List of things to do before seaming – installation and START-UP

1. Delivery:

1.1. The pumps, together with the power feed cables and the cabling of optional sensors signaling about possible penetration of moisture in the pump motors (if any) and the control board shall be delivered to the site separately from the manholes for subsequent installation.

1.2. A draw tank and a fitting inspection chamber (if any) shall be delivered in accordance with the supply agreement.

1.3. The draw tank manhole shall be delivered to the site with factory mounted by Pipelife Bulgaria stainless steel plates attached to the manhole bottom plate, auto coupling system with supports attached to the stainless steel plates, guide rails for lowering the pumps, attached to the guide rail holder, impeller piping for each pump bound to the auto coupling system supports and further fixed to the internal wall of the draw tank pit casing, with inlet for the feed collector, and emergency exit (if any), a level prove, cable included, mounted inside the casing pipe fixed to the internal wall of the draw tank pit casing, casing pipe for the pump power feed cables, for the level probe cable and for the cabling of additional sensors signaling about possible penetration of moisture in the pump motors (if any). If the design does not include a separate fitting inspection chamber, the return ball valves and the shutoff valves and an impeller for the main collector sticking 0.5 m out of the wall, shall be fitted in the draw tank pit casing. The above described fittings and devices shall be factory mounted by Pipelife Bulgaria in accordance with the design drawings attached to this offer.

1.4. The fitting inspection chamber (if the design includes such as a separate unit from the draw tank) shall be delivered to the site with factory mounted by Pipelife Bulgaria impellers for each pump, including return ball valves and shutoff valves fitted on them, pipe branching with a shutoff valve for emptying the impeller mounted after the sewer pumping system (if the design includes such emptying), impeller for the main collector sticking 0.5 m out of the wall of fitting inspection chamber, casing pipe for the pump power feed cables, for the level probe cable and for the cabling of additional sensors signaling about possible penetration of moisture in the pump motors (if any). The above described fittings and devices shall be factory mounted by Pipelife Bulgaria in accordance with the design drawings attached to this offer.

2. Storage of the tanks until installation:

2.1. The draw tank and the fitting inspection chamber should be loaded and unloaded using suitable mechanical devices in order to avoid damages.

2.2. The tanks should be placed on even surface, clear of any sharp objects.

2.3. The tanks should be put in vertical position in order to avoid deformation. In case the manhole is more than 3m high and/or has a diameter larger than 1.5m, please, contact Pipelife representative to obtain further instructions for storage.

2.4. Tanks should be kept away from direct sunlight in order to prevent deformation caused by overheating.

2.5. The control board should be kept in a closed dry moisture-proof place away from direct sunlight until it is mounted in a protective cabinet adequately positioned in consideration of the characteristics of the place of installation.

2.6. The pumps should be kept in a closed dry place until their installation in the draw tank.

3. Construction and installation works

All construction and installation works needed for the sewer pumping station shall be performed by the client (builder) to such a scale and extent as to allow the seaming - installation and START-UP to be performed by the pump manufacturer's authorized technician.

It includes the following:

3.1. Excavation of a pit and shaping its walls and bottom in consideration of the soil specificity and safety rules.

3.2. The casting of reinforced concrete foundations must follow a separate structural design (the dimensions of foundations are specified in the design drawings of Pipelife Bulgaria attached to this offer and have been determined on the basis of static calculations for high level of underground water and must not be changed).

3.3. Fitting and leveling the draw tank pit casing and the fitting inspection chamber (if the design includes such as a separate unit from the draw tank) on the reinforced concrete foundations at the places specified in the design drawings of Pipelife Bulgaria attached to this offer.

3.4. If the design includes a separate draw tank pit casing and a separate fitting inspection chamber, the impeller piping of the pumps, the emptying piping of the impeller (if any), as well as the casing pipe for the power feed cables, for the level probe cable and for the cabling of sensors signaling about possible penetration of moisture in the pump motors shall be interconnected in accordance with the design drawings of Pipelife Bulgaria attached to this offer.

3.5. Backfilling the excavated pit and compacting the backfill in accordance with the instructions specified in the design drawings of Pipelife Bulgaria attached to this offer.

3.6. The draw tank pit casing and the fitting inspection chamber will be covered by reinforced concrete top cover (if the design includes such as a separate unit from the draw tank). The reinforcement must follow a separate structural design to take into consideration the dimensions of top covers as specified in the design drawings of Pipelife Bulgaria.

3.7. Mounting the reinforced concrete top covers on the draw tank pit casing and on the fitting inspection chamber.

3.8. Lowering down the pumps inside the draw tank pit casing using the guide rails and coupling them to the auto coupling system supports.

3.9. By the client's request, such lowering and coupling may be performed by the pump manufacturer, in which case we should be officially notified at least five business days in advance, and the required hoisting equipment for lowering the pumps as well as client's workers to give a helping hand must be readily available on the site. If the pumps are to be lowered on a day other than the day of performing the seaming installation and START-UP by the pump manufacturer's authorized technician or authorized service shop, the client will have to pay for that service additionally.

3.10. Installing the control board in an appropriate place chosen in consideration of the site specificity but any way not farther than the shortest one of the pumps power feed cables, the level probe cable or the cabling of sensors signaling about possible penetration of moisture in the pump motors (if any). The place for installing the control board is indicated in the design drawings of Pipelife Bulgaria but if the fitting inspection chamber has been specified as the place for installation then the control board must be mounted in the fitting inspection chamber. In case the place for installation is designed to be outdoors, the control board should be mounted outdoors immediately next to the pumping station.

3.11. The pumps power feed cables, the cabling of sensors signaling about possible penetration of moisture in the pump motors (if any), and the level probe cable should be connected to the corresponding points, inserted through the cable casing pipe and led to the control board.

3.12. The control board should be powered by the electricity power distribution network and provided with emergency power feeding by means of a diesel generator (if any).

3.13. The draw tank pit casing must be filled with water up to the elevation of upper water level as specified in the design drawings of Pipelife Bulgaria attached to this offer.

4. What is included in the seaming installation and START-UP:

4.1. Checking the control board installation and settings – inspecting whether all cables have been properly connected in the control board and if not – the technician must connect them properly to the right places. The cable that should be inspected are the pumps power feed cables, the level probe cable, and the cabling of sensors signaling about possible penetration of moisture in the pump motors (if any)

4.2 Checking whether the pumps have been lowered down in the draw tank pit casing.

4.3. Checking the level probe installation and further adjustment of the level probe.

4.4. Checking the direction of pump rotation.

4.5. Trial run-up of the pumps. The purpose is to test if the pump would switch on when the water level in the draw tank reaches a set maximum level and if the pump would switch off when the water level in the chamber reaches a set minimum level. The pumps performance should be checked, for which purpose it is advisable to provide an additional pressure gauge equipped with hydraulic lock filled with glycerin to prevent clogging the pressure gauge with particles found in the wastewater. It is also very likely that during trial run-up the sewerage system would not be operating yet and regular influx to the draw tank could not be ensured. In this case it would be advisable to mount yet another shutoff valve on the impeller of main collector in the fitting inspection chamber and the water to be circulated from the draw tank through the discharge piping when the shutoff valve of the impeller of main collector is closed.