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E. All chemical sealing materials used in the performance of the work specified must have the following properties and characteristics:

- i. While being injected, the chemical sealant must be able to react/perform in the presence of saline groundwater.
- ii. The cured material must withstand submergence in water without degradation.
- iii. The seal formed must prevent the infiltration of water through the drainage pipe joint.
- iv. The sealant material, after curing, must be flexible.
- v. In place, the sealant formation should be able to withstand wet/dry cycles without adversely affecting the seal.
- vi. The sealant formation must not be biodegradable.
- vii. The cured sealant should be chemically stable and resistant to the concentrations of acids, alkalis, and organics found in normal drainage in Abu Dhabi.
- viii. Packaging of component material must be compatible with field storage and handling requirements. Packaging must provide for worker safety and minimise spillage during handling.
- ix. Mixing of the component materials must be compatible with field operations and not require precise measurements of the ingredients by field personnel.
- x. Clean up must be done without excessive use of flammable or hazardous chemicals.
- xi. Residual sealing materials must be easily removable from the drainage line to prevent reduction or blockage of the drainage flow.

## **29.3 Part 3 Execution**

### **29.3.1 Drainage Pipeline Cleaning**

#### **29.3.1.1 General**

A. The Contractor will be provided with gravity drainage lines that have been periodically cleaned by the ADM Operation and Maintenance Section or a nominated Contractor. Any additional cleaning required to carry out the Works specified herein will be the responsibility of the Contractor.