost of materials, labour, complete as per specifications.	15.78	123	Sqm	26.50
74	KSRRB M300-11.Excavation of for road way in all types of soil by mechanical means including cutting and pushing the earth to site of embankment including trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, complete as per specifications. MORTH Specification No.301	19.11	143	Cum	68.00
75	KSRRB M300- Construction of Embankment with Material Gravel/ Murrum. KSRRB M300-53. Construction of embankment with approved material Gravel/Murrum with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirement Table 300- 2 complete as per specifications.(which includes cost of gravel / murrum, watering charges & compaction by vibratory roller) MORTH Specification No. 305	19.60	152	Cum	300.00
75	KSRRB M300-53. Construction of embankment with approved material deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of Table 300- 2 complete as per specifications.(which includes watering charges & compaction by vibratory roller) MORTH Specification No. 305.	19.61	148	Cum	66.00
76	Excavation in Soil using Hydraulic Excavator CK 90 and Tippers with Disposal KSRRB M300-14. Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location and complete as per specifications. MORTH Specification No.301	19.14	146	Cum	46.00
77	Excavation in Ordinary Rock using Hydraulic Excavator CK-90 and Tippers with Disposal KSRRB M300-15. Excavation for roadway in ordinary rock with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, transporting to embankment site and trimming bottom and side slopes in accordance with requirements of lines, grades and cross sections complete as per specifications. MORTH Specification No. 301	19.15	146	Cum	62.00
78	Excavation in Hard Rock (blasting prohibited) KSRRB M300-16.1. Excavation for roadway in hard rock (blasting prohibited) with rock breakers including breaking rock, loading in tippers and disposal and trimming bottom and side slopes in accordance with requirements of lines, grades and cross sections complete as per specifications. A. Mechanised MORTH Specification No. 301	19.16	146	Cum	365.00
79	KSRRB M300- Construction of Embankment with Material Gravel/ Murrum. KSRRB M300-53. Construction of embankment with approved material Gravel/Murrum with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirement Table 300- 2 complete as per specifications.(which includes cost of gravel / murrum, watering charges & compaction by vibratory roller) MORTH Specification No. 305	19.60	152	Cum	302.00

SI No	Item of Work	Item No	Page No	Unit	Zone-I
	KSRRB M2200- Providing Weep Holes KSRRB M2200-8. Providing weep holes in Brick masonry / Plain / Reinforced concrete abutment, wing wall / return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V :20H towards drawing face. Complete as per drawing and Technical Specifications complete as per specifications MORTH Specification No.2706 & 2200 ( Page No.225 Item No.28.10 )	28.10	225	Nos /mtr	168.00
80	KSRRB M2500-4.1. Providing and laying Pitching on slopes laid over prepared filter media including boulder apron laid dry in front of toe of embankment complete as per drawing and Technical specifications A. Stone / Boulder MORTH Specification No. 2504	30.5	250	Cum	1375.00
81	Providing and laying reinforced cement concrete pipe NP3 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No.1000 / 2300 (300mm. dia)	34.6.1	263	Mtr	1583.00
82	Providing and laying reinforced cement concrete pipe NP3 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No.1000 / 2300 (450mm. dia)	34.6.2	263	Mtr	2767.00
83	Providing and laying reinforced cement concrete pipe NP3 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No.1000 / 2300 (600mm. dia)	34.6.3	264	Mtr	3448.00
84	Providing and laying reinforced cement concrete pipe NP3 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No.1000 / 2300 (750mm. dia)	34.6.4	264	Mtr	3762.00
85	Providing and laying reinforced cement concrete pipe NP3 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No.1000 / 2300 (900mm. dia)	34.6.5	264	Mtr	6025.00
86	Providing and laying reinforced cement concrete pipe NP3 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No.1000 / 2300 (1200mm. dia)	34.6.6	264	Mtr	9292.00
87	Providing and laying reinforced cement concrete pipe NP2 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No.1000 / 2300 450mm dia	34.7.4	264	Mtr	1509.00
88	Supplying and fixing M.S. Rectangular poles made out of 2 equal angles of 65x65x6 mm welded together and fixed in CC (1:2.4) WITH 2 NOS 16mm dia M.S. hold fast rods each of length 25 cms. Including cost of all materials cutting, bending scaffolding wherever necessary, nicely finishing the welded joints with all lead lifts and as per the directions of the Engineer - in- charge of the work and including providing 2 coats of approved quality paint over one coat of shop painting ( excluding cost of earthwork and concrete)	37.2	272	Mtr	819.00
89	Providing chain link fencing 50mm size of 8 guage properly stretched between rectangular poles and fixed with suitable bolts & nuts, the free ends shall be welded to the pole and block pipe at top and bottom as required including cost of all materials, labour, lead and lifts and as per the directions of the Engineer-in-charge of work including two coats of approved quality paint over one coat of shop paint	37.3	272	Sqm	659.00
90	Cutting of road surface for pipeline trenches and disposing of the excavated stuff as directed including barricading, danger lighting etc., in the Cement concrete road.	37.40	274	Cum	562.00
91	Providing and fixing M.S. Block pipe of 38mm dia, of heavy guage of 14 including removing the bends, cutting the pipe, and fixing pipe in between the two verticle poles (M.S. rectangular poles) and spot welding the chain link with M.S. block pipe including cost of all materials wastage in cutting, and scaffolding wherever necessary with all lead and lift as directed by the Engineer-in-charge of work etc., complete including two coats of approved quality paint over one coat of shop paint.	37.4	272	Mtr	324.00
92	Diversion of water course by providing Coffor dams or bunds or islands as may be necessary for piers and abutments foundations, bailing out or pumping water during excavation and until completion etc., complete. 1.50 mtrs depth below LWL.	37.41.1	274	Cum	268.00
93	Diversion of water course by providing Coffor dams or bunds or islands as may be necessary for piers and abutments foundations, bailing out or pumping water during excavation and until completion etc., complete. beyond 1.50 mtrs depth upto & including 3m depth.	37.41.2	274	Cum	330.00
94	Diversion of water course by providing Coffor dams or bunds or islands as may be necessary for piers and abutments foundations, bailing out or pumping water during excavation and until completion etc., complete. beyond 3.00 mtrs depth upto & including 4.5m depth.	37.41.3	274	Cum	495.00
95	Providing and laying plain/reinforced cement concrete for side drains using M20 nominal mix concrete with OPC cement at 300 kgs. with 20mm and down size granite metal coarse aggregates at 0.69 cum and fine aggregates at 0.43 cum machine mixed, well compacted for walls and bottom including centering, shuttering, cost of materials, HOM of machinery, curing etc., complete excluding cost of steel as per MORTH specification No. 1500,1700, 2200. Wall & bottom thickness 15cm ( Page No.265 Item No.37.59.2 )	37.59.2	265	Cum	6938.00
95	Approved quality granite metal 40 mm Nominal Size	75	II	Cum	950.00
96	Approved quality granite metal 10 mm Nominal Size	0057	II	Cum	1025.00
97	Approved quality granite metal 12.5 mm Nominal Size	0058	II	Cum	1025.00
98	Providing Locking arrangements.	0220	XIV	Each	650.00

SI No	Item of Work	Item No	Page No	Unit	Zone-I
99	Approved quality granite metal 6 mm Nominal Size	0707	II	Cum	800.00
100	Approved Quality fine Sand	0731	II	Cum	950.00
101	Approved quality granite metal 20 mm Nominal Size	0749	II	Cum	1100.00
102	Approved Quality coarse Sand	18	II	Cum	950.00
103	Weld mesh 75mm x 25 mm of 6g x 10g	548	XXXI	Sqm	280.00
104	25 mm Nominal Size	800	II	Cum	975.00
105	Coarse aggregates 53 mm	734	I	Cum	750.00
106	Providing and fixing M.S. Gate as per Chief Architect Drawing, using 50mm x 50mm 14 guage M.S. hollow pipe frame work bent to ornamental shape as shown in the drawing and 35mm x 6mm and 16 x 16mm Square rods for verticals alternatively spaced at 4cms c/c in two halves and 40mmx6mm M.S. flats for horizontal member and at the top cast iron spikes are provided at alternate vertical members as shown in the drawing etc., complete. All the steel surface should be thoroughly cleaned free of rust and painted with anti corrosive paint (shop paint) etc., complete. The work includes cost of all materials, labour charges for all items of work, hire charges for welding, cutting and grinding equipment, and electricity charges, with lead and lift, loading and unloading charges, etc., complete as per specification.	7.37	42	Sqm	2934.00
	<b>KUWS &amp; DB SR 2018-19</b>	<b>2018-2019</b>			
107	Earth work excavation for pipeline trenches (except building works) including depositing on bank with all lead including shoring, strutting, barricading, danger lighting and using sight rails and boning rods at every 100 metres wherever necessary as directed in the following strata. Earthwork Excavation by Manual Means	II.1.1	5		
108	0 - 2.00 Mtrs				
109	i) -do- In all soils mixed with boulders upto 30 cms.size and exclusive of disintegrated rock.	II.1.1.i.a	5	Cum	293.44
110	ii) -do- in disintegrated rock, soft rock, soft shale and medium hard rock comprising of Lime stone, sand stone, hard shale, schist, fissured rock without resorting to blasting	II.1.1.ii.a	5	Cum	663.04
111	iii) -do- in hard laterite rock or hard laterite rock containing iron ore upto 20% by chistelling and trimming to proper slope.	II.1.1.iii.a	5	Cum	1011.36
112	Earth work in excavation for pipeline trenches upto 600 mm trench width as per drawing and technical specification, including setting out, construction of shoring, strutting, barricading, danger lighting, bracing, using sight rails & boning rods at every 100 mm wherever necessary as directed, removal of slumps and other deleterious matter, dressing of sides and levelling the bottom of trench to the extent required, utilising the available excavated earth locally for the work etc., complete in the following strata.	II.1.vii.2	9		
113	0 - 2.00 Mtrs		9		
114	.-do- In Ordinary / All soils / Hard soil (Depth upto 3m)	II.1.vii.2a	9	Cum	145.60
115	.-do- Ordinary Rock (not requiring blasting)	II.1.vii.2b	9	Cum	194.88
116	.-do- Hard Rock (requiring blasting)	II.1.vii.2c	9	Cum	1136.80
117	Refilling pipeline trenches and foundation with selected available earth from trench excavation and foundation including watering, consolidation in layers of 15 cms., thickness including disposing off the surplus earth with all lead and lift.	II.1.2	15	Cum	115.36
118	Supplying Ductile Iron pipes K-7 Class conforming to IS 8329:2000 with latest amendments and conveying to worksite, rolling and lowering into trenches, laying true to line, level and perfect linking at joints, testing and commissioning, including loading and unloading at both destinations and cuts of pipes wherever necessary including jointing of DI pipes and specials, (excluding cost of specials) with rubber gaskets including cleaning the socket and spigot ends with soap solution and applying soft soap to the spigot and socket ends before insertion of rubber gaskets, jacking and fixing in perfect conditions including cost of soap solution, soft soap, waste etc. and giving necessary hydraulic test to the required pressure as per ISS with all lead and lift including cost of jointing materials. (contractor will make his own arrangements for procuring water for testing). DI Pipe rates are based on the Foundry Grade Pig Iron (Si:2%-2.5%) with WPI of 141.1 as on July-2013	II.2.5.1	14		
119	100 mm dia	II.2.5.1.1	14	Cum	1018.08
120	150 mm dia	II.2.5.1.2	14	Cum	1478.40
121	200 mm dia	II.2.5.1.3	14	Cum	2060.80
122	250 mm dia	II.2.5.1.4	14	Cum	2684.64
123	300 mm dia	II.2.5.1.5	14	Cum	3399.20
124	350 mm dia	II.2.5.1.6	14	Cum	4231.36
125	400 mm dia	II.2.5.1.7	14	Cum	5101.60
126	450 mm dia	II.2.5.1.8	14	Cum	6028.96
127	500 mm dia	II.2.5.1.9	14	Cum	7064.96
128	600 mm dia	II.2.5.1.10	14	Cum	9430.40

SI No	Item of Work	Item No	Page No	Unit	Zone-I
129	Supplying Ductile Iron pipes K-9 Class conforming to IS 8329:2000 with latest amendments and conveying to worksite, rolling and lowering into trenches, laying true to line, level and perfect linking at joints, testing and commissioning, including loading and unloading at both destinations and cuts of pipes wherever necessary including jointing of DI pipes and specials, (excluding cost of specials) with rubber gaskets including cleaning the socket and spigot ends with soap solution and applying soft soap to the spigot and socket ends before insertion of rubber gaskets, jacking and fixing in perfect conditions including cost of soap solution, soft soap, waste etc. and giving necessary hydraulic test to the required pressure as per ISS with all lead and lift including cost of jointing materials. (contractor will make his own arrangements for procuring water for testing). DI Pipe rates are based on the Foundry Grade Pig Iron (Si:2%-2.5%) with WPI of 141.1 as on July-2013	II.2.5.2	14		
130	100 mm dia	II.2.5.2.1	14	Cum	1163.68
131	150 mm dia	II.2.5.2.2	14	Cum	1686.72
132	200 mm dia	II.2.5.2.3	14	Cum	2410.24
133	250 mm dia	II.2.5.2.4	14	Cum	3200.96
134	300 mm dia	II.2.5.2.5	14	Cum	4075.68
135	350 mm dia	II.2.5.2.6	14	Cum	5087.04
136	400 mm dia	II.2.5.2.7	14	Cum	6135.36
137	450 mm dia	II.2.5.2.8	14	Cum	7329.28
138	500 mm dia	II.2.5.2.9	14	Cum	8491.84
139	600 mm dia	II.2.5.2.10	14	Cum	11308.64
140	Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vacuum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 10	II.2.10.1	18		
141	80 mm dia	II.2.10.1.1	18	Each	9578.24
142	100 mm dia	II.2.10.1.2	18	Each	12138.56
143	150 mm dia	II.2.10.1.3	18	Each	21240.80
144	200 mm dia	II.2.10.1.4	18	Each	33691.84
145	250 mm dia	II.2.10.1.5	18	Each	50708.00
146	300 mm dia	II.2.10.1.6	18	Each	71491.84
147	350 mm dia	II.2.10.1.7	18	Each	124186.72
148	400 mm dia	II.2.10.1.8	18	Each	149931.04
149	450 mm dia	II.2.10.1.9	18	Each	204627.36
150	500 mm dia	II.2.10.1.10	18	Each	258083.84
151	600 mm dia	II.2.10.1.11	18	Each	372930.88
152	700 mm dia	II.2.10.1.12	18	Each	
153	750 mm dia	II.2.10.1.13	18	Each	
154	800 mm dia	II.2.10.1.14	18	Each	
155	900 mm dia	II.2.10.1.15	18	Each	
156	Supply and Delivery of resilient seated soft sealing Sluice Valves with body, bonnet of Ductile iron of grade GGG50, wedge fully rubber lined with EPDM and Seals of NBR and the valves should be of vacuum tight and 100% leak proof with face dimensions as per BS 5163-89/IS 14846-2000/ DIN 3202 F4/F5,. The steam Sealing Should be with toroidal sealing rings (minimum 2 "O" rings ). All the valves Shall be supplied with suitable size galvanized bolts and nuts of required numbers as per relevant IS PN 16	II.2.10.2	18	Each	
157	80 mm dia	II.2.10.2.1	18	Each	9578.24
158	100 mm dia	II.2.10.2.2	18	Each	12138.56
159	150 mm dia	II.2.10.2.3	18	Each	21240.80
160	200 mm dia	II.2.10.2.4	18	Each	33691.84
161	250 mm dia	II.2.10.2.5	18	Each	50708.00
162	300 mm dia	II.2.10.2.6	18	Each	71491.84
163	350 mm dia	II.2.10.2.7	18	Each	124186.72
164	400 mm dia	II.2.10.2.8	18	Each	149931.04
165	450 mm dia	II.2.10.2.9	18	Each	204627.36
166	500 mm dia	II.2.10.2.10	18	Each	258083.84
167	600 mm dia	II.2.10.2.11	18	Each	372930.88
168	supply and fixing of single chamber triple function tamper proof (both the orifices to be housed in the single chamber) Air valves with body and cover in ductile cast iron of grade GGG 50. all internal parts such as float, shell etc all cover bolts of austitic alloy/ SS 304 steel , DN 50 float of HOSTAFILON /SSRAL5005. The valves Should be designed for all the three functions i.e: 1.Large orifice for venting of large air volumes on start up. 2.Large orifice for Intake of large air Volumes 3.Small orifice for Discharge of pressurized air during operation PN10	II.2.10.7	19		
169	80 mm dia	II.2.10.7.1	19	Each	25755.52
170	100 mm dia	II.2.10.7.2	19	Each	34352.64
171	150 mm dia	II.2.10.7.3	19	Each	40641.44



Sl No	Item of Work	Item No	Page No	Unit	Zone-I
172	200 mm dia	II.2.10.7.4	19	Each	52118.08
173	Supply and fixing of single chamber triple function proof (both the orifices to be housed in the single chamber) Air valves with body and cover in ductile cast iron of grade GGG 50. all internal parts such as float, shell etc all cover bolts of austitic alloy/ SS 304 steel , DN 50 float of HOSTAFLO/SSRAL5005. The valves Should be designed for all the three functions i.e: 1.Large orifice for venting of large air volumes on start up. 2.Large orifice for Intake of large air Volumes 3.Small orifice for Discharge of pressurized air during operation PN16	II.2.10.8	19		
174	80 mm dia	II.2.10.8.1	19	Each	28181.44
175	100 mm dia	II.2.10.8.2	19	Each	42553.28
176	150 mm dia	II.2.10.8.3	19	Each	51357.60
177	200 mm dia	II.2.10.8.4	19	Each	59981.60
178	Supply and fixing of Cast Steel Double flanged Dual plate check valve Class 150 Conforming to API 594 with latest amendments as detailed below of following diameters and types and conveying to work site, loading, unloading, stacking etc.,complete with all lead and lift. The rates are inclusive of cost of Bolts and Nuts Class 150	II.2.10.9	17		
179	80 mm dia	II.2.10.9.1	17	Nos	4651.36
180	100 mm dia	II.2.10.9.2	17	Nos	5361.44
181	150 mm dia	II.2.10.9.3	17	Nos	9210.88
182	200 mm dia	II.2.10.9.4	17	Nos	17413.76
183	250 mm dia	II.2.10.9.5	17	Nos	25128.32
184	300 mm dia	II.2.10.9.6	17	Nos	32953.76
185	350 mm dia	II.2.10.9.7	17	Nos	44635.36
186	400 mm dia	II.2.10.9.8	17	Nos	63237.44
187	450 mm dia	II.2.10.9.9	17	Nos	75878.88
188	500 mm dia	II.2.10.9.10	17	Nos	87438.40
189	600 mm dia	II.2.10.9.11	17	Nos	98657.44
190	700 mm dia	II.2.10.9.12	17	Nos	139576.64
191	750 mm dia	II.2.10.9.13	17	Nos	154515.20
192	800 mm dia	II.2.10.9.14	17	Nos	171407.04
193	900 mm dia	II.2.10.9.15	17	Nos	237611.36
194	1000 mm dia	II.2.10.9.16	17	Nos	304709.44
195	1100 mm dia	II.2.10.9.17	17	Nos	907313.12
196	1200 mm dia	II.2.10.9.18	17	Nos	1171285.92
197	Supplying HDPE pipes conforming to IS 4984:1995 with latest amendments and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to lline and jointing of pipes and specials by electrofusion welding, including encasing the pipe around to a depth not less than 15cms with soft gravel or selected earth available from the excavation etc., complete giving hydraulic test as per relevant ISS with all lead and lift including testing and commissioning. The rate is exclusive of required specials and fittings etc., complete (Contractor will make his own arrangement for procuring water for testing) Note : a) PE - 80 Rates are based on resin rate of Rs.1,04,200.00 per MT. b) PE-100 rates are based on resin rate of Rs.1,05,190.00 per MT.	II.2.50.2	34		
198	Providing & Laying HDPE Pipes PE100 PN06	II.2.50.2.1	34		
199	63 mm dia	II.2.50.2.1.1	34	Mtr	145.60
200	75 mm dia	II.2.50.2.1.2	34	Mtr	181.44
201	90 mm dia	II.2.50.2.1.3	34	Mtr	235.20
202	110 mm dia	II.2.50.2.1.4	34	Mtr	322.56
203	125 mm dia	II.2.50.2.1.5	34	Mtr	400.96
204	140 mm dia	II.2.50.2.1.6	34	Mtr	505.12
205	160 mm dia	II.2.50.2.1.7	34	Mtr	622.72
206	180 mm dia	II.2.50.2.1.8	34	Mtr	763.84
207	200 mm dia	II.2.50.2.1.9	34	Mtr	936.32
208	225 mm dia	II.2.50.0	34	Mtr	1156.96
209	250 mm dia	II.2.50.1	34	Mtr	1443.68
210	280 mm dia	II.2.50.2	34	Mtr	1775.20
211	315 mm dia	II.2.50.3	34	Mtr	2173.92
212	355 mm dia	II.2.50.4	34	Mtr	2785.44
213	400 mm dia	II.2.50.5	34	Mtr	3554.88
214	450 mm dia	II.2.50.6	34	Mtr	4421.76
215	500 mm dia	II.2.50.7	34	Mtr	5420.80
216	560 mm dia	II.2.50.8	34	Mtr	6907.04
217	630 mm dia	II.2.50.9	34	Mtr	8738.24
218	710 mm dia	II.2.50.2.1.2	34	Mtr	15263.36
219	Providing & Laying HDPE Pipes PE100 PN08	II.2.50.2.2	34		
220	63 mm dia	II.2.50.2.2.1	34	Mtr	165.76
221	75 mm dia	II.2.50.2.2.2	34	Mtr	209.44

Sl No	Item of Work	Item No	Page No	Unit	Zone-1
222	90 mm dia	II.2.50.2.2.3	34	Mtr	278.88
223	110 mm dia	II.2.50.2.2.4	34	Mtr	388.64
224	125 mm dia	II.2.50.2.2.5	34	Mtr	484.96
225	140 mm dia	II.2.50.2.2.6	34	Mtr	609.28
226	160 mm dia	II.2.50.2.2.7	34	Mtr	758.24
227	180 mm dia	II.2.50.2.2.8	34	Mtr	935.20
228	200 mm dia	II.2.50.2.2.9	34	Mtr	1148.00
229	225 mm dia	II.2.50.2.2.1	34	Mtr	1422.40
230	250 mm dia	II.2.50.2.2.1	34	Mtr	1774.08
231	280 mm dia	II.2.50.2.2.1	34	Mtr	2189.60
232	315 mm dia	II.2.50.2.2.1	34	Mtr	2695.84
233	355 mm dia	II.2.50.2.2.1	34	Mtr	3441.76
234	400 mm dia	II.2.50.2.2.1	34	Mtr	4412.80
235	450 mm dia	II.2.50.2.2.1	34	Mtr	5512.64
236	500 mm dia	II.2.50.2.2.1	34	Mtr	6755.84
237	560 mm dia	II.2.50.2.2.1	34	Mtr	8599.36
238	630 mm dia	II.2.50.2.2.1	34	Mtr	10874.08
239	710 mm dia	II.2.50.2.2.2	34	Mtr	18596.48
240	Providing & Laying HDPE Pipes PE100 PN10	II.2.50.2.3	34		
241	63 mm dia	II.2.50.2.3.1	34	Mtr	187.04
242	75 mm dia	II.2.50.2.3.2	34	Mtr	238.56
243	90 mm dia	II.2.50.2.3.3	34	Mtr	319.20
244	110 mm dia	II.2.50.2.3.4	34	Mtr	448.00
245	125 mm dia	II.2.50.2.3.5	34	Mtr	561.12
246	140 mm dia	II.2.50.2.3.6	34	Mtr	704.48
247	160 mm dia	II.2.50.2.3.7	34	Mtr	882.56
248	180 mm dia	II.2.50.2.3.8	34	Mtr	1097.60
249	200 mm dia	II.2.50.2.3.9	34	Mtr	1348.48
250	225 mm dia	II.2.50.2.3.1	34	Mtr	1671.04
251	250 mm dia	II.2.50.2.3.1	34	Mtr	2080.96
252	280 mm dia	II.2.50.2.3.1	34	Mtr	2571.52
253	315 mm dia	II.2.50.2.3.1	34	Mtr	3184.16
254	355 mm dia	II.2.50.2.3.1	34	Mtr	4076.80
255	400 mm dia	II.2.50.2.3.1	34	Mtr	5233.76
256	450 mm dia	II.2.50.2.3.1	34	Mtr	6528.48
257	500 mm dia	II.2.50.2.3.1	34	Mtr	8020.32
258	560 mm dia	II.2.50.2.3.1	34	Mtr	10167.36
259	630 mm dia	II.2.50.2.3.1	34	Mtr	12873.28
260	710 mm dia	II.2.50.2.3.2	34	Mtr	22839.04
261	Providing & Laying HDPE Pipes PE100 PN12.5	II.2.50.2.4	34		
262	63 mm dia	II.2.50.2.4.1	34	Mtr	208.32
263	75 mm dia	II.2.50.2.4.2	34	Mtr	268.80
264	90 mm dia	II.2.50.2.4.3	34	Mtr	366.24
265	110 mm dia	II.2.50.2.4.4	34	Mtr	518.56
266	125 mm dia	II.2.50.2.4.5	34	Mtr	651.84
267	140 mm dia	II.2.50.2.4.6	34	Mtr	818.72
268	160 mm dia	II.2.50.2.4.7	34	Mtr	1032.64
269	180 mm dia	II.2.50.2.4.8	34	Mtr	1283.52
270	200 mm dia	II.2.50.2.4.9	34	Mtr	1578.08
271	225 mm dia	II.2.50.2.4.1	34	Mtr	1966.72
272	250 mm dia	II.2.50.2.4.1	34	Mtr	2441.60
273	280 mm dia	II.2.50.2.4.1	34	Mtr	3026.24
274	315 mm dia	II.2.50.2.4.1	34	Mtr	3757.60
275	355 mm dia	II.2.50.2.4.1	34	Mtr	4799.20
276	400 mm dia	II.2.50.2.4.1	34	Mtr	6173.44
277	Providing & Laying HDPE Pipes PE100 PN16	II.2.50.2.5	34		
278	63 mm dia	II.2.50.2.5.1	34	Mtr	237.44
279	75 mm dia	II.2.50.2.5.2	34	Mtr	311.36
280	90 mm dia	II.2.50.2.5.3	34	Mtr	425.60
281	110 mm dia	II.2.50.2.5.4	34	Mtr	605.92
282	125 mm dia	II.2.50.2.5.5	34	Mtr	766.08
283	140 mm dia	II.2.50.2.5.6	34	Mtr	960.96
284	160 mm dia	II.2.50.2.5.7	34	Mtr	1221.92
285	180 mm dia	II.2.50.2.5.8	34	Mtr	1518.72
286	200 mm dia	II.2.50.2.5.9	34	Mtr	1870.40
287	225 mm dia	II.2.50.2.5.1	34	Mtr	2334.08

Sl No	Item of Work	Item No	Page No	Unit	Zone-1
288	250 mm dia	II.2.50.2.5.1	34	Mtr	2901.92
289	280 mm dia	II.2.50.2.5.1	34	Mtr	3601.92
290	315 mm dia	II.2.50.2.5.1	34	Mtr	4480.00
291	355 mm dia	II.2.50.2.5.1	34	Mtr	5713.12
292	400 mm dia	II.2.50.2.5.1	34	Mtr	7355.04
293	450 mm dia	II.2.50.2.5.1	34	Mtr	9243.36
294	500 mm dia	II.2.50.2.5.1	34	Mtr	11354.56
295	Providing and laying C.C. 1:1.5:3 proportion for foundation (Screed layer) with 20 mm and down size of approved gradation hard broken granite, trap basalt or with any other approved hard aggregate including cost and conveyance of all materials with an all lead & lifts including plywood / steel form work, machline mixing, laying, tamping, curing etc., complete.	III.1.2	38	Cum	6165.60
296	(a) Providing and laying vibrated M25 design mix for RCC works (excluding cost of reinforcement) with 20mm and down size of approved gradation hard broken granite, trap, basalt or with any other approved hard aggregate including weigh batch plant mixing and conveyance of all materials with all lead and lift laid in 15cms thick, layers well consolidated vibrating curing smooth finishing the exposed faces wherever necessary plywood / steel form work, centering etc., complete for independent/combined footing, raft, beams below ground level (minimum Cement @ 360Kgs).	III.1.3 a	38	Cum	7464.80
297	Providing and laying vibrated M30 design mix for RCC work (Excluding cost of reinforcement) with 20 mm and down size of approved gradation hard, broken granite, trap, basalt or any other approved hard aggregate with plastering and smooth finishing the exposed faces in C.M. 1:3 12mm thick including cost and conveyance of all materials with all lead & lifts. including weigh batch plant mixing, plywood/steel form work, centering, scaffolding, curing, as per designs etc., complete for columns, braces and ring beam above ground level (minimum Cement @ 400 Kgs).	III.1.4	38	Cum	
298	1) Upto G.L and 6 Mtr. Height	III.1.4.1	38	Cum	13451.20
299	2) Above 6 Mtr. upto 9 Mtr. Height	III.1.4.2	38	Cum	19174.40
300	3) Above 9 Mtr. upto 12 Mtr. Height	III.1.4.3	38	Cum	21342.72
301	4) Above 12 Mtr. upto 15 Mtr. Height	III.1.4.4	38	Cum	24554.88
302	Providing and laying vibrated M25 design mix for RCC work (Excluding cost of reinforcement) with 20 mm and down size of approved gradation hard broken granite, trap, basalt or any other approved hard aggregate including cost and conveyance of all materials with all lead & lift including weigh batch plant mixing plywood/steel form work, centering, scaffolding, curing, plastering and smooth finishing the exposed faces in C.M. 1:3 12 mm thick as per designs etc. complete for RCC Shaft (minimum Cement @ 360Kgs).	III.1.5	38		
303	1) Below G.L	III.1.5.1	38	Cum	14572.32
304	2) Above G.L upto 6 Mtr. Height	III.1.5.2	38	Cum	15598.24
305	3) Above 6 Mtr. upto 9 Mtr. Height	III.1.5.3	38	Cum	16111.20
306	4) Above 9 Mtr. upto 12 Mtr. Height	III.1.5.4	38	Cum	16624.16
307	5) Above 12 Mtr. upto 15 Mtr. Height	III.1.5.5	38	Cum	17137.12
308	6) Above 15 Mtr. upto 18 Mtr. Height	III.1.5.6	38	Cum	17650.08
309	7) Above 18 Mtr. upto 21 Mtr. Height	III.1.5.7	38	Cum	18163.04
310	a) Providing and laying vibrated M30 design mix for RCC work (excluding cost of reinforcement) with 20 mm and down size of approved gradation hard broken, granite, trap, basalt or any other approved hard aggregate including cost and conveyance of all materials with all lead & lift, plywood/steel form work, centering, scaffolding, plastering and smooth finishing the exposed faces in CM. 1:3 12 mm thick and CM plastering 1:3 proportion 20 mm thick for inside with an admixture of water proof compound of requisite proportion of approved quality including weigh batch plant mixing, curing etc., and reservoir given satisfactory water proof testing as per directions, etc., complete, for conical shell portion, bottom dome/slab, side wall and ribs over the staging. (Contractor will make his own arrangements for procuring water for testing) (Cement @ 400 Kgs).	III.1.6 a	39		
311	1) Upto 6 Mtr. Staging	III.1.6 a.1	39	Cum	19610.08
312	2) Above 6 Mtr. upto 9 Mtr. Staging	III.1.6 a.2	39	Cum	21495.04
313	3) Above 9 Mtr. upto 12 Mtr. Staging	III.1.6 a.3	39	Cum	23854.88
314	4) Above 12 Mtr. upto 15 Mtr. Staging	III.1.6 a.4	39	Cum	27688.64
315	5) Above 15 Mtr. upto 18 Mtr. Height	III.1.6 a.5	39	Cum	31522.40
316	6) Above 18 Mtr. upto 21 Mtr. Height	III.1.6 a.6	39	Cum	35356.16
317	a) Providing and laying vibrated M30 design mix for RCC work (excluding cost of reinforcement) with 20 mm and down size of approved gradation hard broken, granite, trap, basalt or any other approved hard aggregate including cost and conveyance of all materials with all lead & lift, plywood/steel form work, centering, scaffolding, plastering and smooth finishing the exposed faces in CM. 1:3 12 mm thick and CM plastering 1:3 proportion 20 mm thick for inside with an admixture of water proof compound of requisite proportion of approved quality including weigh batch plant mixing, curing etc., and reservoir given satisfactory water proof testing as per directions, etc., complete, for conical shell portion, bottom dome/slab, side wall and ribs over the staging. (Contractor will make his own arrangements for procuring water for testing) (Cement @ 400 Kgs).	III.1.6 b	39		

SI No	Item of Work	Item No	Page No	Unit	Zone-1
318	1) Upto 6 Mtr. Staging	III.1.6.b.1	39	Cum	22258.88
319	2) Above 6 Mtr. upto 9 Mtr. Staging	III.1.6.b.2	39	Cum	24505.60
320	3) Above 9 Mtr. upto 12 Mtr. Staging	III.1.6.b.3	39	Cum	27489.28
321	4) Above 12 Mtr. upto 15 Mtr. Staging	III.1.6.b.4	39	Cum	32466.56
322	5) Above 15 Mtr. upto 18 Mtr. Height	III.1.6.b.5	39	Cum	37443.84
323	6) Above 18 Mtr. upto 21 Mtr. Height	III.1.6.b.6	39	Cum	42421.12
324	Providing and laying vibrated M30 design mix for RCC work (excluding cost of reinforcement) with 20 mm and down size of approved gradation hard broken granite, trap, basalt or any other approved hard aggregate including cost and conveyance of all materials with all lead and lifts above staging including weigh batch plant mixing, centering, plywood/steel form work, scaffolding, tamping, curing, cement mortar plastering 1:3 proportion 12 mm thick for both inside and outside surface etc., complete, for Top dome/ Slab. (Cement @ 400 Kgs).	III.1.7	39		
325	1) Upto 6 Mtr. Staging	III.1.7.1	39	Cum	22092.00
326	2) Above 6 Mtr. upto 9 Mtr. Staging	III.1.7.2	39	Cum	24986.08
327	3) Above 9 Mtr. upto 12 Mtr. Staging	III.1.7.3	39	Cum	27427.68
328	4) Above 12 Mtr. upto 15 Mtr. Staging	III.1.7.4	39	Cum	30844.80
329	5) Above 15 Mtr. upto 18 Mtr. Height	III.1.7.5	39	Cum	34261.92
330	6) Above 18 Mtr. upto 21 Mtr. Height	III.1.7.6	39	Cum	37679.04
331	Labour charges for fabricating mild steel or torsteel bars of all sizes for reinforcement for RCC works including conveying steel to work spot with all lead including cleaning, straightening, bending, fabricating, placing in position and tying as per design including cost of binding wire hoisting etc., with all lifts etc., complete (Excluding cost of steel).	III.1.9	39	MT	
332	1) Upto 6 Mtr. Staging	III.1.9.1	39	MT	12306.56
333	2) Above 6 Mtr. upto 9 Mtr. Staging	III.1.9.2	39	MT	12995.36
334	3) Above 9 Mtr. upto 12 Mtr. Staging	III.1.9.3	39	MT	13340.32
335	4) Above 12 Mtr. upto 15 Mtr. Staging	III.1.9.4	39	MT	14029.12
336	5) Above 15 Mtr. upto 18 Mtr. Height	III.1.9.5	39	MT	14717.92
337	6) Above 18 Mtr. upto 21 Mtr. Height	III.1.9.6	39	MT	15406.72
338	Providing and fixing M.S. ladder between landing 45 cms.wide using angle iron of following size and 20 mm M.S. bars at 25cms. centre to centre with necessary supports of same angle iron as directed including hand railing on both sides with 25mm dia G.I. pipes with angle iron props at 2 mtrs, interval and 0.5 mtr, height including fixing in ground with C.C. 1:2:4 and two coats of nonpoisonous anticorrosive bituminous paint with all lead and lift etc., complete. Note: Only exposed ladder portion above G.L. to be paid for.	III.1.10	39		
339	a) 65 x 65 x 8 mm angle iron	III.1.10.a	39	Mtr	2039.52
340	b) 65 x 65 x 10 mm angle iron	III.1.10.b	39	Mtr	2270.24
341	Providing and fixing R.C.C. finial and ventiators as per approved design and specification with form work and protected with wire mesh. The plinth to be of R.C.C. circular pillars and canopy with an ornamental finish at top. The first 22.50 Cms. height to be covered with RCC panelling as per detailed drawing with all lead and lifts etc., complete.	III.1.11	40	Each	
342	1) For tanks upto 2.50 lakh liters capacity.	III.1.11.1	40	Each	6469.12
343	2) For tanks above 2.5 lakh liters and upto 5 lakh liters capacity	III.1.11.2	40	Each	7507.36
344	3) For tanks above 5 lakh liters and upto 10 lakh liters capacity	III.1.11.3	40	Each	8028.16
345	Providing and fixing M.S. Inspection door of size 60 cms x 60 cms. including M.S. frame, size 50 x 50 x 6 mm and shutters of 3mm thickness with hinges at top and locking arrangements,painting with all lead and lifts etc., complete.	III.1.12	40	Each	2036.16
346	(a) Providing and fixing guage with iron sheet of 3 mm to 4 mm thickness, 0.23 Mtr. width with copper floats indicators and flexible nylon wires, painting figures with approved enamelled paint with all lead and lifts etc., complete. enamelled gauge plate.	III.1.13.2	40	Each	
347	0 to 1.5 Mtr depth	III.1.13.2.1	40	Each	5181.12
348	0 to 2 Mtr depth	III.1.13.2.2	40	Each	6240.64
349	0 to 2.5 Mtr depth	III.1.13.2.3	40	Each	7300.16
350	Note : Add Rs.584.00 for every 0.5 Mtr. or part there of, for depth beyond 2.5 Mtr.				
351	Supplying & Fixing CI puddle flanges conforming to IS 7181-1986 with latest amendments, in position for R.C.C. walls including hoisting and conveying them to work spot with all lead and lift etc., complete.	III.1.14	40		
352	80 mm dia	III.1.14.1	40	Each	2964.64
353	100 mm dia	III.1.14.2	40	Each	3552.64
354	150 mm dia	III.1.14.3	40	Each	5484.64
355	200 mm dia	III.1.14.4	40	Each	8264.48
356	250 mm dia	III.1.14.5	40	Each	10721.76
357	300 mm dia	III.1.14.6	40	Each	13835.36
358	350 mm dia	III.1.14.7	40	Each	18140.64
359	400 mm dia	III.1.14.8	40	Each	21852.32
360	450 mm dia	III.1.14.9	40	Each	26746.72
361	500 mm dia	III.1.14.10	40	Each	30936.64
362	600 mm dia	III.1.14.11	40	Each	40732.16

SI No	Item of Work	Item No	Page No	Unit	Zone-1
363	Supplying, laying of CI flanged pipe true to line / hoisting of CI flanged pipe conforming to IS 7181-1986 with latest amendments in position and aligning to correct plumb including cost of jointing material, conveying to work spot with all lead and lifts etc., complete	III.1.15	40	Mtr	
364	80 mm dia	III.1.15.1	40	Mtr	2204.16
365	100 mm dia	III.1.15.2	40	Mtr	2686.88
366	150 mm dia	III.1.15.3	40	Mtr	4094.72
367	200 mm dia	III.1.15.4	40	Mtr	5776.96
368	250 mm dia	III.1.15.5	40	Mtr	7666.40
369	300 mm dia	III.1.15.6	40	Mtr	9750.72
370	350 mm dia	III.1.15.7	40	Mtr	13005.44
371	400 mm dia	III.1.15.8	40	Mtr	15630.72
372	450 mm dia	III.1.15.9	40	Mtr	18989.60
373	500 mm dia	III.1.15.10	40	Mtr	22140.16
374	600 mm dia	III.1.15.11	40	Mtr	29384.32
375	Supplying and fixing lightening arrestor of aluminium strip 25mm x 3 mm size including finial and grounding, aluminium strip is to be embedded in one of the columns in an independent GI conduit of 40 mm dia pipe suitably jointed by collars with all specials with all lead and lifts etc., complete.	III.1.16	41	Each	
376	1) For tanks upto 6 Mtr. Staging	III.1.16.1	41	Each	12176.64
377	2) For tanks above 6 Mtr. upto 9 Mtr. Staging	III.1.16.2	41	Each	15233.12
378	3) For tanks above 9 Mtr. upto 12 Mtr. Staging	III.1.16.3	41	Each	18286.24
379	4) For tanks above 12 Mtr. upto 15 Mtr. Staging	III.1.16.4	41	Each	21341.60
380	5) For tanks above 15 Mtr. upto 18 Mtr. Staging	III.1.16.5	41	Each	24396.96
381	6) For tanks above 18 Mtr. upto 21 Mtr. Staging	III.1.16.6	41	Each	27452.32
382	Providing two coats of water proof cement painting of approved colour and shade over one coat of primer including scraping the surface with wire brushes etc., before removal of scaffolding for new R.C.C. over head tanks and cleaning of paint stains wherever necessary with all lead & lift etc., complete.	III.1.17.a	41		
383	1) For tanks upto 6 Mtr. Staging	III.1.17.a.1	41	Sqm	207.20
384	2) For tanks above 6 Mtr. upto 9 Mtr. Staging	III.1.17.a.2	41	Sqm	228.48
385	3) For tanks above 9 Mtr. upto 12 Mtr. Staging	III.1.17.a.3	41	Sqm	248.64
386	4) For tanks above 12 Mtr. upto 15 Mtr. Staging	III.1.17.a.4	41	Sqm	269.92
387	5) For tanks above 15 Mtr. upto 18 Mtr. Staging	III.1.17.a.5	41	Sqm	291.20
388	6) For tanks above 18 Mtr. upto 21 Mtr. Staging	III.1.17.a.6	41	Sqm	312.48
389	Supplying & fixing 40 mm dia G.I. medium duty pipes hand railing 3 rows fixed to 1:2:4 vibrated R.C.C. post of size 100 x 150 mm at top and 150 x 150 mm at bottom placed at 2 Mtr. intervals for a height of 750 mm including curing, painting G.I. pipes with two coats of anticorrosive steel paint over a primer coat with all lead and lift etc., complete. (Rate per Mtr. is for 3 rows of G.I. pipes.)	III.1.18	43	per Mtr of 3 rows	1020.32
390	Providing and laying C.C. 1:1.5:3 proportion for foundation (Screed layer) with 20 mm and down size of approved gradation hard broken granite, trap basalt or with any other approved hard aggregate including cost and conveyance of all materials with an all lead & lifts including plywood / steel form work, machine mixing, laying, tamping, curing etc., complete.	III.2.2	43	Cum	6165.60
391	(a) Providing and laying vibrated M25 design mix for RCC works (excluding cost of reinforcement) with 20 mm and down size of approved gradation hard broken granite, trap, basalt or with any other approved hard broken granite, including weigh batch plant mixing cost and conveyance of all materials with all lead and lift laid in 15 Cms, thick layers well consolidated, vibrating, curing, plastering and smooth finishing to the expose faces wherever necessary, plywood/steel form work, centering etc., complete for independent/combined footing, raft, beams below ground level (Cement @ 360kgs).	III.2.3.a	43	Cum	7464.80
392	(b) Providing and laying vibrated M30 design mix for RCC work using 20 mm and down size metal of approved gradation hard broken granite, trap, basalt or with any other approved hard broken granite, including weigh batch plant mixing cost and conveyance of all materials with all lead and lift. for RCC Works in 15 Cms, thick layers well compacted curing, with necessary plywood/steel form work, centering etc., plastering and smooth finishing to the expose faces in CM 1:4 proportion. 12mm thick etc., complete for main and secondary beams below & above floor level (Cement @400kgs).	III.2.3.b	43	Cum	7990.08
393	(a) Providing and laying vibrated M30 design mix for R.C.C. Works with 20 mm and down size of approved gradation hard broken granite, trap, basalt or any other approved hard aggregate, including, cost and conveyance of all materials with all lead & lift, including plywood/steel form work, centering, scaffolding, cement mortar, plastering in CM 1:3 proportion, 20mm. thick for inside with admixture of water proof compound of requisite proportion of approved quality including weigh batch plant mixing, curing, making construction joints wherever necessary and giving satisfactory water proof testing etc., complete (excluding cost of reinforcement) for floor slab, resting on ground. (contractor will make his own arrangements for procuring water for testing) (Cement @ 400 Kgs).	III.2.4.a	43	Cum	8184.96

SI No	Item of Work	Item No	Page No	Unit	Zone- I
318	1) Upto 6 Mtr. Staging	III.1.6.b.1	39	Cum	22258.88
319	2) Above 6 Mtr. upto 9 Mtr. Staging	III.1.6.b.2	39	Cum	24505.60
320	3) Above 9 Mtr. upto 12 Mtr. Staging	III.1.6.b.3	39	Cum	27489.28
321	4) Above 12 Mtr. upto 15 Mtr. Staging	III.1.6.b.4	39	Cum	32466.56
322	5) Above 15 Mtr. upto 18 Mtr. Height	III.1.6.b.5	39	Cum	37443.84
323	6) Above 18 Mtr. upto 21 Mtr. Height	III.1.6.b.6	39	Cum	42421.12
324	Providing and laying vibrated M30 design mix for RCC work (excluding cost of reinforcement) with 20 mm and down size of approved gradation hard broken granite, trap, basalt or any other approved hard aggregate including cost and conveyance of all materials with all lead and lifts above staging including weigh batch plant mixing, centering, plywood/steel form work, scaffolding, tamping, curing, cement mortar plastering 1:3 proportion 12 mm thick for both inside and outside surface etc., complete, for Top dome/ Slab. (Cement @ 400 Kgs).	III.1.7	39		
325	1) Upto 6 Mtr. Staging	III.1.7.1	39	Cum	22092.00
326	2) Above 6 Mtr. upto 9 Mtr. Staging	III.1.7.2	39	Cum	24986.08
327	3) Above 9 Mtr. upto 12 Mtr. Staging	III.1.7.3	39	Cum	27427.68
328	4) Above 12 Mtr. upto 15 Mtr. Staging	III.1.7.4	39	Cum	30844.80
329	5) Above 15 Mtr. upto 18 Mtr. Height	III.1.7.5	39	Cum	34261.92
330	6) Above 18 Mtr. upto 21 Mtr. Height	III.1.7.6	39	Cum	37679.04
331	Labour charges for fabricating mild steel or torsteel bars of all sizes for reinforcement for RCC works including conveying steel to work spot with all lead including cleaning, straightening, bending, fabricating, placing in position and tying as per design including cost of binding wire hoisting etc., with all lifts etc., complete (Excluding cost of steel).	III.1.9	39	MT	
332	1) Upto 6 Mtr. Staging	III.1.9.1	39	MT	12306.56
333	2) Above 6 Mtr. upto 9 Mtr. Staging	III.1.9.2	39	MT	12995.36
334	3) Above 9 Mtr. upto 12 Mtr. Staging	III.1.9.3	39	MT	13340.32
335	4) Above 12 Mtr. upto 15 Mtr. Staging	III.1.9.4	39	MT	14029.12
336	5) Above 15 Mtr. upto 18 Mtr. Height	III.1.9.5	39	MT	14717.92
337	6) Above 18 Mtr. upto 21 Mtr. Height	III.1.9.6	39	MT	15406.72
338	Providing and fixing M.S. ladder between landing 45 cms.wide using angle iron of following size and 20 mm M.S. bars at 25cms. centre to centre with necessary supports of same angle iron as directed including hand railing on both sides with 25mm dia G.I. pipes with angle iron props at 2 mtrs, interval and 0.5 mtr, height including fixing in ground with C.C. 1:2:4 and two coats of nonpoisonous anticorrosive bituminous paint with all lead and lift etc., complete. Note: Only exposed ladder portion above G.L. to be paid for.	III.1.10	39		
339	a) 65 x 65 x 8 mm angle iron	III.1.10.a	39	Mtr	2039.52
340	b) 65 x 65 x 10 mm angle iron	III.1.10.b	39	Mtr	2270.24
341	Providing and fixing R.C.C. finial and ventiators as per approved design and specification with form work and protected with wire mesh. The plinth to be of R.C.C. circular pillars and canopy with an ornamental finish at top. The first 22.50 Cms. height to be covered with RCC panelling as per detailed drawing with all lead and lifts etc., complete.	III.1.11	40	Each	
342	1) For tanks upto 2.50 lakh liters capacity.	III.1.11.1	40	Each	6469.12
343	2) For tanks above 2.5 lakh liters and upto 5 lakh liters capacity	III.1.11.2	40	Each	7507.36
344	3) For tanks above 5 lakh liters and upto 10 lakh liters capacity	III.1.11.3	40	Each	8028.16
345	Providing and fixing M.S. Inspection door of size 60 cms x 60 cms. including M.S. frame, size 50 x 50 x 6 mm and shutters of 3mm thickness with hinges at top and locking arrangements, painting with all lead and lifts etc., complete.	III.1.12	40	Each	2036.16
346	(a) Providing and fixing guage with iron sheet of 3 mm to 4 mm thickness, 0.23 Mtr. width with copper floats indicators and flexible nylon wires, painting figures with approved enamelled paint with all lead and lifts etc., complete. enamelled gauge plate.	III.1.13.2	40	Each	
347	0 to 1.5 Mtr depth	III.1.13.2.1	40	Each	5181.12
348	0 to 2 Mtr depth	III.1.13.2.2	40	Each	6240.64
349	0 to 2.5 Mtr depth	III.1.13.2.3	40	Each	7300.16
350	Note : Add Rs.584.00 for every 0.5 Mtr. or part there of, for depth beyond 2.5 Mtr.				
351	Supplying & Fixing CI puddle flanges conforming to IS 7181-1986 with latest amendments, in position for R.C.C. walls including hoisting and conveying them to work spot with all lead and lift etc., complete.	III.1.14	40		
352	80 mm dia	III.1.14.1	40	Each	2964.64
353	100 mm dia	III.1.14.2	40	Each	3552.64
354	150 mm dia	III.1.14.3	40	Each	5484.64
355	200 mm dia	III.1.14.4	40	Each	8264.48
356	250 mm dia	III.1.14.5	40	Each	10721.76
357	300 mm dia	III.1.14.6	40	Each	13835.36
358	350 mm dia	III.1.14.7	40	Each	18140.64
359	400 mm dia	III.1.14.8	40	Each	21852.32
360	450 mm dia	III.1.14.9	40	Each	26746.72
361	500 mm dia	III.1.14.10	40	Each	30936.64
362	600 mm dia	III.1.14.11	40	Each	40732.16

SI No	Item of Work	Item No	Page No	Unit	Zone-I
363	Supplying, laying of CI flanged pipe true to line / hoisting of CI flanged pipe conforming to IS 7181-1986 with latest amendments in position and aligning to correct plumb including cost of jointing material, conveying to work spot with all lead and lifts etc., complete	III.1.15	40	Mtr	
364	80 mm dia	III.1.15.1	40	Mtr	2204.16
365	100 mm dia	III.1.15.2	40	Mtr	2686.88
366	150 mm dia	III.1.15.3	40	Mtr	4094.72
367	200 mm dia	III.1.15.4	40	Mtr	5776.96
368	250 mm dia	III.1.15.5	40	Mtr	7666.40
369	300 mm dia	III.1.15.6	40	Mtr	9750.72
370	350 mm dia	III.1.15.7	40	Mtr	13005.44
371	400 mm dia	III.1.15.8	40	Mtr	15630.72
372	450 mm dia	III.1.15.9	40	Mtr	18989.60
373	500 mm dia	III.1.15.10	40	Mtr	22140.16
374	600 mm dia	III.1.15.11	40	Mtr	29384.32
375	Supplying and fixing lightening arrestor of aluminium strip 25mm x 3 mm size including finial and grounding, aluminium strip is to be embeded in one of the columns in an independent GI conduit of 40 mm dia pipe suitably jointed by collars with all specials with all lead and lifts etc., complete.	III.1.16	41	Each	
376	1) For tanks upto 6 Mtr. Staging	III.1.16.1	41	Each	12176.64
377	2) For tanks above 6 Mtr. upto 9 Mtr. Staging	III.1.16.2	41	Each	15233.12
378	3) For tanks above 9 Mtr. upto 12 Mtr. Staging	III.1.16.3	41	Each	18286.24
379	4) For tanks above 12 Mtr. upto 15 Mtr. Staging	III.1.16.4	41	Each	21341.60
380	5) For tanks above 15 Mtr. upto 18 Mtr. Staging	III.1.16.5	41	Each	24396.96
381	6) For tanks above 18 Mtr. upto 21 Mtr. Staging	III.1.16.6	41	Each	27452.32
382	Providing two coats of water proof cement painting of approved colour and shade over one coat of primer including scraping the surface with wire brushes etc., before removal of scaffolding for new R.C.C. over head tanks and cleaning of paint stains wherever necessary with all lead & lift etc., complete.	III.1.17.a	41		
383	1) For tanks upto 6 Mtr. Staging	III.1.17.a.1	41	Sqm	207.20
384	2) For tanks above 6 Mtr. upto 9 Mtr. Staging	III.1.17.a.2	41	Sqm	228.48
385	3) For tanks above 9 Mtr. upto 12 Mtr. Staging	III.1.17.a.3	41	Sqm	248.64
386	4) For tanks above 12 Mtr. upto 15 Mtr. Staging	III.1.17.a.4	41	Sqm	269.92
387	5) For tanks above 15 Mtr. upto 18 Mtr. Staging	III.1.17.a.5	41	Sqm	291.20
388	6) For tanks above 18 Mtr. upto 21 Mtr. Staging	III.1.17.a.6	41	Sqm	312.48
389	Supplying & fixing 40 mm dia G.I. medium duty pipes hand railing 3 rows fixed to 1:2:4 vibrated R.C.C. post of size 100 x 150 mm at top and 150 x 150 mm at bottom placed at 2 Mtr. intervals for a height of 750 mm including curing, painting G.I. pipes with two coats of anticorrosive steel paint over a primer coat with all lead and lift etc., complete. (Rate per Mtr. is for 3 rows of G.I. pipes.)	III.1.18	43	per Mtr of 3 rows	1020.32
390	Providing and laying C.C. 1:1.5:3 proportion for foundation (Screed layer) with 20 mm and down size of approved gradation hard broken granite, trap basalt or with any other approved hard aggregate including cost and conveyance of all materials with an all lead & lifts including plywood / steel form work, machline mixing, laying, tamping, curing etc., complete.	III.2.2	43	Cum	6165.60
391	(a) Providing and laying vibrated M25 design mix for RCC works (excluding cost of reinforcement) with 20 mm and down size of approved gradation hard broken granite, trap, basalt or with any other approved hard broken granite, including weigh batch plant mixing cost and conveyance of all materials with all lead and lift laid in 15 Cms, thick layers well consolidated, vibrating, curing, plastering and smooth finishing to the expose faces wherever necessary, plywood/steel form work, centering etc., complete for independent/combined footing, raft, beams below ground level (Cement @ 360kgs).	III.2.3.a	43	Cum	7464.80
392	(b) Providing and laying vibrated M30 design mix for RCC work using 20 mm and down size metal of approved gradation hard broken granite, trap, basalt or with any other approved hard broken granite, including weigh batch plant mixing cost and conveyance of all materials with all lead and lift. for RCC Works in 15 Cms, thick layers well compacted curing, with necessary plywood/steel form work, centering etc., plastering and smooth finishing to the expose faces in CM 1:4 proportion. 12mm thick etc., complete for main and secondary beams below & above floor level (Cement @400kgs).	III.2.3.b	43	Cum	7990.08
393	(a) Providing and laying vibrated M30 design mix for R.C.C. Works with 20 mm and down size of approved gradation hard broken granite, trap, basalt or any other approved hard aggregate, including, cost and conveyance of all materials with all lead & lift, including plywood/steel form work, centering, scaffolding, cement mortar, plastering in CM 1:3 proportion, 20mm. thick for inside with admixture of water proof compound of requisite proportion of approved quality including weigh batch plant mixing, curing, making construction joints wherever necessary and giving satisfactory water proof testing etc., complete (excluding cost of reinforcement) for floor slab, resting on ground. (contractor will make his own arrangements for procuring water for testing) (Cement @ 400 Kgs).	III.2.4.a	43	Cum	8184.96

SI No	Item of Work	Item No	Page No	Unit	Zone-I
394	(b) Providing and laying vibrated M30 design mix for R.C.C. Works with 20 mm and down size of approved gradation hard broken granite, trap, basalt or any other approved hard aggregate, including, cost and conveyance of all materials with all lead & lift, including plywood/steel form work, centering, scaffolding, cement mortar, plastering in CM 1:3 proportion, 20mm. thick for inside with admixture of water proof compound of requisite proportion of approved quality including weigh batch plant mixing, curing, making construction joints wherever necessary and giving satisfactory water proof testing etc., complete (excluding cost of reinforcement) for for vertical side walls, around effluent channel,baffels, etc. complete with outsideform finishing (Cement @ 400 Kgs).	III 2.4 b	43	Cum	14810.88
395	Providing and laying vibrated cement concrete 1:1½:3 proportion for RCC columns below and above G.L. with 20 mm and down size of approved gradation hard aggregate including cost and conveyance of all materials with all lead lift. with plywood or steel form work, centering including machline mixing laying, vibrating and smooth finishing the expoled faces in cm 1:3, 12 mm thick etc., complete (excluding cost of reinforcement).	III 2.5	43	Cum	14173.60
396	Providing and laying vibrated M30 design mix for RCC work with 20 mm and down size of approved gradation hard broken granite, basalt, trap or any other approved hard aggregate including cost and conveyance of all materials with all lead and lift including weigh batch plant mixing, centreing plywood / steel form work, scaffolding tamping, curing, cement mortar plastering in C.M. 1:3 proportion 12 mm. thick for inside surface etc., complete (excluding cost of reinforcement) for R.C.C. covering slab (Flat slab) (Cement @ 400 Kgs).	III 2.6.1	43	Cum	14194.88
397	Providing and laying vibrated M30 design mix for RCC work with 20 mm and down size of approved gradation hard broken granite, basalt, trap or any other approved hard aggregate including cost and conveyance of all materials with all lead and lift including weigh batch plant mixing, centreing plywood / steel form work, scaffolding tamping, curing, cement mortar plastering in C.M. 1:3 proportion 12 mm. thick for inside surface etc., complete (excluding cost of reinforcement) -do- For RCC Dome with plastering outside and inside with C.M. 1:3 proportion 12 mm thick (Cement @ 400 kgs).	III 2.6.2	43	Cum	18000.64
398	Diversion of water course by providing coffer dams or ring bunds or islands as may be necessary for intake well, connecting pipe line, Jackwell etc. for foundation bailing out by pumping water during excavation and until completion of foundation and dismantling of coffer dam or ring bund or Island after completion of work etc., complete with all lead & lifts.	IV.1.1	45	Cum	
399	1) 0 to 2 Mtr. Height	IV.1.1.1	45	Cum	621.60
400	2)-do- 2 Mtr. to 4 Mtr. Height	IV.1.1.2	45	Cum	1233.12
401	3) Beyond 4 Mtr. Height	IV.1.1.3	45	Cum	1849.12
402	Earth work excavation for foundation including depositing on bank with all lead & lifts including shoring, strutting, barricading, danger lighting. In all soil including soil mixed with boulders upto 30 Cms. size and exclusive of disintegrated rock.	IV.1.2.1	45	Cum	
403	1) 0 to 3 Mtr. Depth	IV.1.2.1.1	45	Cum	97.44
404	Extra 20% for dewatering				116.93
405	2) 3 to 6 Mtr. Depth	IV.1.2.1.2	45	Cum	110.88
406	Extra 20% for dewatering				133.06
407	3) 6 to 9 Mtr. Depth	IV.1.2.1.3	45	Cum	127.68
408	Extra 20% for dewatering				153.22
409	4) 9 to 12 Mtr. Depth	IV.1.2.1.4	45	Cum	146.72
410	Extra 20% for dewatering				176.06
411	5) 12 to 15 Mtr. Depth	IV.1.2.1.5	45	Cum	480.48
412	Extra 20% for dewatering				576.58
413	Note : Add Rs 45.00 per cum. for every additional 2 Mtr. depth or part there off, for depth beyond 10 Mtr.				
414	Earth work excavation for foundation including depositing on bank with all lead & lifts including shoring, strutting, barricading, danger lighting In disintegrated rock, soft rock,soft shale,medium hard rock comprising of lime stone, sand stone, hard shale, schist, fissured rock without resorting to blasting.	IV.1.2.2	45	Cum	
415	1) 0 to 3 Mtr. Depth	IV.1.2.2.1	45	Cum	129.92
416	Extra 20% for dewatering				155.90
417	2) 3 to 6 Mtr. Depth	IV.1.2.2.2	45	Cum	148.96
418	Extra 20% for dewatering				178.75
419	3) 6 to 9 Mtr. Depth	IV.1.2.2.3	45	Cum	171.36
420	Extra 20% for dewatering				205.63
421	4) 9 to 12 Mtr. Depth	IV.1.2.2.4	45	Cum	196.00
422	Extra 20% for dewatering				235.20
423	5) 12 to 15 Mtr. Depth	IV.1.2.2.5	45	Cum	630.56
424	Extra 20% for dewatering				756.67
425	Note : Add Rs 50.00 per cum for every additional 2 Mtr. depth or part there off, for depth beyond 10 Mtr.				
426	Earth work excavation for foundation including depositing on bank with all lead & lifts including shoring, strutting, barricading, danger lighting. In hard laterite	IV.1.2.3	151	Cum	
427	1) 0 to 2 Mtr. Depth	IV.1.2.3.1	151	Cum	452.48
428	Extra 20% for dewatering				542.98
429	2) 2 to 4 Mtr. Depth	IV.1.2.3.2	151	Cum	540.96



Sl No	Item of Work	Item No	Page No	Unit	Zone-1
430	Extra 20% for dewatering				649.15
431	3) 4 to 6 Mtr. Depth	IV.1.2.3.3	151	Cum	642.88
432	Extra 20% for dewatering				771.46
433	4) 6 to 8 Mtr. Depth	IV.1.2.3.4	151	Cum	717.92
434	Extra 20% for dewatering				861.50
435	5) 8 to 10 Mtr. Depth	IV.1.2.3.5	151	Cum	806.40
436	Extra 20% for dewatering				967.68
437	Note : Add Rs 75.00 per cum for every additional 2 Mtr. depth or part there off, For depth beyond 10 Mtr.				
438	Labour charges for laying following filter media in all depth as per specifications in infiltration gallery works including cleaning, screening and placing it under water with all lead & lift to the point of laying etc., complete.	IV.2.7	47		
439	1) Graded Granite/Trap/Basalt/Metal from 6mm to 40mm size	IV.2.7.1	47	Cum	638.40
440	2) -do- coursed sand passing through a sieve of 4 meshes 2.5 cms. and retailed on a sieve of 10 meshes to 2.5 cms. and filling it under water and coursed sand passing through a sieve of 10 meshes to 2.5 cms. and retailed on 20 meshes to 2.5 cms. and filling it under water.	IV.2.7.2	47	Cum	696.64
441	Collecting and stacking the following filter media at the site of work with all lead and lift 6mm,10mm,12mm,20mm & 40mm	IV.2.8.	47	Cum	1271.20
442	Providing and laying Vibrated M30 design mix using 20mm and down size of approved gradation hard granite, trap or basalt broken metal including weigh batch plant mixing, shoring, strutting, plywood/steel form work, curing etc., complete with all lead for all materials, for well curb or RCC cutting edge (Cement @ 400 Kgs).	IV.3.12.a	48	Cum	
443	(2) -do- for RCC steining below ground level.	IV.3.12.a.2	48	Cum	11032.00
444	(3) -do- for R.C.C steining above ground level upto 3.50M height	IV.3.12.a.3	48	Cum	11135.04
445	Note: For additional lift charges beyond 3.50 Mtr height, see additional lift charges page. Rs. 61/-				
446	3.50m to 7.00 m Height	IV.3.12.a.4	48	Cum	11238.08
447	7.00m to 10.00 m Height	IV.3.12.a.5	48	Cum	11341.12
448	10.00m to 13.00 m Height	IV.3.12.a.6	48	Cum	11444.16

SI No	Item of Work	Item No	Page No	Unit	Zone-I
<b>PRE Circle SR Mysuru(2018-2019)</b>					
455	Providing, laying and rolling of open-graded premix carpet of 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates either using penetration grade bitumen or emulsion to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 80-100 kN static roller capacity, finished to required level and grades to be followed by seal coat .By Mechanical Means (Bitumen (S-65)	5.11 -Case-2	32	Cum	104
456	Construction of granular sub-base by providing well graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with smooth wheel roller to achieve the desired density, complete as per Technical Specification Clause 401.For Grading III Material	4.1-A(iii)	21	Cum	1037
456	Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100 kN static roller in stages to proper grade and camber, applying and brooming, crushable screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading II as per Technical Specification Clause 405. By Manual Means (Water Bound Macadam with Crushable Screenings )	4.8 - 2 - A	24	Cum	1870
457	Providing and applying primer coat with bitumen emulsion (SS-1) on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.70-1.0 kg/sqm using mechanical means as per Technical Specification Clause 502. (Low Porosity)	5.1-i	29	Sqm	52
458	Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.25 to 0.30 kg per sqm on the prepared granular surfaces treated with primer & cleaned with Hydraulic broom as per Technical Specification Clause 503.	5.2 - ii	29	Sqm	11
459	Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100kN static roller in stages to proper grade and camber, applying and brooming, stone screening/binding materials to fillup the interstices of coarse aggregate, watering and compacting to the required density Grading III as per Technical Specification Clause 405. By Manual Means	4.7 - 3 - A	25	Cum	2143
<b>Market Rate &amp; Data Rates</b>					
	Providing and constructing un-reinforced plain cement concrete pavement, thickness as per design, over a prepared sub base, with 43 grade cement or any other type as per Clause 1501.2.2 M30 (Grade), coarse and fine aggregates conforming to IS:383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a concrete mixer of not less than 0.2 cum capacity and appropriate weigh batcher using approved mix design, laid in approved fixed side formwork (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the formwork as per drawing), spreading the concrete with shovels, rakes, compacted using needle, screed and plate vibrators and finished in continuous operation including construction joints, , primer, sealant , curing of concrete slabs for 14-days, and water finishing to lines and grade as per drawing and technical specification clause 1501 with all lead, lifts, loading & unloading charges, cost and conveyance of all materials, labour, equipments etc., complete. as per the directions of the Engineer-in-charge of the work.	M30		Cum	6777