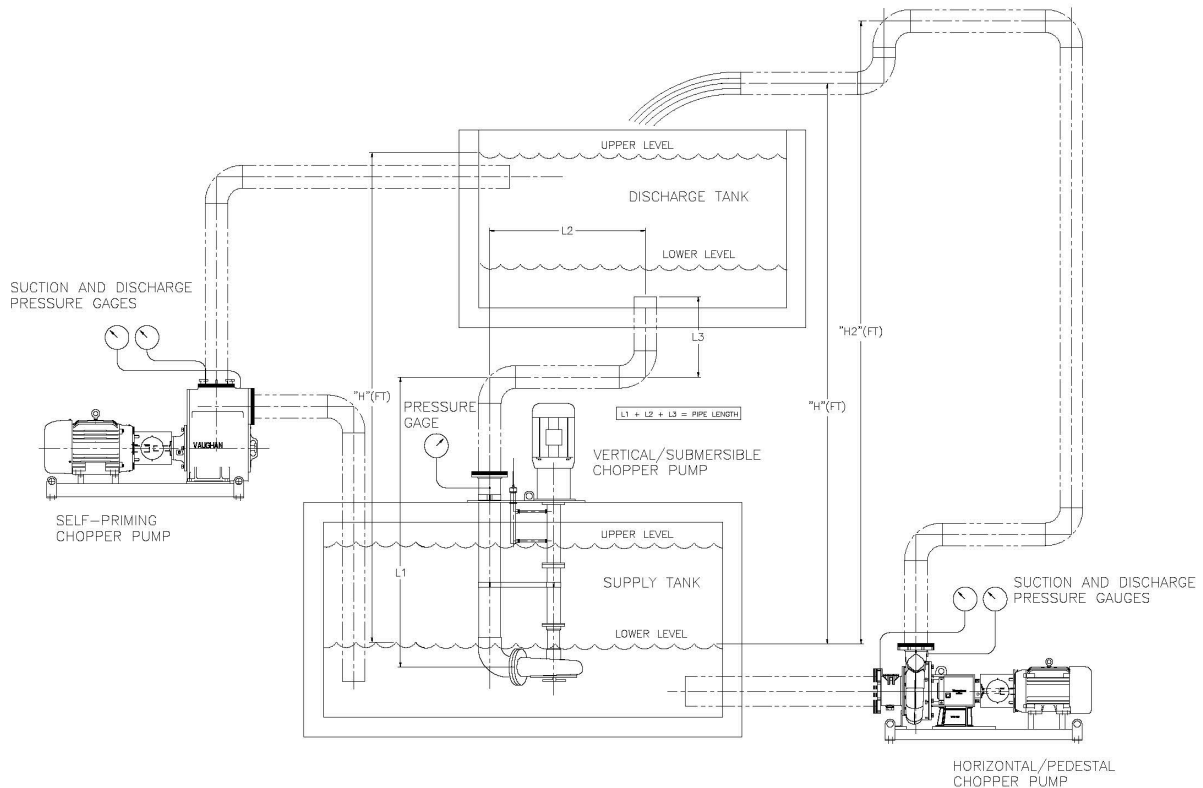


## Septage Receiving Inquiry Form

Name: _____ Company: _____ Address: _____ City: _____ State/Country: _____ Zip/Code: _____	Phone: _____ Fax: _____ E-mail: _____ Project Name: _____ Project Location: _____
<b>System:</b> <input type="radio"/> New <input type="radio"/> Replacing If replacing what is the current issue and what kind of system you are replacing? _____ _____ _____ _____ _____ _____ <b>Transfer Condition:</b> Flow _____ GPM _____ M <sup>3</sup> /H TDH _____ Feet _____ Meters	<b>Application:</b> <input type="radio"/> Transfer <input type="radio"/> Vertical Wet Well <input type="radio"/> Submersible <input type="radio"/> Recirculating <input type="radio"/> Vertical Wet Well <input type="radio"/> Submersible <input type="radio"/> Mixing  <b>Site Voltage: _____ V</b> <b>Is VFD required?</b> <input type="radio"/> Yes <input type="checkbox"/> If yes review with engineering. <input type="radio"/> No Vaughan requires constant torque VFD
<b>Screening:</b> <input type="radio"/> Screened Solids <input type="radio"/> Filtered Water <input type="radio"/> Un Screened Mixture Can screens be bypassed? <input type="radio"/> Yes <input type="radio"/> No Please describe screening system: _____ _____ _____ _____ _____ _____	<b>Property of Liquids:</b> Temperature: _____ °F _____ °C PH: _____ % SOLIDS: _____ Specific Gravity: _____ Viscosity (cps): _____ (ssu): _____  <b>Type of Solids: (check all that apply)</b> <input type="radio"/> Residential Septic Tank Waste <input type="radio"/> Portable Toilet Waste <input type="radio"/> Industrial Waste (specify) _____ <input type="radio"/> FOG/ Grease Trap Waste <input type="radio"/> Other (Specify) _____ _____ Is leaching expected? <input type="radio"/> Yes <input type="radio"/> No

# TOTAL HEAD CALCULATIONS

## CHOPPER



### TOTAL HEAD:

TDH = Pipeline Friction + Vertical Lift (H) + Velocity Head ( $V^2/2g$ )

- Pipeline Friction = [Pipe Length (ft) / 100] x friction factor (table on form V137)

Water friction tables are suitable for sewage & most water-borne slurries up to 5% solids. For high solids loadings & heavy organic sludge, use the biological friction table on form V137.

- Vertical Lift = feet up from supply tank low-water level to high level in discharge tank, or to the center of the open discharge pipe.  
 Note:
  - Lift may be negative (-) if the pipeline is downhill.
  - Intermediate pipeline elevations ( $H_2$ ) higher than the final discharge can be ignored, except that the pump shutoff head must be higher than  $H_2$  in order to initiate flow.
- Velocity Head = Energy in the liquid being discharged due to its velocity.  
 Note:
  - Usually ignored as insignificant in low head sump pump systems.
  - For high head systems, use nozzle manufacturer's printed data, or calculate using data as follows:

$V$  = Velocity of the stream at the discharge diameter (ft/sec)

$G$  = Acceleration due to gravity ( $32.2 \text{ ft/sec}^2$ )

### SPECIAL CASES:

Pipelines with valves & fitting, add appropriate equivalent pipe length.

Pressurized supply or discharge tanks, add the discharge tank pressure, in feet, less any supply tank pressure, in feet, to the above Total Head calculation. Gauge pressure, in psi x 2.31 = head in feet.

Very high solids content sludges & slurries, contact Vaughan on reliable test data for friction values.