

## **ABSTRACT**

*Quartz sand mining system PT. Sukses Prima Graha Mandiri. District of Gedung Meneng, Tulang Bawang Regency, Lampung Province. Mining activities using open pit systems with methods of quarrying. To facilitate the mining of quartz sand needed good working condition, one of which is on the draining pipeline in the working area. The current issue has not been a good draining system in PT. Sukses Prima Graha Mandiri so in the mining area there are many puddles while heavy rainfall in the area of the site.*

*Draining system to be applied to PT. Sukses Prima Graha Mandiri use the system of mine drainage and mine dewatering by the trenching method, namely the effort to prevent the ingress of water into the area of mining and removing water that has already entered into the mine site by making trenching.*

*The main source of water that goes into quarrying is rain water. So based on rainfall intensity, rainfall catchment area, runoff coefficient obtained is 4.78 m<sup>3</sup> / sec total debits. To cope with the amount of water runoff is a necessary part of a prevention effort is by making draining pipeline. Draining pipeline to be made trapezoidal in shape. Based on the distribution map of catchment rainfall, amounting to 6 obtained 7 draining pipeline are adjusted to the direction of water flow. Draining pipeline dimensions are varies.*

*Dimensions of the draining pipeline 1, surface width is 3.8 m, pipeline basic width 0.4 m, pipeline depth 0.8 m, pipeline outer length 1.9 m. Dimensions of the draining pipeline 2, surface width is 3.4 m, pipeline basic width 0.4 m, pipeline depth of 0.8 m, pipeline outer length 1.7 m. Dimensions of the draining pipeline 3, surface width is 4.7 m, pipeline basic width 0.5 m, pipeline depth 1 m, pipeline outer length 2.3 m. Dimensions of the draining pipeline 4, surface width is 4.9 m, pipeline basic width 0.6 m, pipeline depth 1,1 m, pipeline outer length 2.4 m. Dimensions of the draining pipeline 5, surface width is 6.2 m, pipeline basic width 0.6 m, pipeline depth of 1.4 m, pipeline outer length 3.1 m. Dimensions of the draining pipeline 6, surface width is 2.2 m, pipeline basic width 0.2 m, pipeline depth 0.5 m, pipeline outer length 1.1 m. Dimensions of the draining pipeline 7, surface width is 5.2 m, pipeline basic width 0.5 m, pipeline depth 1.2 m, pipeline outer length 2.6 m.*

*Each of pipelines will be divided in have Sedimentation pools. Sedimentation pool dimensions i.e. length is 10 m, width is 5 m, depth is 5 m. Draining pipeline 1, 3 and 7 go to in the direction sedimentation pools 1, draining pipelines 4, 5 and 6 go to in the direction sedimentation pools 2. Timing of dredging the sedimentation pool done, sedimentation pool : 29 days.*