Attachment D – Hydrotesting BMPs Plan (Section F.9)

HYDROTESTING BMPS PLAN

1. **Operating and Maintenance Procedures for Hydrotesting Treatment Systems:**
   Disinfected discharges shall cease or the rate of discharge will be reduced if de-chlorination cannot be achieved. The dechlorination system shall be constantly monitored to ensure the proper proportion of sodium thiosulfate to chlorination is achieved. As required, the system used to provide water shall also be monitored to ensure against malfunction.

2. **Operating and Maintenance Procedures for Hydrotesting Filtration Systems**:
   Geotextile filter fabric that allows water to flow through while preventing soil particles up to # 70 sieve size will be used for filtration. All discharges from the waterlines will be passed through the filter system (see **Attachment A, Exhibit 4, Items F.5.a. and F.9, Filter System**) to remove suspended solids or foreign particles. Discharge from the filter system that is not used on-site for dust control or irrigation will be directed into flexible or rigid piping to allow for discharge into State waters (i.e., Kaipapa‘u Stream).

   Flushing discharges shall cease or the rate of discharge reduced if adequate filtration cannot be achieved. The hydrotesting/chlorination contractor shall monitor the filtration system for clogging of the filter medium. Filters shall be replaced immediately upon failure of the primary filter.

   Discharges into Streams
   When discharges are required into a stream, a diffuser shall be placed at the open end of the discharge hose or pipe to reduce flow velocities and diffuse the flow of water into the stream. If there are soft sediments in the stream the open end of hose or pipe with diffuser shall be placed in a box, bucket, or other suitable enclosure that is sealed at the bottom and sides, but open at the top to allow the indirect discharge of water.

3. **Hydrotesting Effluent Monitoring Procedures**:
   a. The hydrotesting/chlorination contractor shall conduct frequent visual inspections during effluent discharges to ensure against changes in turbidity, color and odor. If physical changes are observed, discharges shall be terminated until appropriate modifications/corrections to the treatment system are in place.
   b. Representative samples for chlorine shall be collected and tested prior to entering receiving waters. Chlorine residual shall be measured by standard DPD kits and Color Comparators.
   c. Effluent type and quality: Hydrotesting source is potable water from BWS Hau‘ula and Ma‘akua Wells. Chlorination will be up to 50 mg/l depending on the level of need for disinfection. The disinfected effluent shall be dechlorinated to acceptable levels in accordance with Hawai‘i Administrative Rules (HAR), Chapter 11-54, Water Quality Standards.
   d. Should unforeseen conditions result in release of chlorine levels exceeding allowable standards of HAR 11-54, the following measures will be employed:
      i. All chlorination and discharges of hydrotesting effluent will be terminated. The hydrotesting/chlorination contractor will be responsible for notifying the DOH, Clean Water Branch, at (808) 586-4309;

ii. The hydrotesting and chlorination/de-chlorination procedures will be reviewed to correct the situation resulting in the release; and,

iii. Upon satisfactory review and repair of equipment and procedures, DOH Clean Water Branch will be notified and work activities will resume.

Additional methods, measures, or controls shall be documented on-site by the hydrotesting/ chlorination contractor.

4. **Good Housekeeping Practices**:
   a. All interior surfaces of the waterlines are to be kept free of dirt and debris during installation. The end of the pipe is to be capped at the end of each workday with a cap sufficient to prevent groundwater, dirt, debris, or other foreign substances from entering the pipe. As required, dewatering of trenches will be undertaken to ensure dry working conditions. Initial flushing is to be filtered prior to discharge to ensure removal of sediments accumulated during construction.
   b. The hydrotesting contractor is to set up chlorination equipment and exercise operating procedures in accordance with safe engineering practices.
   c. The hydrotesting contractor is to have the de-chlorination equipment set up prior to start up. This will ensure that the de-chlorination equipment will be mobilized and available should the waterlines require immediate evacuation of effluent.
   d. Vehicles and equipment will be cleaned before moving to another location and the street will be swept clean. The sweeping of sediment or debris into drainage ways is strictly prohibited.
   e. Fueling and maintenance of equipment and vehicles in the vicinity of any open drains, excavations and trenches is prohibited. All servicing will be performed in areas away from the construction site where fuel and oil spills can be contained.
   f. Existing roads that have been tracked with mud or dirt shall be cleaned immediately by sweeping. Flushing of roads may be performed only if runoff is avoided.