

**Sir M. Visvesvaraya Institute of Technology  
Bangalore – 562 157**



**INDEX SHEET**

**WATER CONSERVATION**

**CRITERIA NO.: 7**

**SUBCRITERIA NO.: 7.1.2**

<b>Sl.No.</b>	<b>PARTICULARS</b>	<b>PAGE NO.</b>
1	Water conservation report	2-14
2	STP plan Details	15-19
3	Rain Water Harvesting	20-27
4	Pond Details	28-33
5	Irrigation Details	34-71

**PRINCIPAL**  
Sir M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Munasamarahalli,  
International Airport Road, Bangalore-562 157.

# WATER CONSERVATION REPORT

## SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadevarayanagar, Hunasamaranahalli, International Air Port Road, Bangalore-562 157.

(Affiliated to Visvesvaraya Technological University, Recognised by AICTE & Accredited by National Board of Accreditation, New Delhi. An ISO 9001 : 2008 Certified Institution)

Ph. : 080-2846 7248, 2847 7024/25/26 Fax : 080-2846 7081

E-mail : principal@sirmvit.edu; sirmvitbg@gmail.com, Web : www.sirmvit.edu



### 7.1.2.3 Water Conservation

At present Sir M Visvesvaraya Institute of Technology (SMVIT) depends for water requirements through local water supply tankers to the tune of 50% involving huge expenditure on the institute budget and the remaining 50% is met through the ground water abstraction structures located in the institute.

SMVIT, Bangalore with an area of 135 acres is a perfect location to implement the rainwater harvesting and artificial recharge to ground water through different conservation structures over a period of time.

With the natural resources available in the form of rain, the following rainwater conservation structures are observed:

- Roof Top Rain Water Harvesting
- Recharge trench
- Farm Ponds / Percolation tank
- Lined Drains for 500 m

The phase wise construction of the conservation structures is planned. Overall the campus in general and the management in particular is going to reap rich benefits in the form of saving in expenditure on water purchasing and also attaining sustainability of the ground water system in the area. This will improve the discharge of the bore wells and rise water levels. Implementation of rainwater harvesting in the campus means ensuring safe drinking water to the students.

PRINCIPAL

Sir M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli,  
International Airport Road, Bangalore -562 157.

SRI KRISHNADEVARAYA EDUCATIONAL TRUST

## SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadevarayanagar, Hunasamaranahalli, International Air Port Road, Bangalore-562 157.

(Affiliated to Visvesvaraya Technological University, Recognised by AICTE & Accredited by National Board of Accreditation, New Delhi. An ISO 9001 : 2008 Certified Institution)



Ph. : 080-2846 7248, 2847 7024/25/26 Fax : 080-2846 7081  
E-mail : principal@sirmvit.edu; sirmvitbg@gmail.com, Web : www.sirmvit.edu



### Recycled water

treatment plant is set up within the campus. The utilization of this recycled water is majorly for watering the plants. Latest technology has been adopted for the treatment of domestic sewage and other sources of waste waters with in the campus. This will ensures that the quality of the treated water is within the standards and requirements that are laid out by Central/State pollution control board and the same is reviewed on a periodic basis to ensure the quality.

PRINCIPAL  
Sir M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli,  
International Airport Road, Bangalore -562 157.



SRI KRISHNADEVARAYA EDUCATIONAL TRUST

## SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

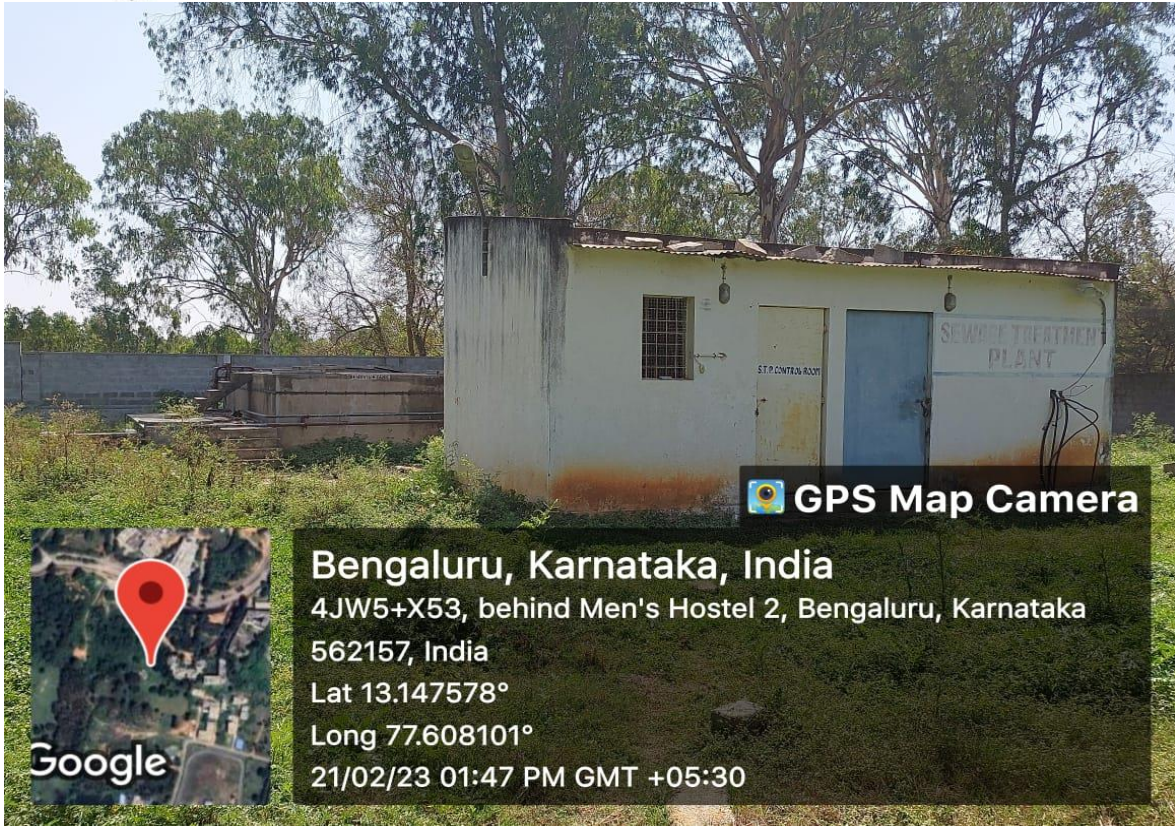
Krishnadevarayanagar, Hunasamaranahalli, International Air Port Road, Bangalore-562 157.

(Affiliated to Visvesvaraya Technological University, Recognised by AICTE & Accredited by National Board of Accreditation, New Delhi. An ISO 9001 : 2008 Certified Institution)



Ph. : 080-2846 7248, 2847 7024/25/26 Fax : 080-2846 7081

E-mail : principal@sirmvit.edu; sirmvitbg@gmail.com, Web : www.sirmvit.edu



 GPS Map Camera



Bengaluru, Karnataka, India

4JW5+X53, behind Men's Hostel 2, Bengaluru, Karnataka

562157, India

Lat 13.147578°

Long 77.608101°

21/02/23 01:47 PM GMT +05:30

## Sewage Treatment Plant

PRINCIPAL

Sir M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli,  
International Airport Road, Bangalore - 562 157.



SRI KRISHNADEVARAYA EDUCATIONAL TRUST

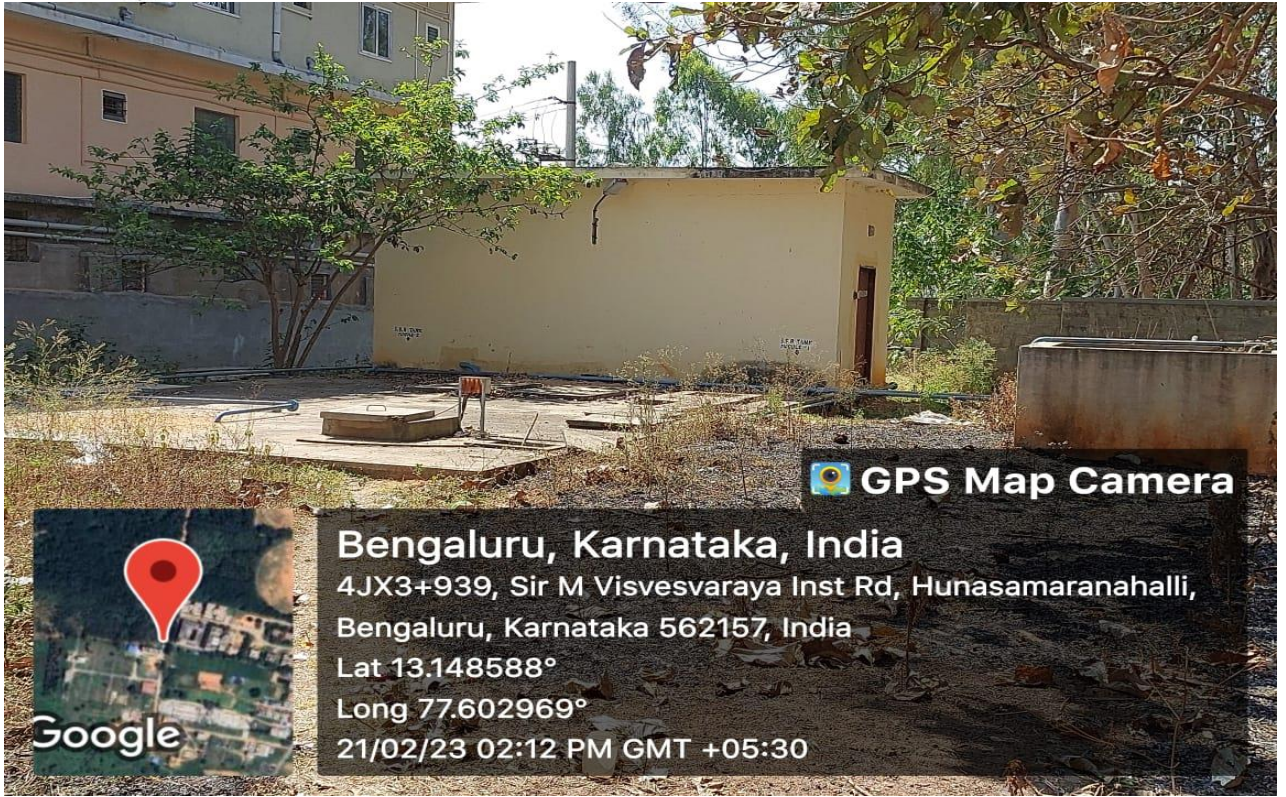
## SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadevarayanagar, Hunasamaranahalli, International Air Port Road, Bangalore-562 157.

(Affiliated to Visvesvaraya Technological University, Recognised by AICTE & Accredited by National Board of Accreditation, New Delhi. An ISO 9001 : 2008 Certified Institution)

Ph. : 080-2846 7248, 2847 7024/25/26 Fax : 080-2846 7081

E-mail : principal@sirmvit.edu; sirmvitbgl@gmail.com, Web : www.sirmvit.edu



 GPS Map Camera



**Bengaluru, Karnataka, India**

4JX3+939, Sir M Visvesvaraya Inst Rd, Hunasamaranahalli,  
Bengaluru, Karnataka 562157, India

Lat 13.148588°

Long 77.602969°

21/02/23 02:12 PM GMT +05:30

## Sewage Treatment Plant

PRINCIPAL

Sir M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli,  
International Airport Road, Bangalore -562 157.



SRI KRISHNADEVARAYA EDUCATIONAL TRUST

## SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadevarayanagar, Hunasamaranahalli, International Air Port Road, Bangalore-562 157.

(Affiliated to Visvesvaraya Technological University, Recognised by AICTE & Accredited by National Board of Accreditation, New Delhi. An ISO 9001 : 2008 Certified Institution)

Ph. : 080-2846 7248, 2847 7024/25/26 Fax : 080-2846 7081

E-mail : principal@sirmvit.edu; sirmvitbgl@gmail.com, Web : www.sirmvit.edu



### Rain water harvesting

The rainwater is harvested in our campus to improve the ground water level. Rain water harvesting is done by construction of pits with in the campus and letting the rain water flow to pits/ponds. This is a traditional approach to improve the ground water level by allowing the water to be absorbed by the soil. We have constructed 3 such ponds at various places where the rain water naturally collects and through landscaping such that the harvested water is not easily evaporated.



### Rain water harvesting near civil department

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli,  
International Airport Road, Bangalore-562157.



SRI KRISHNADEVARAYA EDUCATIONAL TRUST

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

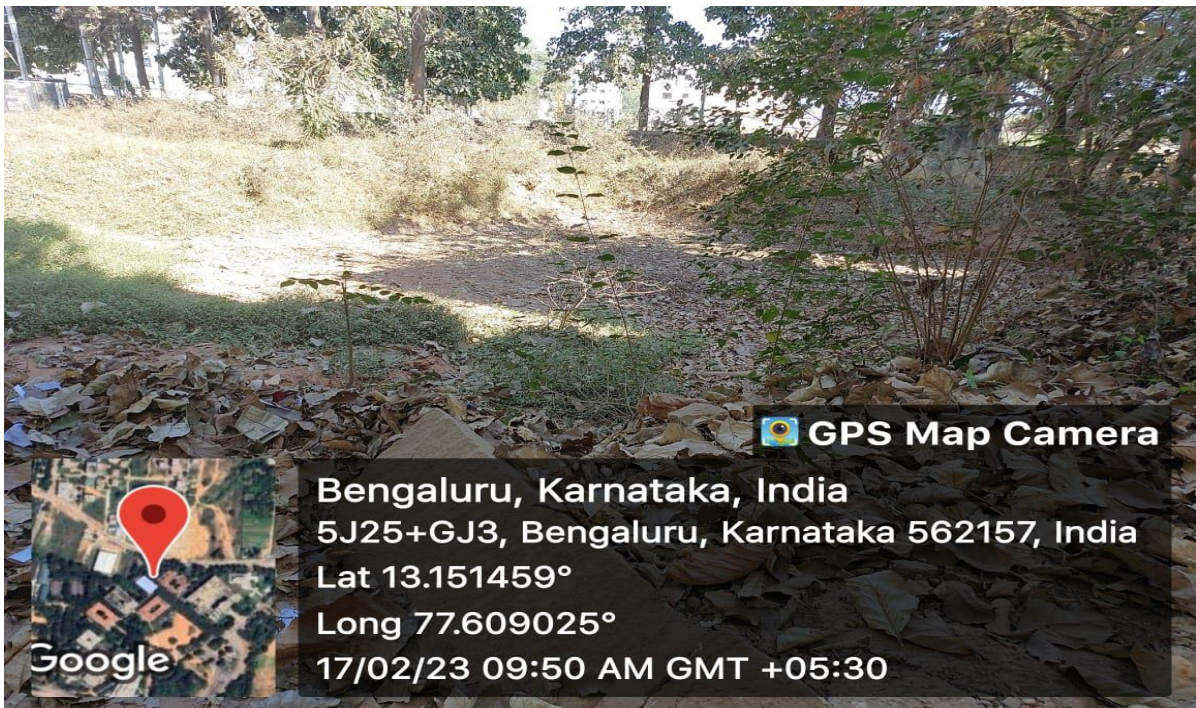
Krishnadevarayanagar, Hunasamaranahalli, International Air Port Road, Bangalore-562 157.

(Affiliated to Visvesvaraya Technological University, Recognised by AICTE & Accredited by National Board of Accreditation, New Delhi. An ISO 9001 : 2008 Certified Institution)



Ph. : 080-2846 7248, 2847 7024/25/26 Fax : 080-2846 7081

E-mail : principal@sirmvit.edu; sirmvitbgl@gmail.com, Web : www.sirmvit.edu



## Rainwater collection in pond near old library block

PRINCIPAL  
Sir M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli,  
International Airport Road, Bangalore-562 157.



SRI KRISHNADEVARAYA EDUCATIONAL TRUST

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadevarayanagar, Hunasamaranahalli, International Air Port Road, Bangalore-562 157.

(Affiliated to Visvesvaraya Technological University, Recognised by AICTE & Accredited by National Board of Accreditation, New Delhi. An ISO 9001 : 2008 Certified Institution)

Ph. : 080-2846 7248, 2847 7024/25/26 Fax : 080-2846 7081

E-mail : principal@sirmvit.edu; sirmvitbg@gmail.com, Web : www.sirmvit.edu



## Rain water collection in pond near temple

PRINCIPAL

Sir M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli,  
International Airport Road, Bangalore-562 157.



SRI KRISHNADEVARAYA EDUCATIONAL TRUST

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadevarayanagar, Hunasamaranahalli, International Air Port Road, Bangalore-562 157.

(Affiliated to Visvesvaraya Technological University, Recognised by AICTE & Accredited by National Board of Accreditation, New Delhi. An ISO 9001 : 2008 Certified Institution)

Ph. : 080-2846 7248, 2847 7024/25/26 Fax : 080-2846 7081

E-mail : principal@sirmvit.edu; sirmvitbgl@gmail.com, Web : www.sirmvit.edu



**Rain water collection in pond near temple**



**Rain water collection in pond near new Library Block**

*Sulamb*  
PRINCIPAL  
Sir M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli,  
International Airport Road, Bangalore -562 157.



SRI KRISHNADEVARAYA EDUCATIONAL TRUST

## SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadevarayanagar, Hunasamaranahalli, International Air Port Road, Bangalore-562 157.

(Affiliated to Visvesvaraya Technological University, Recognised by AICTE & Accredited by National Board of Accreditation, New Delhi. An ISO 9001 : 2008 Certified Institution)



Ph. : 080-2846 7248, 2847 7024/25/26 Fax : 080-2846 7081  
E-mail : principal@sirmvit.edu; sirmvitbg@gmail.com, Web : www.sirmvit.edu



### Rain water collection in pond near new library block

PRINCIPAL

Sir M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli,  
International Airport Road, Bangalore -562 157.

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadevarayanagar, Hunasamaranahalli, International Air Port Road, Bangalore-562 157.

(Affiliated to Visvesvaraya Technological University, Recognised by AICTE & Accredited by National Board of Accreditation, New Delhi. An ISO 9001 : 2008 Certified Institution)

Ph. : 080-2846 7248, 2847 7024/25/26 Fax : 080-2846 7081

E-mail : principal@sirmvit.edu; sirmvitbg@gmail.com, Web : www.sirmvit.edu



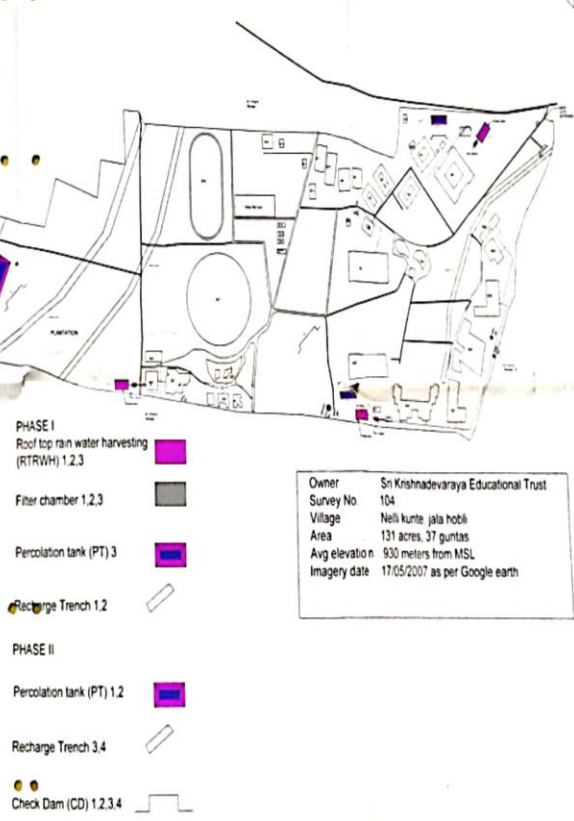
## ROOF TOP RAINWATER HARVESTING & CONSERVATION STRUCTURES FOR RECHARGE TO GROUND WATER BODY AT KRISHNADEVARAYA NAGAR - Sir MVIT CAMPUS

### FACILITY INDEX

- B1 Basic Science Block
- B2 Mechanical Block
- B3 Electrical and Civil Block
- B4 Library Block
- B5 MBA/MCA Block
- B6 New Block
- B7 Krishnadevaraya College of Dental Sciences (CDS)
- B8 Krishnadevaraya Hospital and Research Cent (KHRC)
- B8a Effluent Treatment Plant of KHRC
- B9 Mechanical Workshops
- B10 Auditorium
- B11 Transport Shed
- B12 Foundry
- B13 Smithy
- B14 Desi power
- B15 Diesel Bunk
- B16 Football Ground / Athletic Track
- B17 Cricket Ground
- B18 Sports Stores
- B19 Badminton Court
- B20 Tennis Court
- B21 Ladies Hostel - I
- B22 Staff quarters - I / II / III
- B23 Principal Quarters - I / II
- B24 Sewage Treatment Plant
- B25 Men's Hostel Unit - II
- B26 Boy's Hostel Mess / Hostel
- B27 PG Hostel Unit
- B28 Men's Hostel unit - I
- B29 Physical Education Block / Gym / Indoor SpoComplex
- B30 Canteen Block / Shops / ATM
- B31 Parking shelter
- B32 Security room
- B33 Fountain
- B34 Well
- B35 Well / Pump House
- B36 Power control Room
- B37 Transformer Unit (HT)
- B38 Biotech Medicinal Garden
- B39 Ladies amenities Center
- B40 Gents Toilet Block
- B41 Control Power House
- B42 Ladies Hostel - II
- B43 Staff Quarters - IV
- B44 Borewell
- B45 Rainwater Harvesting Pond
- B46 Biotech Nursery
- B47 Biotech Gas Room

GENERAL LEGEND  
 RED External Boundary Line  
 BLACK Buildings and Facilities  
 BLACK Internal Campus Roads  
 GREEN External City Roads

ACTUAL SCALE  
1:3563  
  
 REDUCED SCALE  
1:1175



Owner Sri Krishnadevaraya Educational Trust  
 Survey No 104  
 Village Nelli kunte jala hobli  
 Area 131 acres, 37 guntas  
 Avg elevation 930 meters from MSL  
 Imagery date 17/05/2007 as per Google earth

# RAINWATER HARVESTING PLAN

PRINCIPAL  
 Sir M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
 Krishnadevarayanagar, Hunasamaranahalli,  
 International Airport Road, Bangalore-562 157.



SRI KRISHNADEVARAYA EDUCATIONAL TRUST

## SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadevarayanagar, Hunasamaranahalli, International Air Port Road, Bangalore-562 157.

(Affiliated to Visvesvaraya Technological University, Recognised by AICTE & Accredited by National Board of Accreditation, New Delhi. An ISO 9001 : 2008 Certified Institution)

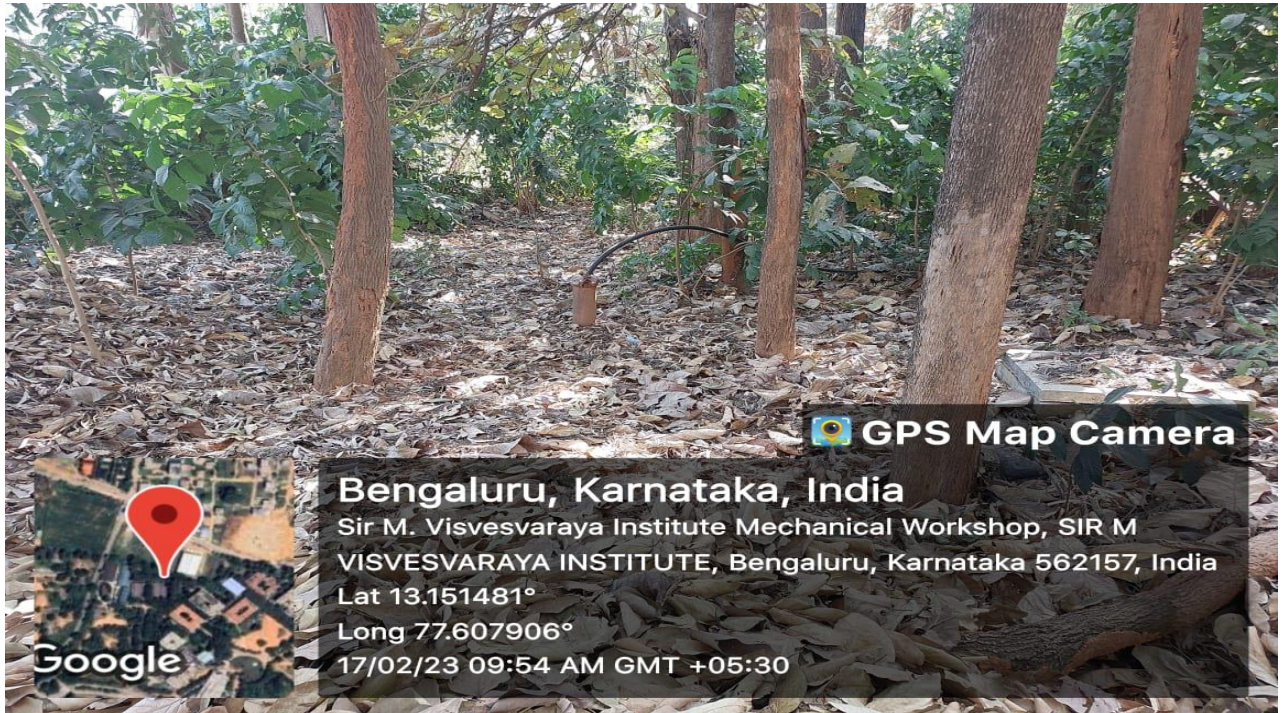


Ph. : 080-2846 7248, 2847 7024/25/26 Fax : 080-2846 7081  
E-mail : principal@sirmvit.edu; sirmvitbg@gmail.com, Web : www.sirmvit.edu



### Borewell Rejuvenation

In order to rejuvenate the failed borewell there is a technique called hydrofracturing, which means the water from external source is injected into the water well at a very high pressure(usually between 80 to 100 bars) so that it can create new fractures and any existing fissures can be cleaned or opened up.



### Borewell recharge point

PRINCIPAL

Sir M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli,  
International Airport Road, Bangalore-562 157.

SRI KRISHNADEVARAYA EDUCATIONAL TRUST

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadevarayanagar, Hunasamaranahalli, International Air Port Road, Bangalore-562 157.

(Affiliated to Visvesvaraya Technological University, Recognised by AICTE & Accredited by National Board of Accreditation, New Delhi. An ISO 9001 : 2008 Certified Institution)



Ph. : 080-2846 7248, 2847 7024/25/26 Fax : 080-2846 7081

E-mail : principal@sirmvit.edu; sirmvitbg@gmail.com, Web : www.sirmvit.edu



## WATER CONSERVATION AWARENESS POSTER



*Sulamb*

PRINCIPAL

Sir M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli,  
International Airport Road, Bangalore-562 157.

# SEWAGE TREATMENT PLAN DETAILS





### I. Basis of Design

#### I. Sewage Characteristics

S. No.	PARAMETERS	Value for Raw Sewage (INFLUENT)	Value for treated Sewage (EFFLUENT)
1	PH	6.5-8.0	6.5-8.0
2.	BOD 5(mg/l)	400	<10
3.	TSS (mg/l)	400	<10
4.	OIL/GREASE(mg/l)	25	<5
5.	Residual chlorine (mg/l)	-	>1
6.	E.Coli(mg/l)	-	NIL

2. Design Flow : 200 m<sup>3</sup>/day

3. The sludge will be dewatered using Sludge Drying Beds.

4. Treated water will be used for gardening/flushing.

#### II. TREATMENT PROCESS

The STP Plant has been designed based on Advanced Sequential Batch Reactor (SBR) Technology which consists of both aerobic and anoxic phases. The processes of BOD removal, nitrification/de-nitrification, phosphorus removal and sludge separation are achieved continuously in a single SBR tank. The process operates on the continuous inflow and batch outflow principle. The phases of aeration, settling, decantation occur sequentially and are controlled by a PLC.

The tank is divided into pre-aeration and main aeration tanks. The sewage flows continuously into the pre-aeration tank, which acts as a biological selector enhancing the growth of the most desirable organisms while limiting the growth of filamentous bacteria. Sewage from pre-aeration tank flows through openings at the bottom of the baffle wall and into the main aeration tank where BOD removal and nitrification occur. After aeration phase, sludge separation occurs in the settling phase. After settling, the clear water from top is removed through a PLC operated decanter. De-nitrification occurs during anoxic periods of settling and decant phases. The excess sludge is wasted during decant phase.

The SBR treated water is filtered through a Pressure Sand Filter and disinfected using Sodium Hypochlorite. The waste sludge is used as manure after dewatering using Sludge Drying Beds.

### IV. Plant Specifications

#### IAI. MECHANICAL EQUIPMENT

	<i>200KLD(75X2nos)</i>
<b>BAR SCREEN</b>	
Number	1 Fixed+1 Retrievable
MOC	SS304
Make	BTPL
<b>AIR BLOWER</b>	
Number	2 (1W/1S)
Type of blowers	Rotary twin lobe

Sri Krishna Devaraya Educational Trust  
PROPOSAL FOR 200 KLD STP

Make	HIBON
<b>MOTOR DATA</b>	
HP	10
RPM	1440
Drive arrangement	V-belt & pulleys
Make	BBL
<b>FINE BUBBLE AIR DIFFUSER MEMBRANES</b>	
Number	22x 2.2M
Type	High Energy Efficiency Diffusers
MOC	Silicone supported on PP pipe
Make/Vendor	OTT, Germany
<b>DECANTER MECHANISM</b>	
Number	1
Size	150 NB
Make	BTPL ; SS304
<b>CHLORINE DOSING SYSTEM</b>	
Number	1
Dosing pump	PP 0-10LPH
Capacity	100 L
MOC	LDPE
Make	Anala
<b>PSF FEED PUMPS</b>	
Number	2 (1W/1S)
Pumping from / pumping to	Decant water tank to STP Treated Water Tank through PSF
Type	Horizontal Centrifugal/Non-clog
HP	3
Make	Johnson/Eqvt.
<b>PRESSURE SAND FILTER</b>	
Number	1
Size	1.2m dia x 2m HOS
Media	Graded sand
MOC	MS internally black bituminous coated
Make	BTPL
<b>SLUDGE TRANSFER PUMP</b>	
Number	1
Pumping from / pumping to	SBR unit to SDB
Type	SUBMERSIBLE
HP	1

Sri Krishna Devaraya Educational Trust
<b>PROPOSAL FOR 200 KLD STP</b>

Make	WIL/Ofvt.
<b>TREATED WATER PUMP</b>	
Number	1w +1 s
Pumping from / pumping to	Treated water tank to OHT
Type	SUBMERSIBLE
HP	3
Make	Kirloskar

<b>RAW SEWAGE TRANSFER PUMP</b>	
Number	2(1w+1s)
Pumping from / pumping to	Collection tank to SBR unit
Type	SUBMERSIBLE
HP	1
Make	WIL/Ofvt.

**[B]. CIVIL (CLIENT'S SCOPE)**

	<b>200KLD</b>
Bar Screen Chamber	PL refer to the GA drawing
SBR tank	
Final Sump	
Sludge drying beds	2m x 2m x 2 Nos

**[C]. ELECTRICAL & INSTRUMENTATION**

Powder Coated sheet metal enclosure	1
Incomer MCCB	1
Energy, A/V Meter	1 each
Starters	For all motors in our scope
Programmable Logic Controller(PLC)	1
Level switches(Float Type)	Filter feed tank, Treated water tank
Cables	Armored
Mimic	1

**[D]. PIPING & VALVES**

Piping & fittings	MS galvanised
Valves	BF valves with SS disk and EPDM lining
Puddle flanges	MS galvanised

**V. Scope of Works & Battery Limits**

- Design Engineering
- Supply of Mechanical, Electrical and Instrumentation Items
- Supply of interconnecting Piping and Valves
- Erection of Supplied Items

# RAIN WATER HARVESTING DETAILS



Ref. No.KET/ 156 / 646 / 2011 - 2012

Date : 08.07.2011

To  
Sri.M.C.Reddy  
Former Regional Director  
Central Ground Water Board  
Government of India  
No.1013, "D" Block, Sahakara Nagar,  
Bangalore - 560 092.

Dear Sir,

Sub: Order of appointment of Consultant for Rainwater Harvesting study in and around our College Campus, Bangalore.

Ref : Your E-mail quotation Dated 05.06.2011.

\*\*\*\*\*

With reference to the above, we are pleased to Appoint as Consultant at our College Campus - Krishnadevarayanagar, Hunasamaranahalli, International Airport Road, Yelahanka, Bangalore as follows:

Sl.No.	Item of Work	Rate
01	A. Micro level study on Rainwater Harvesting study at our entire College Campus. B. Submitting a detailed report with design details for different rainwater Conservation structures. C. Imparting guidance and supervision in executing constructing the conservation structures.	Rs.1,00,000.00

**TERMS AND CONDITIONS :**

- 1) Payment: Stage by Stage (Based on the progress of the report.)
- 2) Conveyence is to be provided for a period for executing the above work and on days of imparting guidance and supervising construction of the structures.
- 3) The above charges does not included the cost of executing the construction of conservation structures.
- 4) Client has to provide contour map and other maps of the area.
- 5) Service tax on prevailing rates.

You are requested to note that the work executed by you at our College is subject to inspection and approval by the Director/Site Engineer with regard to your study, report and .  
If your report is not satisfactory by the Competent Authority at our Trust, you would have to submit the revised report.

Please acknowledge.

Thanking you,

Yours faithfully,

  
(K.V.SEKHAR RAJU)  
SECRETARY

Copy to:

1. The Director, Sir MVIT, Bangalore.
2. The Principal, Sir M.VIT, Bangalore.
3. Accounts Manager, Sri KET, Bangalore.

156

Like shall we call him  
19/8  
3/8/2006  
Secretary

M.C.Reddy,  
Former Regional Director,  
Central Ground Water Board,  
Govt. of India  
e mail : [mcreddyqcwb@yahoo.co.in](mailto:mcreddyqcwb@yahoo.co.in)

1013, "D" Block,  
Sahakara Nagar,  
Bangalore- 560092  
Ph: 080- 23625574  
Mo: 9448864873  
11-6-2010

14-9  
Bundling contour maps.

To,  
The Director,  
Sir M. Visvesvaraya Institute of Technology,  
Hunsamarnahalli, Bangalore 562157.

Sub : Quotation for Rainwater Harvesting study in and around  
Sir M. Visvesvaraya Institute of Technology campus, Bangalore

**QUOTATION**

Sl.No	Item of Work	Rate
1.	A. Micro level study on Rainwater Harvesting study in and around Sir M. Visvesvaraya Institute of Technology campus, Bangalore. B. Submitting a detailed report with design details for different rainwater conservation structures C. Imparting guidance & supervision in executing constructing the conservation structures (Rs. One lakh Fifty Thousands only)	1,50,000/-

- 1) 50 % of consultancy charges to be paid in advance at the time of execution of work
- 2) 30 % on submission of Draft Report
- 3) Balance 20 % on submission of the final report & execution of construction of structures within 6 months from the date of submission of the final report
- 4) Conveyance is to be provided for a period of about 10 days for taking up the survey and on days of imparting guidance & supervising construction of the structures.
- 5) The above charges does not include the cost of executing the construction of conservation structures
- 6) Client has to provide contour map and other maps of the area.

*H. Reddy*  
(M. C. Reddy)

FORWARDED TO THE SECRETARY,  
SRI KET. FOR NECESSARY ACTION

*OB*  
10.8.10  
DIRECTOR

SIR, MVIT, Bangalore-562 157.

*AS*  
To call party.

*OB*  
OB-101  
When suitable letter  
2  
19/8

**Rain Water for Direct Use**

It is noted from the roof areas of Sir MVIT campus, the water likely to be harvested through a storage tank and the market value for the water per day is as follows:

- i. Roof area : 1,05,036 sq.m
- ii. Amount of rainwater likely to be collected : 65,542 m<sup>3</sup> / Annum (120 rainy days)  
180 m<sup>3</sup> / day (one m<sup>3</sup> = 1000 litres)
- iii. This is approximately 36 tankers of 5000 litres capacity  
Market value is @ Rs.200/- per tanker, it will be Rs. 7200/- per day  
or Rs. 26.28 lakhs /annum

iv. Other than RTRWH water for direct use , the rainfall runoff in the campus area can be used for recharge to ground water body.

In five years period , this will enhance the discharge of the bore wells and raise water levels in the bore wells.

Rise in water levels will indirectly help in reducing the power bills for pumping

### Scope of work

Micro level Investigations involve

- i. Hydrogeological surveys in the Sir MVIT campus
- ii. Monitoring of ground water levels and quality from the existing open wells if existed and bore wells for deciphering Water quality and Level regime.
- iii. Conducting aquifer performance test on existing shallow and deep aquifer wells.
- iv. Delineating lineaments for ground water potential areas
- v. Demarcation of potential areas for ground water exploration and development
- vi. Collection of data related to water utilization and water budget
- vii. Draw mitigation plan to protect the natural hydrological regime by implementing the conservation measures –
  - a) Artificial recharge to ground water body through run-off management of excess rainfall
  - b) Recharge structures
  - c) Roof Top Rain Water harvesting
  - d) Design of Storage tank for collecting the RTRW harvested water for direct use
- viii. Locating the conservation structures based on the micro level drainage studies
- ix. Imparting guidance and supervision of the construction of conservation structures.

1) The survey at the campus will take about 10 days and the report preparation will take another 10 days.

2) Implementation of the construction of conservation will take about one to one and half month.

3) The cost will be 1/10<sup>th</sup> if executed by the client, rather than giving it to professionals in the market .

4) The approximate cost for implementing the construction of structures will be about Rs 8 – 10 lakhs, depending upon the number of structures.



## SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

Details of roof area - Sir MVIT, KCDS, Hospital, Men's Hostels, Ladies  
Hostel & Staff Quarters.

Name of the Block	Roof Area in Sq. Meters
1. 6 <sup>th</sup> Block	2809.00
2. 5 <sup>th</sup> Block	1732.20
3. 2 <sup>nd</sup> Block	2292.00
4. Library (4)	566.25
5. Electrical Block (3 <sup>rd</sup> )	886.25
6. Science (1)	769.25
7. Auditorium (MVIT)	4212.00
8. KCDS	3410.00
9. Non-Teaching Staff Quarters 2 Nos	7062.00
10. New Generator Room	918.50
11. Sump Tank (near non teaching staff Qrts No.2)	309.00
12. Generator room extension (near ladies hostel)	179.00
13. Electrical Panel Board room (near non teaching staff quarters)	1,325.00
14. Ladies hostel works room	655.00
15. Bus Shelter	8,370.00
16. Indoor games hall extension	4,990.00
17. Ladies Hostel	1,198.00
18. Ladies Amenities Centre	113.35
19. Basic Workshops	1,423.95
20 Sports Complex	980.00
21. Guest House	196.29
22. Residential Area	8141.25
23. Pump House I	73.25
24. Pump House II	82.25
25. Students main Toilet (Boys)	95.25
26. Auditorium	522.47

27. Transport Office	172.50
28. Generator I	17.25
29. Generator II	21.25
30. Canteen	401.25
31. Boys Hostel Block – 1	900.00
32. KCDS Dental Hostel	920 .00
33. Hotel Block -2	1300.00
34. PG hostel Block	900.00
New Blocks under construction	
35. New ladies Hostel	1009.00
36. 2 & 3 Bed Room Staff Quarters	590.00
37. 2 Bed Room Staff Quarters	500.00
38. Hospital – KHRC	700.00
	-----
Total Area	105036.04
	-----

Dear Mr. M C Reddy

This is in continuation to the information sought on the roof area at SIRMVIT campus details of the same are furnished below.

Please acknowledge the same.

## ROOF TOP RAINWATER HARVESTING & CONSERVATION STRUCTURES FOR RECHARGE TO GROUND WATER BODY AT KRISHNADEVARAYA NAGAR - Sir MVIT CAMPUS



### FACILITY INDEX

- B1 Basic Science Block
- B2 Mechanical Block
- B3 Electrical and Civil Block
- B4 Library Block
- B5 MBA/MCA Block
- B6 New Block
- B7 Krishnadevaraya College of Dental Sciences (CDS)
- B8 Krishnadevaraya Hospital and Research Cent (KHRC)
- b8a Effluent Treatment Plant of KHRC
- B9 Mechanical Workshops
- B10 Auditorium
- B11 Transport Shed
- B12 Foundry
- B13 Smithy
- B14 Diesel power
- B15 Diesel Bunk
- B16 Football Ground / Athletic Track
- B17 Cricket Ground
- B18 Sports Stores
- B19 Badminton Court
- B20 Tennis Court
- B21 Ladies Hostel - I
- B22 Staff Quarters - I / II / III
- B23 Principal Quarters - I / II
- B24 Sewage Treatment Plant
- B25 Men's Hostel Unit - II
- B26 Boy's Hostel Mess / Hostel
- B27 PG Hostel Unit
- B28 Men's Hostel unit - I
- B29 Physical Education Block / Gym / Indoor Sports Complex
- B30 Canteen Block / Shops / ATM
- B31 Parking shelter
- B32 Security room
- B33 Fountain
- B34 Well
- B35 Well / Pump House
- B36 Power control Room
- B37 Transformer Unit (HT)
- B38 Biotech Medicinal Garden
- B39 Ladies amenities Center
- B40 Gents Toilet Block
- B41 Control Power House
- B42 Ladies Hostel - II
- B43 Staff Quarters - IV
- B44 Borewell
- B45 Rainwater Harvesting Pond
- B46 Biotech Nursery
- B47 Biotech Gas Room

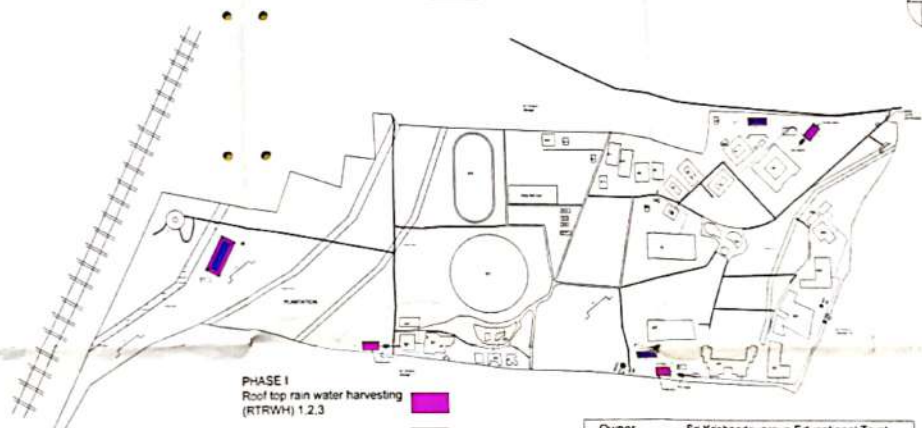
**GENERAL LEGEND**  
 RED External Boundary Line  
 BLACK Buildings and Facilities  
 BLACK Internal Campus Roads  
 GREEN External City Roads

ACTUAL SCALE  
 1:3563

REDUCED SCALE  
 1:1175

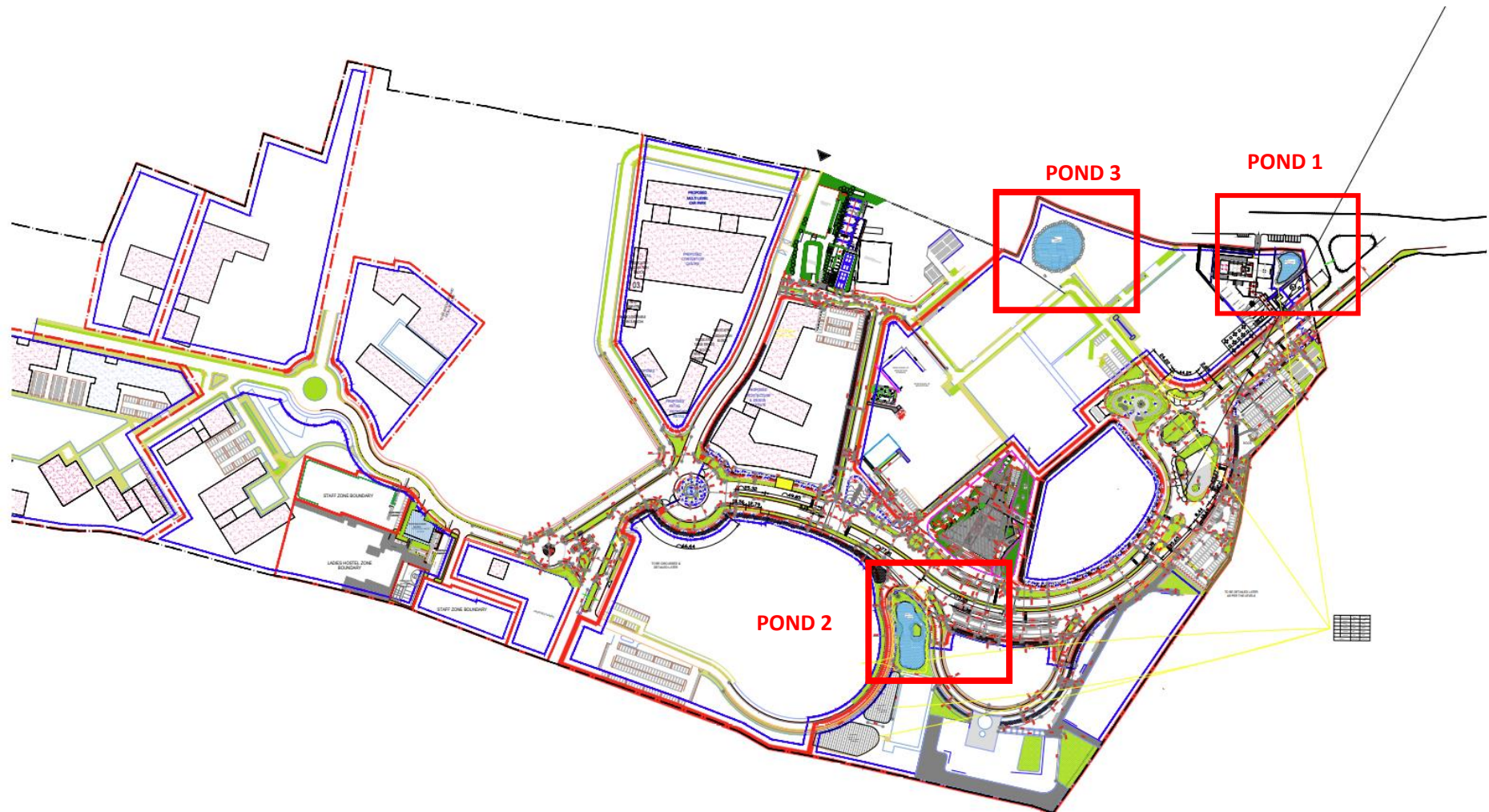
- PHASE I**  
 Roof top rain water harvesting (RTRWH) 1,2,3
- Filter chamber 1,2,3
- Percolation tank (PT) 3
- Recharge Trench 1,2
- PHASE II**
- Percolation tank (PT) 1,2
- Recharge Trench 3,4
- Check Dam (CD) 1,2,3,4

Owner	Sn Krishnadevaraya Educational Trust
Survey No	104
Village	Nelli kunte jala hobli
Area	131 acres, 37 guntas
Avg elevation	930 meters from MSL
Imagery date	17/05/2007 as per Google earth



**POND DETAILS FOR  
RAIN WATER HARVESTING**



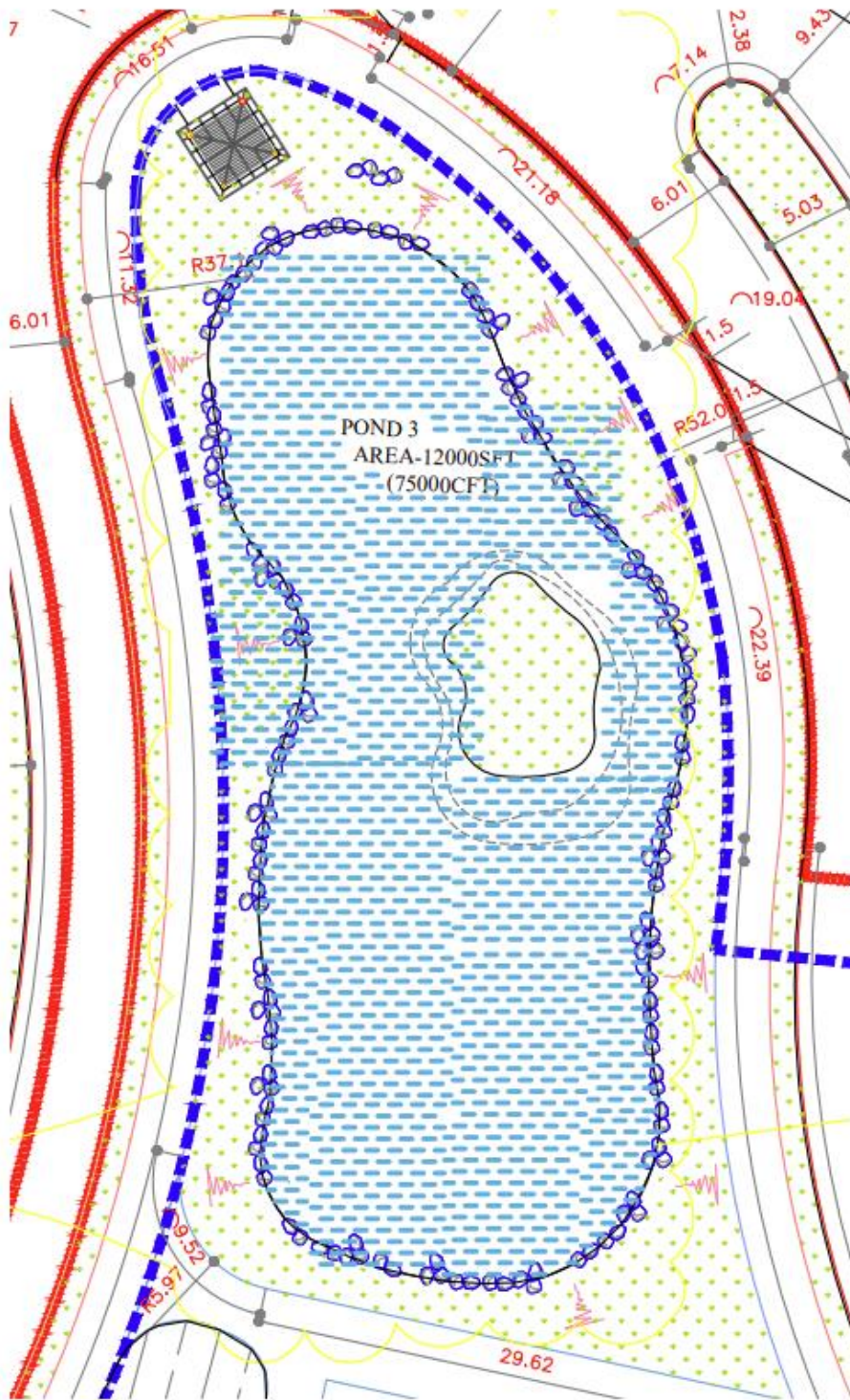


**Master Plan of the campus with pond details**

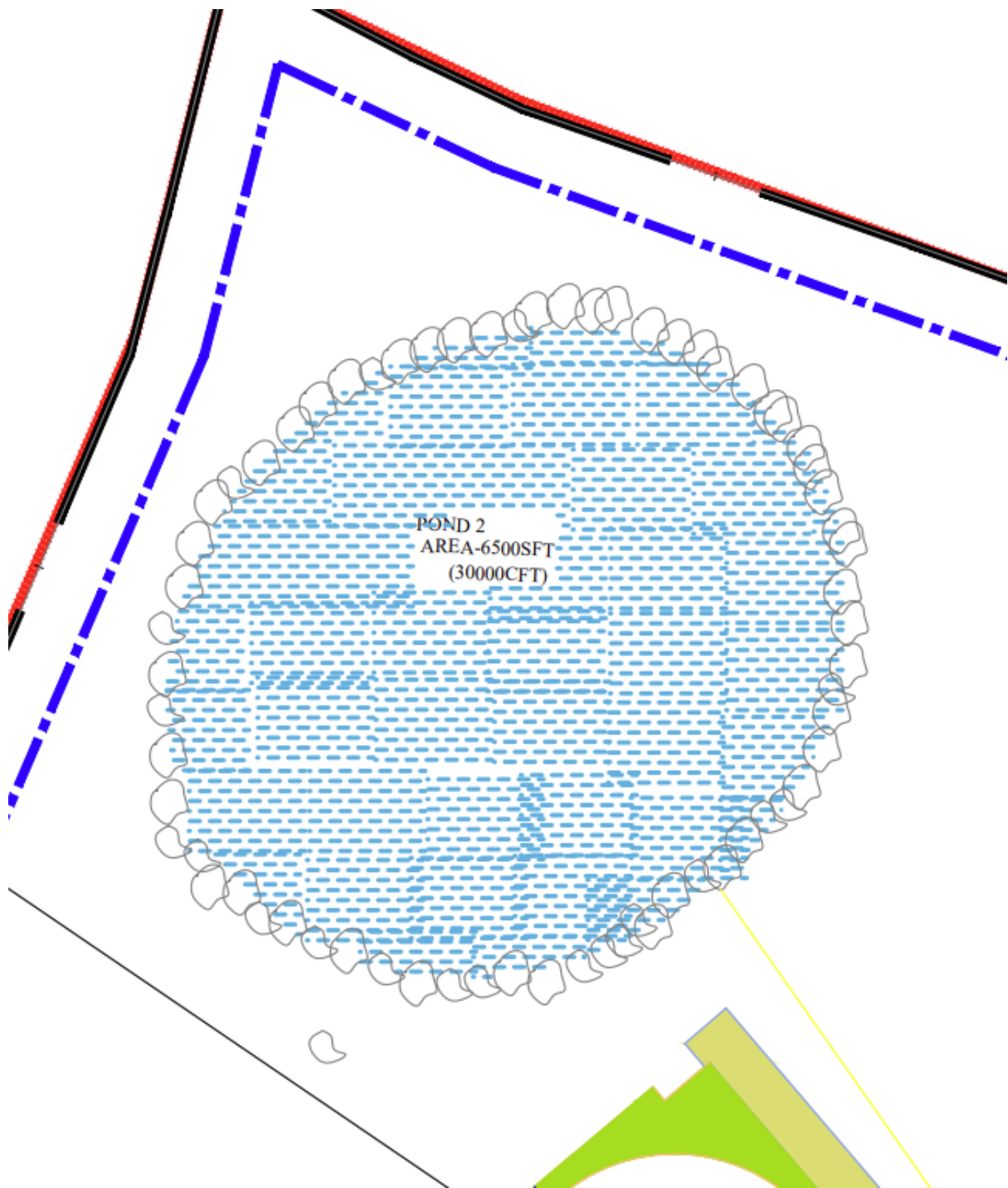


**Master plan of the campus**

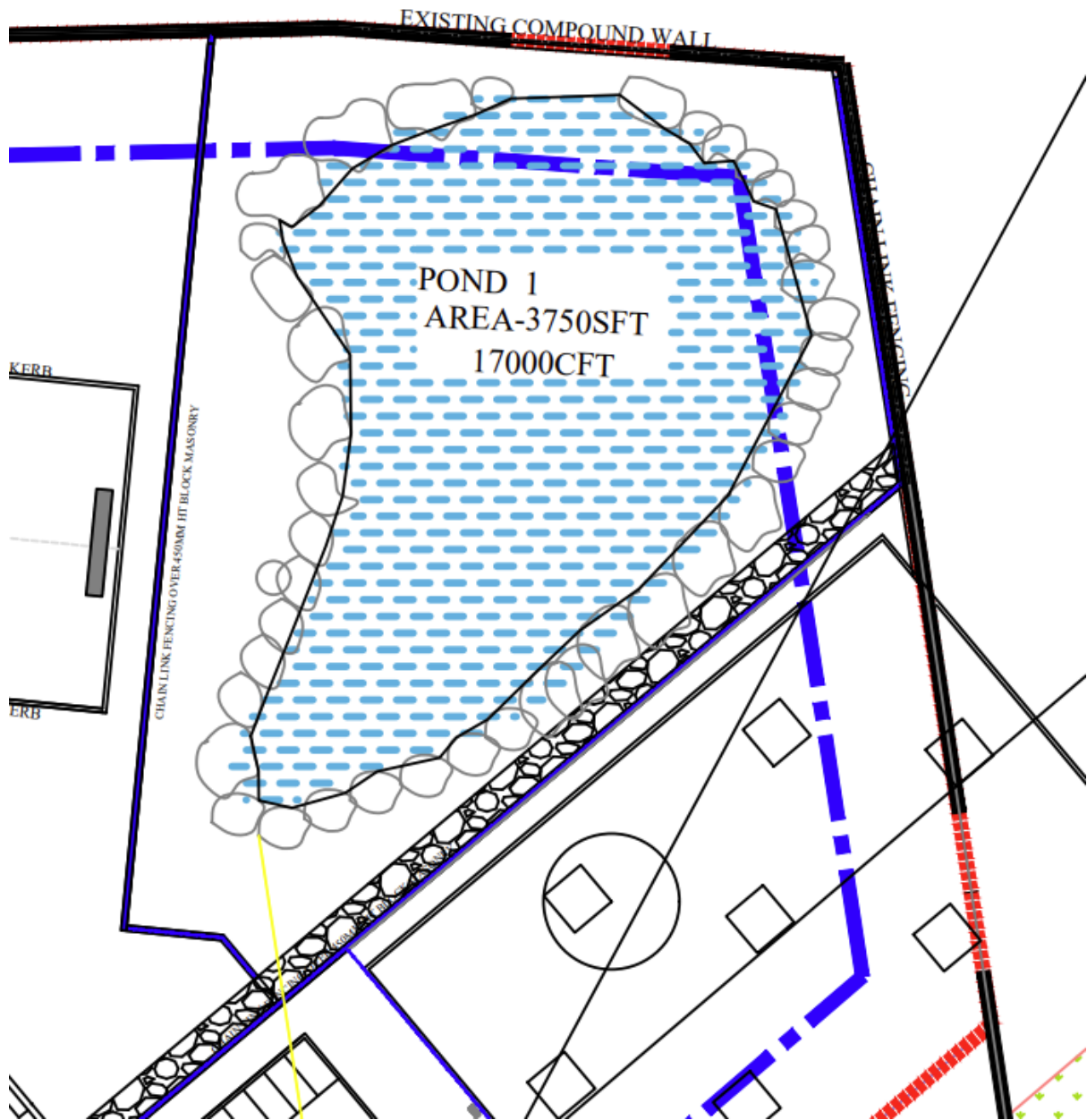




POND 3 OF AREA 12000 SFT (75000 CFT)



**POND2 OF AREA 65000 SFT (30000 CFT)**



**POND1 OF AREA 3750 SFT (17000 CFT)**

# IRRIGATION DETAILS



# Sri Krishnadevaraya Educational Trust

(SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY)

No 16, Ballari Road, Sadashivanagara, Bengaluru - 560 080

Phone / Telefax : 080-2360 6999, 2361 3443, 2360 1340, 2360 1370 E-mail: sriket@gmail.com

Ref.No.KET/Const /21/2022 – 2023/ 1026

Date : 15.02.2023

To

M/s. Atlantica Infra Private Limited,  
1593/37, 2<sup>nd</sup> Floor, East End Main Road,  
9<sup>th</sup> Block, Jayanagar,  
Bengaluru – 560069.

Kind Attn: Mr.Vinay-9342140507/

Email ID: vinaykumar.atlanticaindia@gmail.com

\*\*\*\*\*

Dear Sirs,

Sub: Work order for Mainspine Road-Land Scape, Hardscape, Softscape and Irrigations works at Sir M. Visvesvaraya Institute of Technology, Bengaluru-562157.

- Ref: 1. Your Tender dated 09/01/2023.  
2. Negotiation meeting at Trust Office, dated 30/01/2023 [BCM]  
3. Your revised email letter dated 03/02/2023.

\*\*\*

We refer to your bid proposal, dated 09/02/2023 and in response to the tender issued to your firm for Mainspine Road-Land Scape, Hardscape, Softscape and Irrigations works subsequent letters towards the technical & commercial confirmations submitted by you, final offer agreed and mailed dated 27/01/2023 for Mainspine Road-Land Scape, Hardscape, Softscape and Irrigations works.

We are pleased to inform you that we have accepted your final revised offer and decided to award the Mainspine Road-Land Scape, Hardscape, Softscape and Irrigations works to M/s. Atlantica Infra Private Limited in accordance with the terms of the tender documents, for the complete scope of work as per **Annexure – 1**.

This acceptance is further subject to the following:

The work and the contract shall be governed by the Commercial and Technical Terms & Conditions of contract and other contract clauses except for only those mentioned as exclusions in this contract. As per your above mentioned letters & Minutes of Meetings together with Tender Conditions, Make/Specifications and Schedule of Quantities etc., shall form part of the contract.

...2.

**1. SCOPE OF WORKS:**

The Scope of work under this contract shall be Main spine Road-Land Scape, Hardscape, Softscape and Irrigations works and associated structures as mentioned in the Bill of Quantities.

**3 CONTRACT SUM:**

The value of works under this contract will be INR 2,82,29,164/- (Rupees Two Crores Eighty Two Lakhs Twenty Nine Thousand One Hundred Sixty Four Only) plus applicable GST, duties and Govt. levies etc. as per the contract. Summarized version of the price breakup will be provided.

**5. PAYMENT TERMS:****Mobilization Advance/Bills/Retention/:**

As per **Annexure – 2** [Specific- Terms & Conditions -Clause- Sl.Nos.8 (a) & (b), 9- (a), (b), (c), (d) and 10 (a) & (b)].

**6. INSURANCE**

Following shall be under the scope of Contractor:

- d) Contractor's All Risk Policy.
- e) Policy to cover Contractor's liability under Workmen's Compensation Act 1923, Minimum Wages Act 1948, Contract Labour (Regulation and Abolition) Act 1970 and other relevant labour legislations.
- f) Insurance cover against damage or loss due to any reason in respect of materials (including client supplied materials), equipment and / or work done. Limit of liability shall not be less than the value of such materials at any stage of the Contract, for the period of completion including the Defects Liability Period. The copies of all relevant documents are required to be submitted to the client within Seven (7) days of the start of the project. The relevant insurance cover shall remain in force till Defects Liability Period, including the period taken for completion of the un-rectified defects identified during the Defect Liability Period.

**5. SPECIFICATIONS/MAKE**

All work will be executed in conformity with the specifications mentioned in the tender document and Design Drawings issued with the BOQ and tender documents, which form part of the contract and as morefully to be described in the contract documents.

...3.



## 6. GENERAL AND SPECIFIC TERMS & CONDITIONS OF CONTRACT

All work will be executed in conformity with Commercial and Technical Terms & conditions of contract issued with the tender documents and design drawings, which form part of the contract.

## 7. BILLING INSTRUCTIONS

All bills on the project to be raised as per the Conditions of contract and addressed to:

**The Secretary,  
Sri Krishnadevaraya Educational Trust,  
No. 16, Ballari Road, Sadashivanagar,  
Bengaluru – 560080.**

## 8. PRICE BASIS

The price quotation conforms to the design details, the tender specifications and conditions prepared by **Architects/Project Engineer & Estate Officer**.

## 9. MATERIALS

All materials and equipment to be incorporated in the Work shall be new. All materials shall be of the best quality of its type and strictly in conformity with the material and finish described in the specifications enclosed with the tender. This requirement shall be strictly enforced at all times and stages of the Work and no request for change whatsoever shall be entertained on the grounds of anything to the contrary being the prevailing practice. The Contractor shall immediately remove from the Work any materials, equipment and/or workmanship which, in the opinion of the Client are defective or unsuitable or not in conformity with the Contract Documents and best engineering and construction practices, and the Contractor shall replace such rejected materials, equipment and/or workmanship with proper, specified, and required and approved materials, equipment and/or workmanship, all at its own cost within a period of seven (7) days from the date of issuance of such notice. You will submit the samples of the relevant material to be used at site to the Estate Officer – cum- Project Engineer and the Project Incharge and obtain quality approval from the consultants on the same. No compensation would be granted on account of rejected material.

Approved Make / Model: List Enclosed as **Annexure –3**.

...4.

**10. LIABILITY FOR SAFE KEEPING OF MATERIAL AT SITE**

The liability for safe keeping of material delivered at site is with you including compliance with applicable law.

The Contractor shall be provided space only for storage at Site. Construction of store and all other arrangements shall be made by the Contractor.

**11. TAXES, DUTIES AND OTHER CHARGES**

The total cost mentioned above shall cover cost of all labor, materials, professional fees and charges, if any, transport, installation charges, profit, all incidentals complete. The Contract Price exclude Service tax, Works Contract Tax (WCT), Value added Tax (VAT), Custom duty, Excise duty, sales tax, under project and the same is not payable by us. No extra charges shall be payable to the contractor on account of taxes, duties or incidentals whatsoever.

**12. PROTECTION OF WORK**

You shall protect your work at all times from all anticipated acts and conditions at the job site, till the time it is formally handed over to and accepted by the client. No claims against damage of works at site shall be entertained. The cost of protection shall be borne by you.

**13. TECHNICAL SERVICES**

A technical team, consisting of qualified engineers and adequate workers, would be deputed to site by you for execution of the work. The technical team shall coordinate with all other such agencies, till such time that the work is completed & acceptance of hand over by the Client. Also the technical team shall be deputed for the onsite support of 12 months from the date of virtual completion & acceptance of hand over by the owner

**14. WARRANTY**

You shall warranty the work/ installation performed under this contract in accordance with the Commercial as well as Technical Terms & Conditions of contract.

**15. RESPONSIBILITY OF CONTRACTOR AT CLOSE-OUT**

The contractor shall be responsible to ensure that the owner gets all Close-out deliverables on time, at the end of the project. The Close-out deliverables shall include and not limited to scope of the works.

...5.



## 16. CLIENT REPRESENTATIVE

Mr. Ramesh Kumar, Estate Officer/Project Engineer, (Tel : 7022132888) shall remain the single point of contact as Client representative for the project.

## 17. WASTE DISPOSAL

You shall be responsible for the disposal of waste/ unwanted packing material etc. on a day to day to basis to the designated location as approved by Client. Under no circumstances, it will be thrown outside the construction site or stacked in adjacent properties, without proper permission from the authorities. You will be responsible for any penalty levied by the local authority on this account.

## 18. DEFECTS LIABILITY PERIOD

You shall be responsible for any defects arising in the work executed by you either in the materials used or in the workmanship for 12 Months from the date of virtual completion & acceptance of hand over by the client. Where extended warranties are stipulated in the contract document, appropriate guarantees in approved formats for the same before issuance of the Final Completion Certificate shall be provided by you.

## 19. LIQUIDATED DAMAGES

You shall pay the owner such sums stipulated at 0.5% of contract value per week for the delay beyond the above said dates to a maximum of 5% of total contract value. You shall also pay the liquidated damages as stated in the General conditions of contract and Fiscal conditions of contract for the delay in achievement of interim milestones set for the project.

## 20. EHS COMPLIANCE (Environmental, Health & Safety)

You shall comply with all the EHS requirements, implied or specifically stated in EHS guidelines issued with the tender documents and agree with the imposition of penalty, as determined by the client for the safety violations observed at site. No personnel shall be permitted at site without proper personal protective equipment and ID cards. Deviations will be viewed seriously and will attract action, as determined by the Estate Officer – cum- Project Engineer and the Project Incharge, in compliance with the EHS guidelines.

## 21. Other terms are as per **Annexure No. 3** and also as per the tender terms.

...6.

Two (2) copies of Letter of Intent are forwarded to you. Please return one (1) copy to us, duly signed, as token of your acceptance of the terms and conditions of the contract.

**22. Our GST No.: 29 AAATS 8008 C1 ZL**

You are requested to commence the work and complete as per schedule.

Please acknowledge.

Thanking you,

Yours faithfully,

  
(K.SYAMA RAJU)  
SECRETARY

**Accepted on behalf of M/s. Atlantica Infra Private Limited.**

Signature \_\_\_\_\_ Name \_\_\_\_\_

Designation \_\_\_\_\_ Date \_\_\_\_\_

Encl: As above.



## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate in Rs	Amount in Rs
<b>I. MAINSPINE ROAD HARDSCAPE BOQ</b>					
<b>A MVIT Landscape area civil work for Main Central Island-BOQ</b>					
1	Earth work Excavation for Footings, Plinth beams works by mechanical means upto required depth, including providing shoring strutting and bracing, dressing of sides and bottom .Excess earth to be transported upto 1.00 km lead. Cost to Include labour for trimmings, HOM & also dewatering charges which includes bailing and pumping out water and also removal of slush formed and as directed by Engineer incharge.only plan area shall be measured for payments.	Cum	111.38	375.00	41767.50
2	Supply & Laying charges for laying P.C.C. (M 7.5) of specified thick wherever specified levelling course in foundations, flooring and other similar works, including the cost , labour, tools and tackels etc., with all leads and lifts, at all levels, sub grade preparation, levelling, rough finishing at the top surface, curing and necessary shuttering, etc., complete.	Cum	3.30	5500.00	18150.00
3	Supply, Fabricating & fixing in position reinforcement for RCC work with high yield strength ribbed cold twisted tor steel (HSD) bars of various diameters including cutting, providing, supplying & bending, straightening,shifting, hoisting, fabricating and placing in position according to drawings and binding the reinforcement with galvanised annealed binding wire of double fold of 18 gauge and providing PVC cover blocks for placing the reinforcements in position and for maintaining the cover specified . Cost to include cost of binding wire & Cover blocks.	MT	3.30	95000.00	313500.00
4	Supply & Laying charges for laying M25 grade concrete of specified thick wherever specified footing, plinth beam, slabs, tools and tackels, etc., with all leads and lifts, at all levels, sub grade preparation, levelling, finishing at the top surface, curing scaffolding etc., complete.	Cum	33.00	6500.00	214500.00
5	Providing, fabricating and erecting form work at all levels and places and profiles wherever needed/specified as per drawing, with 12mm plastic coated, marine resistant waterproof ply with adjustable steel props of acceptable staging system and with sufficient bracing as approved by consultant. Cost to include designing of proper form work and staging system to suit the requirements, submission of design calculations and shop drawings for approval, sealing the joints with heavy duty brown self adhesive tape, aligning to line and levels including M.S. ties, PVC spacer, providing openings/ cut-outs/ pockets, making holes / recess for leaving dowels embedments etc., applying deshuttering chemical to avoid sticking of cement on the plywood and to have form finish which does not require any further finishing work to be carried out , deshuttering as approved by the consultant etc., complete, at all heights and levels,with all lead & lift of materials, Tools & Tackles	Sqm	132.00	600.00	79200.00

(7)



## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate in Rs	Amount in Rs	
6	Stone sculpture of various height size 450 width x 1500mm ht	Nos	16.00	50000.00		800000.00
7	Stone sculpture of various height size 600 width x 2500mm ht	Nos	16.00	95000.00		1520000.00
8	Stone sculpture of various height size 600 width x 2750mm ht	Nos	1.00	125000.00		125000.00
9	GRC Sculpture 1.5 mtr ht statue	Nos	1.00	100000.00		100000.00
<b>B</b>	<b>MVIT Landscape area civil work for Canteen Island-BOQ</b>					
1	Providing and constructing 200mm thick BLOCK MASONRY with Cement Mortar 1:6 for basement, and superstructure including cost of all materials, labour charges, scaffolding, curing, HOM of equipments and machineries, with all lead and lifts, loading and unloading, transportation, all other incidental charges etc complete as per specifications as directed by the Engineer in charge.	Sqm	70.60	1400.00		98840.00
2	Providing and applying 12 mm thick Rough plastering in cement mortar mix ratio CM 1:6 (1 cement : 6 sand), to internal surfaces of masonry work including cost of all materials, labour charges, scaffolding, curing, HOM of equipments and machineries, with all lead and lifts, loading and unloading, transportation, all other incidental charges etc complete as per specifications as directed by the Engineer in charge.	Sqm	95.50	425.00		40587.50
3	25 mm grit finish for walk way	Sqm	143.00	2600.00		371800.00
4	Tree grating with grass pavers at canteen island	Sqm	5.76	1600.00		9216.00
5	Natural Stone cladding	Sqm	95.50	5500.00		525250.00

## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Amount in Rs	
				Rate in Rs	Amount in Rs
<b>C</b>	<b>MVIT Landscape area civil work for Rear side round about</b>				
1	Earth work Excavation for Footings, Plinth beams works by mechanical means upto required depth, including providing shoring strutting and bracing, dressing of sides and bottom .Excess earth to be transported upto 1.00 km lead. Cost to Include labour for trimming, HOM & also dewatering charges which includes bailing and pumping out water and also removal of slush formed and as directed by Engineer incharge.only plan area shall be measured for payments.	Cum	11.19	375.00	4196.59
2	Supply & Laying charges for laying P.C.C. (M 7.5) of specified thick wherever specified levelling course in foundations, flooring and other similar works, including the cost , labour, tools and tackels etc., with all leads and lifts, at all levels, sub grade preparation, levelling, rough finishing at the top surface, curing and necessary shuttering, etc., complete.	Cum	5.04	5500.00	27720.00
3	Supply & Laying charges for laying P.C.C. (M 15) of specified thick wherever specified levelling course in foundations, flooring, steps and other similar works, including the cost , labour, tools and tackels etc., with all leads and lifts, at all levels, sub grade preparation, levelling, rough finishing at the top surface, curing etc., complete.	Cum	9.06	5800.00	52548.00
4	Providing, fabricating and erecting form work at all levels and places and profiles wherever needed/specified as per drawing, with 12mm plastic coated, marine resistant waterproof ply with adjustable steel props of acceptable staging system and with sufficient bracing as approved by consultant. Cost to include designing of proper form work and staging system to suit the requirements, submission of design calculations and shop drawings for approval, sealing the joints with heavy duty brown self adhesive tape, aligning to line and levels including M.S. ties, PVC spacer, providing openings/ cut-outs/ pockets, making holes / recess for leaving dowels embedments etc., applying deshuttering chemical to avoid sticking of cement on the plywood and to have form finish which does not require any further finishing work to be carried out , deshuttering as approved by the consultant etc., complete, at all heights and levels,with all lead & liff of materials, Tools & Tackles	Sqm	57.80	600.00	34680.00
5	Supply, Fabricating & fixing in position reinforcement for RCC work with high yield strength ribbed cold twisted tor steel (HSD) bars of various diameters including cutting, providing, supplying & bending, straightening,shifting, hoisting, fabricating and placing in position according to drawings and binding the reinforcement with galvanised annealed binding wire of double fold of 18 gauge and providing PVC cover blocks for placing the reinforcements in position and for maintaining the cover specified . Cost to include cost of binding wire & Cover blocks.	MT	0.53	95000.00	50350.00

9



## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate in Rs	Amount in Rs
6	Providing and constructing 200mm thick BLOCK MASONRY with Cement Mortar 1:6 for basement, and superstructure including cost of all materials, labour charges, scaffolding, curing, HOM of equipments and machineries, with all lead and lifts, loading and unloading, transportation, all other incidental charges etc complete as per specifications as directed by the Engineer in charge.	Sqm	29.64	1400.00	41496.00
7	Providing and applying 12 mm thick Rough plastering in cement mortar mix ratio CM 1:6 (1 cement : 6 sand), to internal surfaces of masonry work including cost of all materials, labour charges, scaffolding, curing, HOM of equipments and machineries, with all lead and lifts, loading and unloading, transportation, all other incidental charges etc complete as per specifications as directed by the Engineer in charge.	Sqm	35.36	425.00	15028.00
8	Providing and applying 12 mm thick Rough plastering in cement mortar mix ratio CM 1:6 (1 cement : 6 sand), to internal surfaces of masonry work including cost of all materials, labour charges, scaffolding, curing, HOM of equipments and machineries, with all lead and lifts, loading and unloading, transportation, all other incidental charges etc complete as per specifications as directed by the Engineer in charge.	Sqm	14.72	425.00	6256.00
9	SS Signages	Nos	1.00	5000.00	5000.00
10	Supply, fabrication and erection of chain link mesh made out of vertical post SHS 72 x 72 x 4mm, frame made out of ISA 40 x 40 x 6mm, 40 x 6mm flat dummy plate of 6mm, 25 x 25 x 5mm angle hold fast with chain link mesh of 65 x 65 x 8 gauge. The rate includes making all required openings ( Doors) with necessary hard wares and one coat of primer	Sqm	196.86	1300.00	255918.00
11	ISMC 100x50x3 mtr ht for feature	MT	2.52	140000.00	352800.00
12	Supply and fixing of Natural stone statue	Nos	1.00	125000.00	125000.00
13	Supply and fabrication erection of MS work for gate	MT	0.72	140000.00	100800.00
14	External painting	Sft	214.42	28.00	6003.73
15	Internal painting	Sft	193.75	35.00	6781.32
16	UPVC Glazing with glass	Sft	147.25	850.00	125163.79
	<b>Total Hardscape</b>				<b>5467552.43</b>

## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate in Rs	Amount in Rs	
<b>2. MAIN SPINE ROAD SOFTSCAPE BOQ</b>						
<b>A MVIT-ROAD REACH-1 SOFTSCAPE BOQ</b>						
<b>SHRUBS</b>						
1	Providing & Laying of Boston Ferns 350mm Ht 450mm C/C	Nos	1100.00	175.00		192500.00
2	Providing & Laying of Lantana Mix 350mm Ht 350mm C/C	Nos	1472.00	45.00		66240.00
3	Providing & Laying of Alpinia Zerumbet 350mm Ht 450mm C/C	Nos	667.00	350.00		233450.00
4	Providing & Laying of Caesalpinia Pulcherrima 450mm Ht 600mm C/C	Nos	680.00	175.00		119000.00
5	Providing & Laying of Hibiscus Red 350mm Ht 450mm C/C	Nos	432.00	110.00		47520.00
6	Providing & Laying of Ixora Signaporensis 350mm Ht 450mm C/C	Nos	155.00	125.00		19375.00
7	Providing & Laying of Foxtail Agave 350mm Ht 300mm C/C	Nos	162.00	550.00		89100.00
8	Providing & Laying of Aptenia Corodifolia 400mm Ht 150mm C/C	Nos	651.00	150.00		97650.00
9	Providing & Laying of Yucca Gigantea 350mm Ht 300mm C/C	Nos	90.00	750.00		67500.00
10	Providing & Laying of Bouganvillea White 350mm Ht 450mm C/C	Nos	270.00	125.00		33750.00
11	Providing & Laying of Bouganvillea Pink 350mm Ht 450mm C/C	Nos	210.00	150.00		31500.00



## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate in Rs	Amount in Rs	
12	Providing & Laying of Plumeria Pudica 350mm Ht 450mm C/C	Nos	103.00	1100.00		113300.00
13	Providing & Laying of Ophiopogon Japonicus 350mm Ht 150mm C/C	Nos	2080.00	75.00		156000.00
14	Providing & Laying of Cordyline Fruticosa 350mm Ht 400mm C/C	Nos	490.00	110.00		53900.00
15	Providing & Laying of Alocasia Macrorrhiza 350mm Ht 450mm C/C	Nos	230.00	220.00		50600.00
16	Providing & Laying of Pennisetum Green 350mm Ht 450mm C/C	Nos	101.00	95.00		9595.00
17	Providing & Laying of Asparagus Sprengeri 350mm Ht 450mm C/C	Nos	485.00	125.00		60625.00
18	Providing & Laying of Pseuderanthemum Reticulatum 350mm Ht 450mm C/C	Nos	890.00	175.00		155750.00
19	Providing & Laying of Jatropha Integerrima 350mm Ht 300mm C/C	Nos	1150.00	125.00		143750.00
20	Providing & Laying of Cyperus Alternifolius 350mm Ht 350mm C/C	Nos	280.00	175.00		49000.00
21	Providing & Laying of Wedelia Trilobata 350mm Ht 400mm C/C	Nos	702.50	45.00		31612.50
22	Providing & Laying of Canna Indica 350mm Ht 400mm C/C	Nos	315.00	110.00		34650.00
23	Providing & Laying of Tecoma Gaudichaudi 450mm Ht 450mm C/C	Nos	185.00	85.00		15725.00
24	Providing & Laying of Thunbergia Mysorensis 450mm Ht 600mm C/C	Nos	20.00			
	Total Soil - 674.27 Cum - 300mm Depth( Red Earth-70%, Sand-15% & Cocopeat-15%)					12



## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate in Rs	Amount in Rs	
25	Laying of Red soil Available at Site	Cum	455.50	250.00		113876.18
26	Providing and Laying of Sand	Cum	97.61	3500.00		341628.53
27	Providing and Laying of Cocopeat	Cum	97.61	2500.00		244025.00
28	Providing and Laying of Vermicompost/Organic Compost 350 g/Cum					
<b>B</b>	<b>MVIT-ROAD REACH-2 SOFTSCAPE BOQ</b>					
	<b>TREES</b>					
1	Providing & Laying of Lagerstroemia Speciosa-1500mm Height	Nos	109.00	450.00		49050.00
2	Providing & Laying of Tabebuia Avellanadae-1500mm Height	Nos	88.00	600.00		52800.00
3	Providing & Laying of Cassia Javanica-1500mm Height	Nos	9.00	600.00		5400.00
4	Providing & Laying of Spathodea-1500mm Height	Nos	53.00	600.00		31800.00
5	Providing & Laying of Tabebuia Argentea-1500mm Height	Nos	27.00	600.00		16200.00
6	Providing & Laying of Callistemon Viminalis-1500mm Height	Nos	75.00	1200.00		90000.00
7	Providing & Laying of Sita Ashoka-1500mm Height	Nos	15.00	600.00		9000.00
8	Providing & Laying of Delonix Regia-1500mm Height	Nos	9.00	600.00		5400.00

## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate in Rs	Amount in Rs	
	<b>SHRUBS</b>					
1	Providing & Laying of Lantana White 200mm Ht 400mm C/C	Nos	855.00	45.00		38475.00
2	Providing & Laying of Leucophyllum 350mm Ht 400mm C/C	Nos	1655.00	125.00		206875.00
4	Providing & Laying of Acalypha Hispida 350mm Ht 400mm C/C	Nos	1569.00	125.00		196125.00
5	Providing & Laying of Ruellia Simplex 200mm Ht 400mm C/C	Nos	623.00	125.00		77875.00
6	Providing & Laying of Nerium Oleander 350mm Ht 400mm C/C	Nos	587.00	95.00		55765.00
7	Providing & Laying of Nerium Dwarf 350mm Ht 400mm C/C	Nos	1874.00	95.00		178030.00
9	Providing & Laying of Tecoma Gandichandi 350mm Ht 400mm C/C	Nos	47.00	110.00		5170.00
10	Providing & Laying of Ixora Singaporensis 350mm Ht 400mm C/C	Nos	105.00	125.00		13125.00
11	Providing & Laying of Pandanus 350mm Ht 400mm C/C	Nos	154.00	95.00		14630.00
12	Providing & Laying of Mussaenda Philippica 350mm Ht 400mm C/C	Nos	144.00	175.00		25200.00
13	Providing & Laying of Bougainvillea 350mm Ht 400mm C/C	Nos	2059.00	150.00		308850.00
14	Providing & Laying of Allamanda Neriifolia 350mm Ht 400mm C/C	Nos	302.00	95.00		28690.00
15	Providing & Laying of Ophiopogon 350mm Ht 200 mm C/C	Nos	436.00	75.00		32700.00



## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate in Rs	Amount in Rs	
16	Providing & Laying of Ixora Singaporensis 350mm Ht 400mm C/C	Nos	742.00	125.00		92750.00
17	Providing & Laying of Pandanees Verigated 350mm Ht 400mm C/C	Nos	1863.00	95.00		176985.00
18	Providing & Laying of Ipomoea Batatas Margarita 350mm Ht 400mm C/C	Nos	627.00	75.00		47025.00
19	Providing & Laying of Tradescantia Pallida 350mm Ht 200 mm C/C	Nos	10065.00	60.00		603900.00
20	Providing & Laying of Tabuneemontana Dwarf 350mm Ht 200 mm C/C	Nos	7671.00	125.00		958875.00
21	Providing & Laying of Brunfelsia Pauciflora 350mm Ht 200 mm C/C	Nos	2071.00	125.00		258875.00
22	Providing & Laying of Syzygium Myrtifolium 350mm Ht 400mm C/C	Nos	246.00	350.00		86100.00
23	Providing & Laying of Hymenocallis 350mm Ht 400mm C/C	Nos	211.00	75.00		15825.00
24	Providing & Laying of Asparagus 350mm Ht 200 mm C/C	Nos	971.00	95.00		92245.00
25	Providing & Laying of Strelitzia Reginae- 350mm Ht 200mm C/C	Nos	1113.00	550.00		612150.00
26	Providing & Laying of Canna Indica-350mm Ht 400mm C/C	Nos	476.00	110.00		52360.00
27	Providing & Laying of Wedilia Trilobata-350mm Ht 400mm C/C	Nos	7294.00	45.00		328230.00
28	Providing & Laying of Cyperus Alternifolius-350mm Ht 350mm C/C	Nos	1667.00	175.00		291725.00

## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate in Rs	Amount in Rs	
29	Providing & Laying of Pennisetum Green-350mm Ht 450mm C/C	Nos	1049.00	95.00		99655.00
	Total Soil - 1582.53 Cum - 300mm Depth ( Red Earth-70%, Sand-15% & Vermicompost-15%)					
30	Laying of Red soil Available at Site	Cum	628.31	250.00		157077.50
31	Providing and Laying of Sand	Cum	134.64	3500.00		471234.33
32	Providing and Laying of Vermicompost	Cum	134.64	2500.00		336600.00
<b>C</b>	<b>MVIT-MEMORIAL OF TRUSTEES ISLAND SOFTSCAPE BOQ</b>					
	<b>TREES</b>					
1	Providing & Laying of Tabebuia Rosea- 1500mm Height	Nos	18.00	750.00		13500.00
2	Providing & Laying of Araucaria Columnaris-3000mm Height	Nos	10.00	4000.00		40000.00
3	Providing & Laying of Travellers Palm-1500mm Height	Nos	8.00	3000.00		24000.00
	<b>SHRUBS</b>					
1	Providing & Laying of Justicia Brandegeana 350mm Ht 400mm C/C	Nos	905.00	110.00		99550.00
2	Providing & Laying of Pisonia Alba 350mm Ht 400mm C/C	Nos	964.00	175.00		168700.00
3	Providing & Laying of Ixora White 350mm Ht 400mm C/C	Nos	83.00	175.00		14525.00



## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate in Rs	Amount in Rs	
4	Providing & Laying of Costus Woodsonii 350mm Ht 400mm C/C	Nos	73.00	150.00		10950.00
5	Providing & Laying of Alpinia Zerumbet 350mm Ht 400mm C/C	Nos	255.00	350.00		89250.00
6	Providing & Laying of Pentas Lanceolata 350mm Ht 400mm C/C	Nos	160.00	125.00		20000.00
7	Providing & Laying of Pennisetum Green 350mm Ht 400mm C/C	Nos	77.00	95.00		7315.00
8	Providing & Laying of Cosmos Bipinnatus 350mm Ht 400mm C/C	Nos	1081.00	125.00		135125.00
9	Providing & Laying of Shade Grass Dibbling	Sqm	288.86	200.00		57771.80
	Total Soil - 1582.53 Cum - 300mm Depth ( Red Earth-70%, Sand-15% & Vermicompost-15%)					
10	Laying of Red soil Available at Site	Cum	182.08	250.00		45520.00
11	Providing and Laying of Sand	Cum	39.02	3500.00		136557.38
12	Providing and Laying of Vermicompost	Cum	39.02	2500.00		97550.00
<b>D</b>	<b>MVIT-MAIN CENTRAL ISLAND SOFTSCAPE BOQ</b>					
	<b>SHRUBS</b>					
1	Providing & Laying of Ruellia Simplex 200mm Ht 400mm C/C	Nos	67.00	125.00		8375.00
2	Providing & Laying of Justicia Brandegeana 350mm Ht 400mm C/C	Nos	530.00	110.00		58300.00

## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate in Rs	Amount in Rs	
3	Providing & Laying of Asystacia Gangetica 350mm Ht 400mm C/C	Nos	847.00	110.00		93170.00
4	Providing & Laying of Nerium Dwarf 350mm Ht 400mm C/C	Nos	108.00	95.00		10260.00
5	Providing & Laying of Pntas Mix 350mm Ht 400mm C/C	Nos	1339.00	125.00		167375.00
	Total Soil - 1582.53 Cum - 300mm Depth ( Red Earth-70%, Sand-15% & Vermicompost-15%)					
6	Laying of Red soil Available at Site	Cum	97.02	250.00		24255.58
7	Providing and Laying of Sand	Cum	20.79	3500.00		72766.73
8	Providing and Laying of Vermicompost	Cum	20.79	2500.00		51976.24
<b>E</b>	<b>MVIT-CANTEEN ISLAND SOFTSCAPE BOQ</b>					
	<b>TREES</b>					
1	Providing & Laying of Tabebuia Rosea- 1500mm Height	Nos	26.00	750.00		19500.00
2	Providing & Laying of Araucaria Columnaris-3000mm Height	Nos	6.00	4000.00		24000.00
3	Providing & Laying of Cassia Javanica-1500mm Height	Nos	1.00	750.00		750.00
	<b>SHRUBS</b>					
1	Providing & Laying of Ruellia Simplex 200mm Ht 400mm C/C	Nos	122.00	125.00		15250.00



## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate	Amount
				in Rs	in Rs
2	Providing & Laying of Tecoma Pink 350mm Ht 400mm C/C	Nos	62.00	125.00	7750.00
3	Providing & Laying of Nerium Oleander 350mm Ht 400mm C/C	Nos	33.00	95.00	3135.00
4	Providing & Laying of Justicia Brandegeana 350mm Ht 400mm C/C	Nos	1236.00	110.00	135960.00
5	Providing & Laying of Pisonia Alba 350mm Ht 400mm C/C	Nos	1349.00	175.00	236075.00
	Total Soil - 1582.53 Cum - 300mm Depth ( Red Earth-70%, Sand-15% & Vermicompost-15%)				
6	Laying of Red soil Available at Site	Cum	94.07	250.00	23517.43
7	Providing and Laying of Sand	Cum	20.16	3500.00	70552.28
8	Providing and Laying of Vermicompost	Cum	20.16	2500.00	50394.49
<b>F</b>	<b>MVIT-REAR SIDE ROUND ABOUT SOFTSCAPE BOQ</b>				
	<b>TREES</b>				
1	Providing & Laying of Delonix Regia-1500mm Height	Nos	9.00	600.00	5400.00
	<b>SHRUBS</b>				
1	Providing & Laying of Leucophyllum 350mm Ht 400mm C/C	Nos	547.00	125.00	68375.00
2	Providing & Laying of Duranta Gold 200mm Ht 400mm C/C	Nos	966.00	75.00	72450.00
3	Providing & Laying of Philodendron Selloum 350mm Ht 400mm C/C	Nos	427.00	450.00	192150.00
4	Providing & Laying of Hamelia Patens 350mm Ht 400mm C/C	Nos	1006.00	110.00	110660.00
5	Providing & Laying of Pseuderanthemum Golden 350mm Ht 400mm C/C	Nos	503.00	150.00	75450.00
6	Providing & Laying of Shade Grass Dribbling	Sqm	135.21	200.00	27042.60
	Total Soil - 1582.53 Cum - 300mm Depth ( Red Earth-70%, Sand-15% & Vermicompost-15%)				
7	Laying of Red soil Available at Site	Cum	144.20	250.00	36050.86
8	Providing and Laying of Sand	Cum	30.90	3500.00	108152.57
9	Providing and Laying of Vermicompost	Cum	30.90	2500.00	77251.84
	<b>Total Softscape</b>				<b>11501053.83</b>



## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate in Rs	Amount in Rs	
<b>3. IRRIGATION WORKS BOQ</b>						
<b>Manual Irrigation Works</b>						
1	<b>Pipes Work:</b> Supply, laying & commissioning in position <b>PVC pipe</b> conforming to <b>IS:4985:2000</b> and suitable for the respective working pressures without all fittings and accessories e.g. couplings, tees, bends, reducers, screwed adapters, flanged tail pieces etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.					
1.01	PVC pipe 110mm-10 kg/cm <sup>2</sup> - Pump Room Connection	Rm	60.00	790.00		47400.00
1.02	PVC pipe 90mm-10 kg/cm <sup>2</sup> - Mainline	Rm	2730.00	525.00		1433250.00
1.03	PVC pipe 75mm-10 kg/cm <sup>2</sup> - Mainline	Rm	540.00	395.00		213300.00
1.04	PVC pipe 63mm-6 kg/cm <sup>2</sup>	Rm	540.00	220.00		118800.00
1.05	PVC pipe 50mm-6 kg/cm <sup>2</sup>	Rm	1860.00	160.00		297600.00
1.06	PVC pipe 40mm-6 kg/cm <sup>2</sup>	Rm	4590.00	110.00		504900.00
1.07	PVC pipe 25mm-10 kg/cm <sup>2</sup>	Rm	12.00	40.00		480.00
1.08	PVC pipe 20mm-10 kg/cm <sup>2</sup>	Rm	12.00	35.00		420.00
1.09	PVC fittings	LS	1.00	654037.5		654037.50
1.1	Earth work excavation and refilling 300x450mm	Rm	7740.00	85.00		657900.00
1.11	Hume Pipe for road crossing 6" Dia	Rm	RO	750.00		
1.12	GI Pipe for road crossing 4" Dia - B Class	Rm	RO	950.00		
1.13	Core cutting in concrete slab/brick wall for pipe routing Up 63 to 110 mm dia	Nos	RO	850.00		
1.14	Chipping in Brick or Concrete for Main and Lateral lines	Rm	RO	250.00		
1.15	Supply, Fixing & commissioning of <b>8mm Anchor fasteners, 10mm Threaded Rod, Universal Clamp, Channel, Threaded U Clamp</b> , for below podium work	Nos	RO	475.00		
1.16	Supply, Fixing & commissioning of <b>MS Bracket fabricated from L-Angle</b> with Anchor Bolts as wall/floor clamping	Nos	RO	280.00		

## ORDER FOR MAINSPINE ROAD-LANDSCAPE, HARDCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate in Rs	Amount in Rs	
2	<b>DRIP &amp; ACCESSORIES</b>					
2.01	Supply, Fixing & Commissioning of flexible 16mm inline tubing with resistance to UV damage, algae growth brown in colour, Longer lateral run length with flow rate 2.3lph to 3.4 lph, pressure rating 0.58 to 4.1 bar, Dripper Spacing at 30 cm, 40 cm & 60 cm Spacing wall thickness 1.2mm etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge. (Drip line to Drip line - 400 mm , Dripper : 2.3 lph @ 12" Spacing With all Fittings	Rm	44688.00	48.00	2145024.00	
2.02	Supply, Fixing & commissioning of 2" Large Capacity Y Type Disc / Screen Filters for submain filtration Have High Flow & Low Maintenance With a Solid Build,Maximum Flow Up to 110 gpm (25m <sup>3</sup> /hr), Maximum Pressure 116 psi (8 bar),Maximum Temperature Up to 140°F (60°C) etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	27.00	4300.00	116100.00	
2.03	Supply, Fixing & commissioning of 1.5" Large Capacity Y Type Disc / Screen Filters for submain filtration Have High Flow & Low Maintenance With a Solid Build,Maximum Flow Up to 88 gpm (20m <sup>3</sup> /hr), Maximum Pressure 116 psi (8 bar),Maximum Temperature Up to 140°F (60°C) etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	8.00	3800.00	30400.00	
2.04	Supply, Fixing & commissioning of 1" Large Capacity Y Type Disc / Screen Filters for submain filtration Have High Flow & Low Maintenance With a Solid Build,Maximum Flow Up to 26 gpm (6m <sup>3</sup> /hr), Maximum Pressure 116 psi (8 bar),Maximum Temperature Up to 140°F (60°C) etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	1.00	2300.00	2300.00	
2.05	Supply, Fixing & commissioning of 40mm dia self-closing flushing valves that are installed at the end of the irrigation line for effecting flushing of the line at the beginning of every irrigation cycle, thus avoiding the clogging of the emitters /sprinklers through removal of particles, sediments and other impurities from the water. etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	36.00	325.00	11700.00	
2.06	Supply, Fixing & commissioning of 9 - Gauge Galvanized Steel Rod Comes Sharp tips provide easy insertion into all soil types, Staple Distribution Tubing , XF Drip Line or XBS Tubing to Finished Grade. Notched Sides. Corrosion -Resistant of TIE DOWN STAKE etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	22344.00	18.00	402192.00	

29



## ORDER FOR MAINSPINE ROAD-LANDSCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate in Rs	Amount in Rs
3	<b>SPRINKLERS &amp; ACCESSORIES</b>				
3.01	Supply, Fixing & commissioning of <b>Pop up spray head1804 SAM Series Spray bodies, with Rotary nozzle</b> having multiple stream MPR sprayhaving Co-moulded wiper seal is molded into the cap and features an encased plastic 'cage' to provide unmatched resistance to grit, <b>nozzle capable of covering 2.4m -7.3m at 1.4 - 3.8 Bars pressure</b> , and the environment. <b>Rotary nozzles shall have hand adjustable ( without tools) radius and arc-45 to 270 degree or full circle, True flushing mechanism,Thick streams and large water droplet &amp; Low precipitation rate</b> Additionally, the pressure-activated, multi-function seal design assures a positive seal without excess'flow-by'which enables more heads to be installed on the same valve, Two-piece ratchet mechanism, Features is Precision controlled flush at pop-down clears debris from unit, Construction of time-proven UV_resistant plastic. Pop spray body shall with stand upto 4.8 bar. <b>Built-in Seal-A-Matic™ (SAM) check valve. Traps water in lateral pipes in elevation changes of up to 14</b> f□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□	Nos	240.00	1500.00	360000.00
3.02	Supply, Fixing & commissioning of <b>5004 PLUS SAM PRS Series Rotor pop up sprinkler full/part circle having radius of 6.7m - 12m @ 2.5 - 4.5 bar with discharge of 0.09 - 0.61 ltr./sec.</b> the sprinklers having Arc Adjust thru Top Cover w/ Std. Screwdriver The sprinkler is gear driven rotary type with having 3/4" bottom inlet. Oversized wiper seal, Rain Curtain technology, gentle close-in watering and Self-flushing arc adjustment port and also having tapered riser stem with Wiper Seal <b>The sprinkler shall have Plus (PL) Flow shut off, 45 psi pressure regulator with flow optimizer, technology, internal Seal - A - Matic device which prevents low head drainage (upto 3.1m) &amp; hence puddling &amp; erosion.</b> The body of sprinkler is of non - corrodible, heavy duty, ABS plastic.O-ring Slip Clutch,Racheting Slip Clutch,Side Inlet Available 6" and 12",Turret-mounted ID Plugs,Flow Stop Available,Non-potable water indication available etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	60.00	2800.00	168000.00
3.03	Supply, Fixing & commissioning of <b>1/2" Pop up Connecting Swing joint Assembly.</b> The tubing shall be made of polyethylene having wall thickness of 2.3mm ,a working pressure of 5.5 kg/cm2 at 43oC and a surge pressure of 16.6 kg/cm2. Flex pipe textured for wet conditions.The fittings shall be made of UV resistant thermo plastic etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge... <b>SA Series.</b>	Nos	240.00	225.00	54000.00

(22)



## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate in Rs	Amount in Rs	
3.04	Supply, Fixing & commissioning of <b>3/4" Pop up Connecting Swing joint Assembly</b> . The tubing shall be made of polyethylene having wall thickness of 2.3mm ,a working pressure of 5.5 kg/cm2 at 43oC and a surge pressure of 16.6 kg/cm2. Flex pipe textured for wet conditions.The fittings shall be made of UV resistant thermo plastic etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.. <b>SA Series</b> .	Nos	60.00	400.00		24000.00
3.05	Supply, Fixing & commissioning of <b>Imported HDPE service saddle</b> of varying size upto 63mm dia <b>with pressure rating of PN 10</b> etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	300.00	325.00		97500.00
4	<b>VALVES &amp; ACCESSORIES</b>					
4.01	Supply, Fixing & commissioning of <b>PVC Single Union Ball Valve</b> ,security pivot to maintain lever in space,double water tight joint,direct injection stem,Stem O-Ring, non mechanical ,ball Seals with backing seals and with a base which permits maximum penetration into the valve of size <b>63mm with pressure rating PN 10</b> etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	34.00	2400.00		81600.00
4.02	Supply, Fixing & commissioning of <b>PVC Single Union Ball Valve</b> ,security pivot to maintain lever in space,double water tight joint,direct injection stem, Stem O-Ring, non mechanical ,ball Seals with backing seals and a base which permits maximum penetration into the valve of size <b>50mm. with pressure rating PN 10</b> etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	16.00	1900.00		30400.00
4.03	Supply, Fixing & commissioning of <b>PVC Single Union Ball Valve</b> ,security pivot to maintain lever in space,double water tight joint,direct injection stem,Stem O-Ring, non mechanical ,ball Seals with backing seals and with a base which permits maximum penetration into the valve of size <b>40mm. with pressure rating PN 10</b> etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	3.00	1500.00		4500.00
4.04	Supply, Fixing & commissioning of a double acting <b>air and vaccum release 1/2 " Air release valve</b> . The Air release valve shall be capable of both releasing and admitting air from and into the line. The working pressure shall be 5 bar. Only for Drip Irrigation etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	36.00	950.00		34200.00



## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Amount in Rs	
				Rate in Rs	Amount in Rs
4.05	Supply, Fixing & commissioning of a <b>double acting air and vaccum release 2 " Air release valve</b> . The Air release valve shall be capable of both releasing and admitting air from and into the line. The working pressure shall be 10 KSC etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	10.00	1600.00	16000.00
4.06	Supply, Fixing & commissioning of <b>6"Round box with greenlid</b> and corrugated structure with unique shovel access slot and bolt hole knockout & Having Dimensions @ Top Opening :6 1/8" Dia & Bottom Opening 8 5/8" Dia etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	66.00	950.00	62700.00
4.07	Supply,Fixing & commissioning of <b>10" Round Valve Box with greenlid</b> and corrugated structure with unique shovel access slot and bolt hole knockout & Having Dimensions @ Top Opening 10" Dia & Bottom Opening 12 13/16" Dia etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	36.00	1600.00	57600.00
4.08	Supply,Fixing & commissioning of <b>12" Rectangular Standard Valve Box with greenlid</b> and corrugated structure with unique shovel access slot and bolt hole knockout & having Dimensions @ Top Opening:18 1/4" L X 13" W & bottom opening :21 1/4" L X 15 15/16"W X 12" H etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	17.00	2700.00	45900.00
4.09	Supply,Fixing & commissioning of <b>18" Jumbo Rectangular Standard Valve Box with greenlid</b> and corrugated structure with unique shovel access slot and bolt hole knockout & having Dimensions @ Top Opening:18 1/4" L X 13" W & bottom opening :21 1/4" L X 15 15/16"W X 12" H etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos.	36.00	4800.00	172800.00
4.10	Supply, Fixing & commissioning of <b>3/4th inch Quick coupling valve</b> made up of solid brass with locking cover corrosion resistant and stainless steel spring etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	20.00	2600.00	52000.00
4.11	Supply, Fixing & commissioning of <b>3/4th inch Key threads into top of QCV</b> to provide water access etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	5.00	1500.00	7500.00
4.12	Supply, Fixing & commissioning of <b>3/4th inch Hose Swivel</b> Made up of Solid Brass <b>Swivels up to 360 degrees</b> to allows hose to be pulled in any direction & Also to prevent Hose Damage etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	5.00	1300.00	6500.00

24



## ORDER FOR MAINSPINE ROAD-LANDSCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate in Rs	Amount in Rs
5	<b>FILTRATION UNIT</b>				
5.01	Supply, Fixing & commissioning of <b>4" Fully Automatic Self Cleaning Filter</b> , Pressure Differential Based, 100 Micron, Flanged End & all required Accessories Capacity of <b>4" - 70m<sup>3</sup> \Hr</b> etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	1.00	275000.00	275000.00
6	<b>PUMPING UNIT</b>				
6.01	Supply, Fixing & commissioning of <b>Hydro-Pneumatic Pumping System</b> with Variable Frequency Drive Mechanism of suitable capacity with Suction & Delivery Manifold, Wafer Seal Butterfly Valve as Isolation Valves, Non Return Valves, Pump Control Panel, Pressure Vessel, mounted on a Baseframe with proper supports etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	1.00	1250000.00	1250000.00
	Duty of Pump : 4.00 LPS				
	Pressure Head Range = 65.00 - 70.00 Mtr				
	No. of Pumps : 2 Working + 1 Standby				
6.03	Supply, Fixing & Commissioning of Control Cable for Pump Set - 3 core X 4 Sq.mm Copper	Mtr	30.00	550.00	16500.00
6.04	Supply, Fixing & commissioning of <b>3" control Valve, Butterfly Valve VAN Stone flange &amp; Tail Piece</b> in mainline for bypass and flow diversion of approved quality with pressure rating of PN 10 etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	5.00	12300.00	61500.00
6.05	Supply, Fixing & commissioning of <b>4" control Valve, Butterfly Valve VAN Stone flange &amp; Tail Piece</b> in mainline for bypass and flow diversion of approved quality with pressure rating of PN 10 etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	8.00	14500.00	116000.00
6.06	Supply, Fixing & commissioning of <b>4" Non Return Valve</b> to prevent back flow have flap type or spring type with pressure rating of PN 10 etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	3.00	13500.00	40500.00
6.07	Supply, Fixing & commissioning of <b>Pressure release valve 3" with pressure setting from 0 to 7 Bar</b> etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	1.00	19500.00	19500.00

25

## ORDER FOR MAINSPINE ROAD-LANDSCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate	Amount
				in Rs	in Rs
6.08	Supply, Fixing & commissioning of <b>Pressure Sustaining valve 3" BSP with pressure setting PN10 BAR</b> etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	1.00	26500.00	26500.00
7	<b>Automation Equipments</b>				
7.01	Supply, Fixing & Commissioning of Direct burial <b>14 Awg x 2 Maxi cable with PVC insulated UL standard 493 with impregnated polyethene jacket and soft annealed tin coated copper conforming to ASTM B-33</b> for two way communication between decoder controller and decoders complete	Mtr	3300.00	250.00	825000.00
7.02	Supply, Fixing & Commissioning of <b>PVC pipe 25mm-10 kg/cm<sup>2</sup></b> including fittings and accessories	Mtr	3300.00	40.00	132000.00
7.03	Supply, Fixing & commissioning Of <b>Two wire control system without Decoder ESP-LX IVM Pro having Two way Communication between controller and Smart valve supports up to 240 stations</b> standard Up to four 2-Wire paths , plus flow sensing and advanced flow management tools. support upto 5 flow sensor inputs and removable front panel is programmable under battery power. Learn Flow utility and flow usage totalizer help optimize water usage, • FloWatch™ protection for high and low flow conditions set by the user, FloManager™ manages hydraulic demand, make full use of available water to turn on as many stations as possible without exceeding water supply and reducing the total time to complete irrigation cycles. • <b>SimulStations™ allows stations to operate at the same time; up to 16</b> with LXIVM Pro, • Cycle+Soak™ by station, • Rain Delay up to 30 days, • 365-Day Calendar Day Off (up to 5 days), • Station Delay by program, • Normally Open or Normally Closed Master, Valves programmable by station; up to 10 with LX-IVM Pro, • Optional Weather Sensors are programmable by station to prevent or pause watering; up to 4 with LX-IVM and 8 with LX-IVM Pro. • Station Run Time: 0 min. to 96 hrs. • Seasonal Adjust: 0% to 300% (96 hrs. maximum station run time), • 40 independent programs on the ESP-LXIVM Pro • 8 start times per program, • Program Day Cycles include Custom days of the week, Odd, Even, and Cyclical dates, • Manual Station and Manual Program starts	No	1.00	275000.00	275000.00

(26)



## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Amount in Rs	
				Rate in Rs	Amount in Rs
7.04	Supply, Fixing & commissioning Of IQ NCC network Communication Cartridge shall be enabled to access controller through Mobile / Tab full operation of irrigation system and operates through Cloud shall have <b>Global weather feature and pin enabled access</b> for user and dry run to budget available water	Nos	1.00	140000.00	140000.00
7.05	Supply, Fixing & Commissioning of IVM-SOL Interfaces (solenoid and decoder in one unit as interface with facility of Maximum Two Wire Connector Between the Solenoid valve & Communication Cable) with LX-IVM to control station valves and master valves as per specifications complete	Nos	53.00	10500.00	556500.00
7.06	Supply, Fixing & Commissioning of IVM-OUT Interfaces with LX-IVM to manage 3rd party valves and external gear such as pump stations as per specifications complete	Nos	1.00	19500.00	19500.00
7.07	Supply, Fixing & Commissioning of IVM-SD for surge protection on the 2-Wire path as required with copper grounding rod, clamps, charcoal and all requisite accessories as per specifications complete	Nos	22.00	14500.00	319000.00
7.08	Supply, Fixing & commissioning of 1" Solenoid globe angle inlet Valves with provision to DC Latched interface module, fabric reinforced Nitrile diaphragm Material and rugged PVC construction, compatible and slow closing to prevent water hammer, pressure rating upto 10.4 KSC and maximum flow of 40GPM ,max water temp. upto 42degree centigrade, 9V DC solenoid ( IVM-SOL Interfaces ) Without AC Coil ,current rating 0.41A @50Hz,coil resistance 30ohm with provision to attach PRS-Dial PGA Pressure Regulation Optional PRS-D	Nos	3.00	5800.00	17400.00
7.09	Supply, Fixing & commissioning of 1.5" Solenoid globe angle inlet Valves with provision to DC Latched interface module, fabric reinforced Nitrile diaphragm Material and rugged PVC construction ,compatible and slow closing to prevent water hammer, pressure rating upto 10.4 KSC and maximum flow of 100GPM ,max water temp. upto 42degree centigrade, 9V DC solenoid ( IVM-SOL Interfaces) Without AC Coil, current rating 0.41A @50Hz,coil resistance 30ohm with provision to attach PRS-Dial PGA Pressure Regulation Optional PRS-D	Nos	16.00	6800.00	108800.00

27

## ORDER FOR MAINSPINE ROAD-LAND SCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATIONS WORKS AT SIR MVIT CAMPUS

ARCHITECT:

Sl. No.	Item Descriptions	Unit	Quantity	Rate		Amount in Rs
				in Rs	in Rs	
7.10	Supply, Fixing & commissioning of <b>2" Solenoid globe angle inlet Valves</b> with provision to DC Latched interface module, fabric reinforced Nitrile diaphragm Material and rugged PVC durable glass -filled nylon construction, compatible with and slow closing to prevent water hammer, <b>pressure rating upto 10.4 KSC and maximum flow of 150GPM</b> ,max water temp. upto 42degree centigrade, 9V DC solenoid ( IVM-SOL Interfaces), Without AC Coil current rating 0.41A @50Hz,coil resistance 30ohm with provision to attach PRS-Dial PGA Pressure Regulation Optional PRS-D	Nos	34.00	7500.00		255000.00
7.11	Supply, Fixing & commissioning of <b>4" Solenoid globe Valves as central shut off valve</b> with fabric reinforced diaphragm and rugged PVC construction ,compatible and slow closing to prevent water hammer,pressure rating upto 0,7 to 10 KSC and maximum flow of 10 to 100 m3/h ,max water temp. upto 60°C with 24 VAC - 50 Hz,coil resistance 30ohm etc., complete, as per the instructions of Architect/Landscape Architect/Engineer In Charge.	Nos	1.00	23500.00		23500.00
7.12	Supply, Fixing & commissioning of <b>PRS-DIAL</b> to Maintain constant outlet pressure between 1.04 to 6.9 KSC	Nos	53.00	4500.00		238500.00
7.13	Supply, Fixing & commissioning of <b>direct bury -on wire connector</b> with strain relief, UL486 D certified, with waterproof silicon sealant , fits wire from 22ga to 6 ga as per specifications complete <b>DBRY</b>	Nos	212.00	175.00		37100.00
7.14	Supply, Fixing & commissioning of <b>automatic rain shut off device</b> ,latching hinge with multiple rainfall settings 5mm to 20mm UL CUL listed and CE approved complete <b>RSD BEX</b>	Nos	1.00	7500.00		7500.00
7.15	Supply, Fixing & commissioning of <b>9VDC Relay &amp; 9V DC Coil</b> With Stabilizer 300 watts	Nos	1.00	75000.00		75000.00
					Total Irrigation	12746303.50
					Total (44+280+357)	29714909.75
					<b>Less Discount @ 5%</b>	1485745.49
					<b>Grand Total</b>	<b>28229164.27</b>

(Rupees Two Crores Eighty Two Lakhs Twenty Nine Thousand One Hundred Sixty Four Only)

  
**(K.SYAMA RAJU)**  
**SECRETARY**

28



**PROJECT: MAINSPINE ROAD-LANDSCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATION WORKS  
AT SIRMVIT CAMPUS**

*Annexure -2*

**SPECIFIC TERMS & CONDITIONS**

29

**1 Scope of Work:**

a) The Scope of work is Landscape, Softscape, Hardscape & Irrigation works, strictly in conformity with the tender specifications and construction drawings issued by the Landscape Architect (hereinafter referred to as 'Architect').

**2 Period of Completion:**

a) Date of Completion: 6 months from the date of contract award.

**3 Co-ordination with Architects :**

a) It shall be your sole responsibility to co-ordinate with Architects and obtain all drawings and ensure that there is no hold up of work. We will assist you whenever the work is delayed and you call upon him to do so.

b) Requisition for Drawing / Details to be sent by email only at least 15 working days in Advance.

**4 Contract:**

a) This is an Item Rate Contract. This Contract Amount is Exclusive of GST.

b) The rate shall be valid up to the completion of the works and Escalation does not apply to the above contract.

c) Further, should we so desire and advice you to carry out additional works at the quoted rates and on the prevailing agreed terms and conditions for any other civil jobs etc., you shall comply with the same for a period of 6 months from date of this work order. You will be paid as per rate contract. Measurements will be verified at site jointly by your Engineer and our designated Engineer based on relevant IS codes.

d) If at any time, you perceive that there will be an increase in quantities at site during execution, you shall immediately inform the Client and Architect in writing, with the justification for the increase and obtain prior written permission from the Client and Architect for the additional work to be done.

e) As agreed upon by you, you will also without in anyway deviating from the specification, GFC drawings ,shop drawings, quality and quantity find ways and means to bring down the costs by effecting cost saving measures. You shall not hide any facts from us in this regard as otherwise it would amount to and be deemed to be a Material Breach of Contract.

**5 Water and Electricity:**

a) Power and water shall be given free of cost at single point - from there it shall be the responsibility of the appointed vendor.

**6 Program Schedule :**

a) A detailed Program Schedule with a Work Breakdown Structure (WBS) shall be submitted by you within 10 days from the date of receipt of the work order along with a Method statement detailing your approach to completion of the project within the specified period. Bar Chart has to be submitted along with the Program Schedule.

**7 Organization Chart :**

a) A site Organization Chart indicating the various levels and proposed duties and responsibility of each of the staff in the site shall be submitted by you within 10 days before you begin the work. You shall designate a senior full time Site Engineer during the term of this Agreement and who shall remain unchanged throughout the duration of the project unless the change is approved by us in writing. The same shall be notified to our Architects at the earliest.

b) A memo book to be kept on the site for written instructions by Architects / Consultants.

**PAYMENT TERMS :**

**8 Mobilization advance:**

a) We shall give a Mobilization advance of 10%. This Mobilization Advance will be paid on receipt of the Contractors Irrevocable Bank Guarantee of a similar amount & recovery 10% on pro-rata basis. The said amount shall be recovered by the time 80% of

b) If the contractor does not want to avail of the mobilization advance, the above clause will be deemed, invalid.

**9 Bills:**

a) All measurements will be recorded jointly by your Engineer and our Designated Engineer from time to time with due attestation.



**PROJECT: MAINSPINE ROAD-LANDSCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATION WORKS  
AT SIRMVIT CAMPUS**

**SPECIFIC TERMS & CONDITIONS**

30

- b) The running bills will be prepared and given to our designated Engineer, along with a soft copy of the updated BOQ, who shall check and forward the same to our Architects within 10 days time. The maximum number of RA bills shall have a minimum interval of 30 days.
- c) Bills have to be sent with all required details and supporting documents in all respect, including material consumption.
- d) Irrigation-50% payment against supply of irrigation materials at site, 40% payment against Installation and 10% after Commissioning and Handing Over..
- e) No Adhoc payment shall be released

**10 Retention Money:**

- a) Retention Money @ 10% will be deducted in every running bill. 50% will be released upon Final Bill certification and balance 50% will be released upon completion of Maintenance Period/Defects liability Period (12 months post final bill certification) at free of cost.
- b) It is agreed that if the Contractor does not rectify any defects within the period of one year from virtual completion, the Company will get the defects rectified by them and reduce the cost of rectification from the Retention Amount payable to the Contractor. If the costs of such rectification exceed the retention money the Contractor shall be liable for and pay the excess amount forthwith on a demand made by the Company.

**11 Non tender items:**

- a) Approval of the Non Tender items shall take the following process.
- b) You shall notify the owner about the increase in the BOQ at the 1st instance when an increase over the BOQ taken place.
- c) This increase BOQ/NT item shall be approved by the architects/ Owner/ site superior.
- d) Any alterations, additions or omissions during the course of construction shall be executed as per the instructions of Architect / Consultants

**12 Maintenance Period/Defects Liability period :**

- a) Maintenance Period /Defects Liability period shall be one year from the date of Final bill certification i.e., handing over of the works to Client as per Architect's Certificate. Release of Retention Money will only be upon completion of Maintenance Period/Defects liability period as mentioned above.

**13 Causes of Delay, Extension of Time consideration & Compensation for Delay :**

The Contractor shall be entitled to claim for extension of time, subject, to the conditions herein, should he be delayed or impeded in the execution of his work by reason of the following:

- a) Delay in the work of other Contractors engaged independently by the Employer subject to such delay having a direct effect on
- b) Delays arising out of the acts or defaults of the Employer or the Architect or Engineer -in - charge; Prior return notice to be duly
- c) Any accident happening to the Works during their progress not arising from the neglect or default of the Contractor or his
- d) Any extras being ordered by the ARCHITECT/Engineer- in -charge, on the instructions of the Architect, which in the opinion of
- e) The Contractor shall submit in writing to the ARCHITECT/Engineer -in - charge his intention to claim for an extension of time
- f) Compensation for Delay: Liquidated damages @ 0.5% per week upto a maximum of 5% of the Entire Contract Sum would be

**14 Termination of Contract :**

- a) If in the opinion of us the quality of work is found to be unsatisfactory and / or slow in project completion, we reserves the right to terminate the contract forthwith and recover the damages from you before settling any dues to you.

**15 Statutory Compliances:**

- a) You shall fulfill all the Statutory Rules and Regulations like PF, ESIC, Insurance, etc. Any negligence on their part and the consequences shall be your direct responsibility.
- b) You shall provide us with a copy of the Insurance Policy issued under the Workmen's Compensation Act

**16 Other Agencies:**

- a) We reserves absolute right to allocate any item/s of work to other agencies, if required, and delete the same from your scope of work.



**PROJECT: MAINSPINE ROAD-LANDSCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATION WORKS  
AT SIRMVIT CAMPUS**

**SPECIFIC TERMS & CONDITIONS**

31

b) Co-ordination with Other: The Contractor will co-operate with other Contractor's / vendors / agencies nominated by the Employer for executing other works and permit them us of working space etc in the plot area so long as it does not hinder your progress

**17 Employee Admission**

a) You shall not employ workers below the age of 18 years. Your staffs are permitted to enter the construction site only.

**18 Other conditions:**

a) All Other conditions shall be as per the tender document. Please ensure compliance of all statutory requirements. Documentary evidence of the same shall be submitted to us duly certified by you. These will include but are not limited to GST, Insurance requirements, ESI & or PF compliance, Child Labours etc as required.

b) Client and Landscape Architect have the right to reject material that does not meet specifications and quality.

c) Before mobilizing the plants, trees & shrubs, photo's showing the height of species as per the BOQ, should be shared with Client and Landscape Architect.

d) Landscape Architect approval is required for one sample of Stone Sculpture, before production of other sculptures.

**19** If the Employer decides at any given time due to site circumstances or any specific procurements, we may decide to supply the material or transfer pricing for such material to the site and contractor.

**20 Jurisdiction**

a) Any Disputes are subjected to Bangalore Jurisdiction

**21** List of Makes, specifications and Basic rates should be mentioned along with tender quote

**22 Safety Precautions:**

a) Safe methods of working shall be ensured. The Contractor must strictly observe all Safety Policies, rules and instructions while undertaking the works as stipulated in the Contract and as instructed by the Employer on a time to time basis. Child labour and children are not permitted inside the site. The Contractor to adhere to all safety procedures and norms ensuring 100% safety from day 1 of start of work at site.

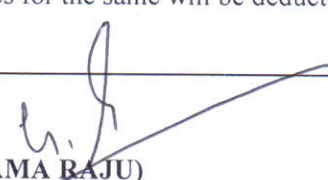
b) The Contractor shall observe all necessary safety precautions to safeguard his personnel, machinery and materials mobilized by him for carrying out the work. He will comply with all requirements of safety norms as per prevailing laws. He shall remain solely responsible for any claims or damages arising out of non-compliance of such safety precautions and would indemnify the Employer from any such claims or damages.

c) Adequate protection to be taken up by the Contractor for neighbouring works, services near the vicinity of the Contract works. Any such damage caused by the fault of the Contractor needs to be made good at his own cost. Failing which the Employer may engage other agency to do the same and all necessary cost shall be recovered from the payments becoming due to the Contractor

d) Prior permission is required before any excavation, so that no damages occur to the service lines running below ground level.

e) The Contractor shall indemnify the Employer from any risks and cost arising out of any accidents, leading to total or partial loss to the person or property during execution of work and also due to non-compliance of rules and regulations of any statutory or Government bodies

f) On completion of work the necessary cleaning and carting away the debris should be carried out by the Contractor, failing which the Developer will carry out the same through other agency. The charges for the same will be deducted from your bill

  
(K.SYAMA RAJU)  
SECRETARY



**PROJECT: MAINSPINE ROAD-LANDSCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATION WORKS  
AT SIRMVIT CAMPUS**

**GENERAL TERMS & CONDITIONS**

32

1	GST & Other taxes shall be charged extra on the total of Basic Value. Proof of having paid GST to be submitted along with RA Bills.
2	All items of work under this Contract shall be executed strictly to fulfill the requirements laid down under "System Description" in the BOQ specifications. Type of equipment, material specification, methods of installation and testing and type of control shall be in accordance with the specifications, approved shop drawings and the relevant Indian Standards, however capacity of each component and their quantities shall be such as to fulfill the above mentioned requirement.
3	The unit rate for all equipment or materials shall include cost of transport, storage at site, installation, testing, balancing, commissioning of the system complete.
4	The rate for each item of work included in the Schedule of Quantities shall, unless expressly stated otherwise, include cost of:
a)	All materials, fixing materials, accessories, appliances tools, plants, equipment, transport, labour and incidentals required in preparation for and in the full and entire execution, testing, balancing, commissioning and completion of work called for in the item and as per BOQ Specifications and Drawings.
b)	Wastage on materials and labour.
c)	Loading, transporting, unloading, handling/double handling, hoisting to all levels, setting, fitting and fixing in position, protecting, disposal of debris and all other labour necessary in and for the full and entire execution and for the job in accordance with the contract documents, good practice and recognize principles.
5	In the event of conflict between Schedule of Quantities and other documents including the BOQ Specifications & Drawings, the most stringent shall apply. The interpretation of the Consultant/Project Manager /Client engineers shall be final and binding.
6	The Contractor shall procure and bring Materials/ Equipment to the site on the basis of approved Make & Shop drawings and not on the basis of Schedule of Quantities. In case of increase in quantities for a particular item, a prior approval shall be sought from Client Engineers / Project Manager in the form of Variation-In-Quantities statement. For any variation in the quantities of any item, the unit rates shall remain firm.
7	The Contractor has to make sure that the proposal given for respective services Consultant approval shall comply as per standards and requirements.
8	The Contractor shall provide necessary documents Warranty / Guarantee / shop drawings / Technical submittals issued by the manufacturers and this document shall generally cover, test certificates, Letter of authorisation in terms of standards, thermal values, and relevant data, MSDS, write ups / detailed description of the particular material / equipment, as stipulated by respective services consultant prior to ordering the materials and after the supply of materials or at appropriate stages.
9	The quantities mentioned against each item in Schedule of Quantities are indicative only. The Contractor shall be paid for the actual quantity of work executed by him and as certified by Client's Engineer at the contract rates for each item.
10	The contractor should read the BOQ specifications thoroughly and quote the price for each item. The BOQ should read in conjunction with specification, drawing & equipment schedule. Wherever there are dispute in the terms, Specifications, Bill of Quantities, Drawings and Interpretation, the respective services consultant decision shall take precedence.
11	Any alteration / addition / deletion by bidders not be acceptable unless & until the same is duly approved by the consultant.
12	Before executing the project, contractor should submit the shop drawings, product related technical submittals (As per the approved makes) for consultant approval.



PROJECT: MAINSPINE ROAD-LANDSCAPE, HARDSCAPE, SOFTSCAPE AND IRRIGATION WORKS  
AT SIRMVIT CAMPUS
















33

- |    |  |
|----|--|
| 13 | All materials shall be as per ISI specification and with IS certification marked wherever applicable.  |
| 14 | Final bill certification shall be based on actual executed at site, measured and certified by Project Incharge, Project Engineer, Consultant & the Architect.  |
| 15 | "MAKE" of materials should be followed strictly, deviation in "MAKE" shall not be entertained without the concurrence of consultants.  |
| 16 | Labour hutment - Only space shall be provided, Labour shed & necessary Sanitation facilities shall be under Contractor scope   |
| 17 | Only Space will be provided at site by the Employer the Contractor to make his own arrangements for the storage. The Contractor shall be responsible for adequate safety and security arrangement at site for all the materials, and that the Employer shall in no way be responsible for the same in any manner. All the materials supplied shall be neatly stacked and well protected with protective coverage to prevent damage from rain, rust, theft, etc. The Contractor will take all care & precaution to protect their material at site |

  
(K.SYAMA RAJU)  
SECRETARY














**APPROVED MAKES OF MATERIALS FOR MAIN SPINE ROAD AUTOMATIC IRRIGATION SYSTEM AT  
SIR MVIT CAMPUS**

*Annexure - 3*













S.No	Description	Make / Model	Picture
1.00	PVC pipe / PVC Fittings	Finolex/Supreme	 <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">34</span>
1.15	Anchor fasteners, 10mm Threaded Rod	ISI	
1.16	MS Bracket fabricated from L-Angle	ISI	
2.00			
2.01	DRIP & ACCESSORIES inline tubing w	TECHNET / XERITECH / PLD	
2.02	Y Type Disc / Screen Filters	RAINBIRD /XERITECH /ARMAS	
2.03	Y Type Disc / Screen Filters	RAINBIRD /XERITECH /ARMAS	
2.04	Y Type Disc / Screen Filters	RAINBIRD /XERITECH /ARMAS	
2.05	Sself-closing flushing valves	NETAFIM / XERITECH	
2.06	Galvanized Steal Rod	RAINBIRD / XERITECH	
3.00	SPRINKLERS & ACCESSORIES		
3.01	Pop up spray head1804 SAM Series Spray bodies, with Rotary nozzle	RAINBIRD/1804 SAM R VAN 8'-24'	
3.02	5004 PLUS SAM PRS Series Rotor pop up sprinkler full/part circle having radius	RAINBIRD /5004 PLUS SAM PRS	
3.03	Pop up Connecting Swing joint Assembly.	RAINBIRD /SA	
3.04	3/4" Pop up Connecting Swing joint Assembly.	RAINBIRD /SA	
3.05	Imported HDPE service saddle	PIMTAS / XERITECH	
4.00	VALVES & ACCESSORIES		
4.01	PVC Single Union Ball Valve,	PIMTAS / XERITECH	



**APPROVED MAKES OF MATERIALS FOR MAIN SPINE ROAD AUTOMATIC IRRIGATION SYSTEM AT  
SIR MVIT CAMPUS**




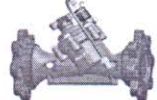




S.No	Description	Make / Model	Picture
4.02	PVC Single Union Ball Valve	PIMTAS / XERITECH	 35
4.03	PVC Single Union Ball Valve	PIMTAS / XERITECH	
4.04	double acting air and vaccum release 1/2 " Air release valve .	RAINBIRD / XERITECH	
4.05	double acting air and vaccum release 2 " Air release valve . T	HT / XERITECH / ARMAS	
4.06	Round box with greenlid a	RAINBIRD/ XERITECH	
4.07	Round Valve Box with greenlid	RAINBIRD/ XERITECH	
4.08	Rectangular Standard Valve Box with greenlid a	RAINBIRD/ XERITECH	
4.09	Jumbo Rectangular Standard Valve Box with greenlid	RAINBIRD/ XERITECH	
4.1	Quick coupling valve	HT / XERITECH	
4.11	Key threads into top of QCV	HT / XERITECH	
4.12	Hose Swivel	HT / XERITECH	
5.00	FILTRATION UNIT		
5.01	ully Automatic Self Cleaing Filter,	ARMAS /XERITECH	
6.00	PUMPING UNIT		
6.01	Hydro-Pneumatic Pumping System	WILO / EQUIVALENT	

**APPROVED MAKES OF MATERIALS FOR MAIN SPINE ROAD AUTOMATIC IRRIGATION SYSTEM AT SIR MVIT CAMPUS**

S.No	Description	Make / Model	Picture
6.03	Control Cable for Pump Set - 3 core X 4 Sq.mm Copper	Finolex /Polycab	
6.04	ontrol Valve, Butterfly Valve VAN Stone	PIMTAS / XERITECH	
6.05	ontrol Valve, Butterfly Valve VAN Stone flange & Tail Piece	PIMTAS / XERITECH	
6.06	Non Return Valve	PIMTAS/XERITECH	
6.07	Pressure release valve 3" with pressure	ARMAS / XERITECH	
6.08	Pressure Sustaining valve.	ARMAS / XERITECH	
7.00	Automation Equipments		
7.01	Maxi cable with PVC insulated UL standard 493	RAINBIRD/PAIGE	
7.02	PVC pipe 25mm-10 kg/cm <sup>2</sup>	Finolex/Supreme	
			
7.04	IQ NCC network Communication Cartridge	RAINBIRD/IQ NCC - IQ CLOUD - IQ 4G	
7.05	IVM-SOL Interfaces (solenoid and decoder	Rain Bird / IVM-SOL	
7.06	IVM-OUT Interfaces w	Rain Bird / IVM-OUT	
7.07	IVM-SD	Rain Bird / IVM-SD	



**APPROVED MAKES OF MATERIALS FOR MAIN SPINE ROAD AUTOMATIC IRRIGATION SYSTEM AT  
SIR MVIT CAMPUS**

S.No	Description	Make / Model	Picture
7.08	Solenoid globe angle inlet Valves	RAINBIRD/PGA	 (37)
7.09	1.5" Solenoid globe angle inlet Valves	RAINBIRD/PGA	
7.10	Solenoid globe angle inlet Valves w	RAINBIRD/PGA	
7.11	Solenoid globe Valves as central shut off valve w	RAINBIRD/AQVASTAR/ARMAS	
7.12	PRS-DIAL	RAINBIRD PRS	
7.13	direct bury -on wire connector	RAINBIRD DBRY	
7.14	automatic rain shut off device ,	RAINBIRD RSD BEX	
7.15	9VDC Relay & 9V DC Coil	PSA	

*(Signature)*  
**(K.SYAMA RAJU)**  
**SECRETARY**

*(Blue checkmark)*