

- R. The pumps shall be selected with low rotational speeds which shall not exceed 1500 RPM for Storm water pumps and 3000 RPM for other centrifugal pumps (drain pumps). In case the individual pump performance characteristic parameters require a higher rotational speed to ensure efficient and trouble-free operation conditions, the Contractor may be allowed to do so, but he shall prove to the satisfaction of the Engineer that there is no cavitations and no higher abrasion effecting the pump life time, taking in account that there are solid particles in the waste water to be pumped.
- S. Rotating / oscillating assemblies of pumps shall be statically and dynamically balanced and shall be designed so that the first critical speed of the pump and its drive is well above than the maximum operating speed for pumps with 4 or more pole motors and well below than the maximum operating speed for pumps with 2 pole motor.
- T. The velocity at impeller eye section shall not exceed 3.0 m/s for storm water pumps and ≤ 3.5 m for other centrifugal pumps. In case the individual pump performance characteristic parameters require a higher velocity to achieve efficient and trouble-free operation conditions, the Contractor may be allowed to do so, but he shall prove to the satisfaction of the Engineer that there is no cavitation and no higher abrasion effecting the pump life time, taking in account that there are solid particles in the waste water to be pumped. The pump impeller eye velocity shall be specified in the technical schedules provided together with the Tender.
- U. Lubrication arrangements shall be so designed that there is no contamination of the pumped fluid and vice versa.
- V. Pump's accessories, like anchor bolts, hoisting chain, guide rails, bolts, nuts, washers and fasteners shall be made of stainless steel 1.4571 to 17441 and 17455 to 17458 or approved equivalent.
- W. Power cables shall be separated from Monitoring cables.
- X. Pumps installed within wet as well as dry well shall be IP68.

1.2.4.2 Non-Clog Submersible Direct-Coupled Pumps

- A. Major pump components shall be metallic with smooth surfaces devoid of blow holes or other casting irregularities.