



The Autonomous & Heritage Institution

KANYA MAHA VIDYALAYA, JALANDHAR

College with Potential for Excellence

Re-Accredited A⁺ by UGC-NAAC

Star Status by DBT

FIST (Phase II)) Supported College

WATER CONSERVATION FACILITIES AVAILABLE IN THE INSTITUTION



Introduction

KMV has proactively taken steps to implement major water management technology, smart conservation policies and many more. Conservation of this natural resource is critical for the environment and for this institution has adopted the practice of using water efficiently to reduce unnecessary water usage.

7.1.4. Water Conservation

KMV has taken concrete steps in implementation of effective water management and water conservation initiatives through practices like rainwater harvesting, waste water- recycling, maintenance of water bodies etc.

7.1.4.1 Rain water harvesting

- Run off generated in the campus is collected using a Check dam constructed in the campus on a natural drain passing through the campus. The Check dam is constructed at a cost of Rs.4, 25,000. It is estimated that the pondage developed by the dam can store 10000000 litres of water. The stored water percolates into the ground to recharge ground water .



(5)

providing Rain Water Harvesting for

KMV COLLEGE
TANDA ROAD
Jalandhar(PB).

Total Catchment Covered Area = 12517 Sq ft or 1163.28 Sqm

Say = 1163 Sqm
Or = 0.28 Acre

Intensity of rain fall = 40 mm/hour
Or = 0.040 m/hour

Design for one hour Peak Rainfall:
Thus the Height of Water surface will be 40mm

Total Volume of Water in Hour (0.040 x 1163) = 46.52 cum water
Say = 33cum

Run off-co-efficient = 100% or 47 Cum Water
Rain water available = 47 cum /hour

So designed for 100% discharge will reach through Drainage to Artificial rain water harvesting well

So this means the plant should have a capacity of at least 33 cum so that it could take rainfall of hour in a go.

To
KMV College,
Jalandhar.

As requested, we submit the following quotation to you for the works described below
Location :- Jalandhar City
Description of Works:- Rain Water Harvesting Plant

Providing Rain Water Harvesting for KMV College, Jalandhar, Punjab.

Artificial Rain Water Harvesting Project Brick Work

SUB WORK NO. 1

Sr. No.	Particular	Unit	Total Area (Sq Feet)	Total Area	Price @	Total Amount
1	Drilling of bore well for 400mm dia clear, cutting, threading and welding including transportation of rtr and supporting vehicles	Rmtr			50.00	1150.00
2	Providing, Lowering an installing of 160 mm, high Density polyethylene pipe (hdpe) slotted casing pipe with 8mm Spirally Perforated Holes	Rmtr		65.00	850.00	55250.00
3	Providing, Lowering an installing of 160mm, high Density polyethylene Tee (hdpe)	Nos		2.00	750.00	1500.00
4	Providing, Lowering an installing of 160 mm, high Density polyethylene End Cap (hdpe) Slotted Casing with 8mm Spirally Perforated Holes	Nos		4.00	350.00	1400.00

Contact : 7837239529
www.rainwater-harvesting.in | info@Rainwaer-harvesting.in

The Varun Mitra Cooperative Labour & Construction Society Ltd. Punjab

132, Rajput Nagar, Model House, Jalandhar
Reg. No. 1989

Trends of water

Sr. No.	Particular	Unit	Total Area (Sq Feet)	Total Area	Price @	Total Amount
a	Siting Chamber Foundation	Cum	7.08	8.16	0.50	28.89
b	Filtration Chamber (Foundation)	Cum	8.16	8.16	0.50	33.29
c	Precasted RCC Slab (S.C)	Cum	7.08	8.16	0.33	19.07
d	Precasted RCC Slab (F.C)	Cum	8.16	8.16	0.33	21.97
e	Perforated RCC Slab for Filtration Media	Cum	6.00	6.00	0.33	11.88
9	Cold twisted deformed (Ribbed/ Tor Steel Bar) Bars Fe 500 Grade as per IS 1786-1985, For R.C.C works, where not including in the complete rate of RCC including bending and placing in position complete	Qtl				4.50
10	1st Class Burnt Brick work laid 1:4 cement sand in 1st story up to 4 mtrs Below Ground Level	Cum				
	Siting Chamber wall thickness 325mm		20.16	1.08	4.00	87.09
	Filtration Chamber wall thickness 325mm		28.32	1.08	4.00	122.34
	Siting Chamber wall thickness 225mm		19.50	0.75	4.00	58.50
	Filtration Chamber wall thickness 225mm		27.00	0.75	4.00	81.00
11	PVC coated MS foot rests as per IS 10910,	Nos				10.00

Contact : 7837239529
www...

Volume of Recharge well and Drainage			
Volume of Recharge well	Diameter of Bore = 16"		
	Depth of Bore = 80		
	Volume of Bore = $\pi (16/2)^2/4 \times 80 = 110.52 \text{ cu ft or } 3.13 \times 4 = 12.52 \text{ cum}$		
Volume of Desilting Chamber	$V_{out} = \frac{2(1+2\sqrt{v})}{2(1+2\sqrt{v})} \cdot s^2 \cdot h$		
	$= \frac{(0.70m)^2 \cdot 2.26m}{(0.70m)^2 \cdot 2.26m}$		
	= 5.34 cum		
Volume of Filtration Chamber	$V_{out} = \frac{2(1+2\sqrt{v})}{2(1+2\sqrt{v})} \cdot s^2 \cdot h$		
	$= \frac{(0.70m)^2 \cdot 2.26m}{(0.70m)^2 \cdot 2.26m}$		
	= 5.34 cum		
Volume of Filtration Chamber As 2 nd Plant	$V_{out} = \frac{2(1+2\sqrt{v})}{2(1+2\sqrt{v})} \cdot s^2 \cdot h$		
	$= \frac{(0.70m)^2 \cdot 2.26m}{(0.70m)^2 \cdot 2.26m}$		
	= 5.34 cum		
Volume of Desilting Chamber As 3 rd Plant	$V_{out} = \frac{2(1+2\sqrt{v})}{2(1+2\sqrt{v})} \cdot s^2 \cdot h$		
	$= \frac{(0.70m)^2 \cdot 1.13m}{(0.70m)^2 \cdot 1.13m}$		
	= 2.67 cum		
Volume of Filtration Chamber As 3 rd Plant	$V_{out} = \frac{2(1+2\sqrt{v})}{2(1+2\sqrt{v})} \cdot s^2 \cdot h$		
	$= \frac{(0.70m)^2 \cdot 1.13m}{(0.70m)^2 \cdot 1.13m}$		
	= 2.67 cum		
Total Storage capacity of one plant			
	Volume of Recharge Well		12.52
	Volume of Desilting Chamber		5.34
	Volume of Filtration Chamber		5.34
1 plant	Volume of Desilting Chamber		5.34
2 plant	Volume of Filtration Chamber		5.34
3 plant	Volume of Desilting Chamber		2.67
	Volume of Filtration Chamber		2.67
	Sum	= 33.88 cum	

- The **rain water** coming from roof tops and that flowing within the campus are collected in ten numbers of percolation pits of 3m x 3m size each, constructed at all feasible points in the campus recharge ground water.





7.1.4.2 Bore-well /Open well recharge

- 7.1.4.2 Bore well /Open well recharge in the institution.



7.1.4.3Waste water recycling

- The institution has a sump for disposing off the waste water and this water is re-used for garden , flushing etc.



7.1.4.4 Maintenance of water bodies and distribution system in the campus

- There is a lotus pond in the institution .

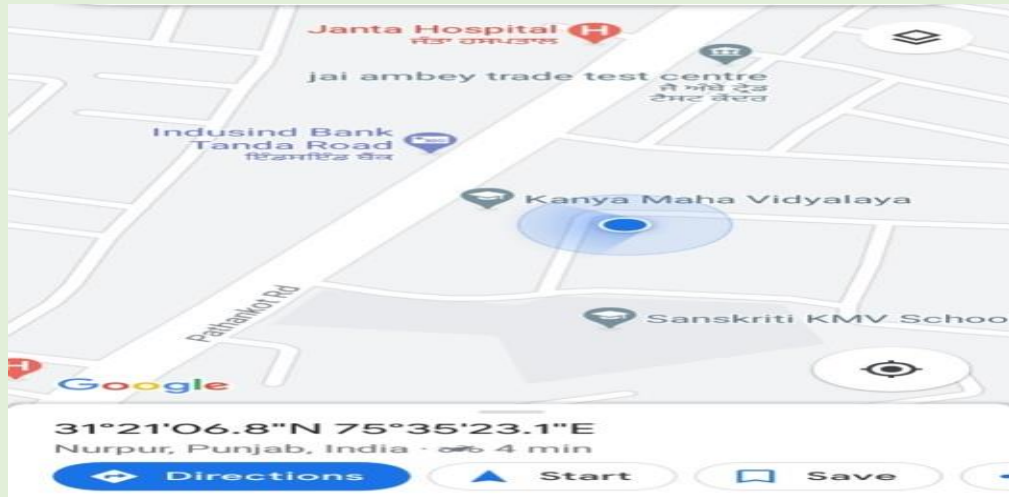


- Distribution system in the campus

The ground water is pumped into storage tanks located at different places in the campus. There are five numbers of over- head storage tanks and one Elevated Service Reservoir in the campus. The water is distributed through well laid pipe network. Drinking water after treating in RO plant is supplied through a separate set of distribution pipes and water for all other purpose is supplied through another set of distribution pipes. Entire distribution system is well supervised by Civil works committee to ensure that there are no leakages and wastages of precious water through joints, valves etc. Waste usage of water is reduced using low pressure flushes. There is also facility for elevated service reservoir. The water regulation system is supervised by the Water Audit Committee of the institution on regular basis to ensure the effective and economical usage of water.







Jalandhar, Punjab, India 31.325986 degree North, 75.576262 degree East

