# Full System Design to Transport Pine Logs

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## THANK YOU FOR CONSIDERING US

## LOCATION



- KEYSVILLE VIRGINIA
- AVERAGE WIND SPEED: 20.36 MPH
- HOT SUMMER around 80 F

History								
March Data	Choose another month							
	June 🔻	June V Submit						
Averages								
Average High Temperature	57 °F	Average Morning Relative Humidity	73%					
Average Low Temperature	35 °F	Average Afternoon Relative Humidity	46%					
Average Mean Temp	46 °F	Typical Sky Cover	OVR					
Average Dew Point	31 °F	Average Precipitation (US Only)	3.60 "					
Average Windspeed	10 mph	Average Snowfall (US Only)	2.99 "					
Average Wind Direction	SW							
Daily Counts								
Days With Precipitation	11	Days With Snow	1					
Days With Thunderstorms	2	Days With Lows Below Freezing	27					
Days With Fog	13	Days above 90° F (32.2° C)	0					
Records								
Record High	87 °F	Record 24-hour Snowfall	13.00 "					
Record Low	7 °F	Record Monthly Rainfall	9.22 "					
Record Wind Speed	55 mph	Record 24-hour Rainfall	2.40 "					
Record Monthly Snowfall	25.02 "	Record Minimum Monthly Precipitation	0.70 "					



RED PINE LOGS SYSTEM IS BUILT TO CARRY LOGS 4 AT A TIME SYSTEM WILL HAVE THESE LOGS ACROSS THE FACILITY 600 FT INTO THE RIVER

Task 1 the los the flouts Mi = gap from the ground t= Ases xL the = bel volumec Dones horse Asesment = Wo Left YW = Ypre xAxL yu in

OPEN CHANNEL EXPLANATION

- WIDE ENOUGH TO HOLD 4 LOGS
- LOGS DO NOT TOUCH THE GROUND



- STAINLESS STEEL TANK
- DIAMETER = 40FT
- HEIGHT = 30FT
- LONGEVITY
- CAN HANDLE THE FLUIDS





- CAN RUN FOR 1 HOUR even after is out
- Volume per hour is 0.0279



Task 7 U- manometer e Macurey Opecisio gravity farle 3,6 5.5 mercury The minimum length from 48.10 Fube to task 1 Prasare - elevation Ap= Yh

## TOTAL LENGTH IS 53 INCHES THIS IS USED for measuring the pressure acting on a column fluid



	inch	mm	inch	mm	inch	mm	inch	mm	lbs	kg
4	10.24	260	7.0	178	0.62	20.9	3.12	79.25	32	15
6	12.27	312	8.1	206	0.69	23.3	5.05	128.27	47	21
8	14.24	362	9.1	231	0.69	23.3	6.44	163.58	69	31
10	18.18	462	10.1	257	0.69	23.3	8.61	218.69	125	57

- WMX104 FLOWMETER
- MEASURES THE DETAILS
- Simple and economical as a mechanical meter
- No moving parts for low maintenance & long life

Deelde the type of Support used. MERT 18 Pire: Coliding Support



- 10 inches apart
- REST SUPPORT ARE BEING USED TO HOLD UP THE PIPE FROM TOUCHING THE GROUND



- TWO GATE VALVE
- 90 ELBOW
- Connections between TANK and OPEN CHANNEL



### Appendix F Dimensions of Steel Pipe

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#### Table F.1 Schedule 40

Nominal Pipe Size		Outside Diameter		Wall Th	Wall Thickness		Inside Diameter			Flow Area	
NPS (in)	DN (mm)	(in)	(mm)	(in)	(mm)	(in)	(ft)	(mm)	(ft²)	(m²)	
3%	6	0.405	10.3	0.068	1.73	0.269	0.0224	6.8	0.000 394	3.660 × 10 <sup>-5</sup>	
54	8	0.540	13.7	0.088	2.24	0.364	0.0303	9.2	0.000 723	6.717 × 10 <sup>-5</sup>	
5	125	5.563	141.3	0.258	6.55	5.047	0.4206	128.2	0.139 0	1.291 × 10 <sup>-2</sup>	
6	150	6.625	168.3	0.280	7.11	6.065	0.5054	154.1	0.200 6	1.864 × 10 <sup>-2</sup>	
8	200	8.625	219.1	0.322	8.18	7.981	0.6651	202.7	0.347 2	3.226 × 10 <sup>-2</sup>	
10	250	10.750	273.1	0.365	9.27	10.020	0.8350	254.5	0.547 9	5.090 × 10 <sup>-2</sup>	
12	300	12.750	323.9	0.406	10.31	11.938	0.9948	303.2	0.777 1	7.219 × 10 <sup>-2</sup>	

## PIPE FOR PUMPING SYSTEM FROM THE RIVER TO THE TANK



PUMPING SYSTEM EXPLANATION





Fig. 1 Removal of coupling spacer to provide withdrawal gap.



Fig. 2a Close-coupled and 2b Bearing Assembly To remove the rotor unit, insert jacking screws in the tapped holes as the arrows show or use levers. For Close-coupled version lift the rotor unit as in 2a. For Bearing Assemblies use a sling according to 2b.



Fig. 3a Close-coupled and 3b Bearing Assembly By using an ABS lifting arm one man can lift out the rotor from the casing.

## **INSTALLATION PROCESS**



### THE WHOLE SYSTEM WILL TRAVELING ALONG THE AREA



## SULZER PUMP EXPLANATION





- SULZER CATALOG
- RPM = 1790
- 60HZ



## WHOLE SYSTEM SUMMARY