


Problem Statement 1: Construction Water Reuse


20 

Intent: Reuse groundwater collected during dewatering of Milpitas Station trench as dust control in water trucks.

1. Determine the amount of groundwater produced for 50 ft sections of the Milpitas Station trench (STA 371+00 to 380+00). Provide the average expected gallons per week for the entire length of trench. 7

2. Cost to discharge into the sanitary sewer system is \$0.0015 per gallon and set up/monthly rental cost of settling tanks is \$4,995.00. Costs for storm drain discharge system are provided (Lake for Lease Scope) and the RWQCB permit is \$11,000. Should groundwater be discharged into the sewer or storm drain system? What is the cost difference? 3

3. Determine water demand for dust control. Assume a water truck carries 2,500 gal and makes 16 trips per day. Provide total gallons needed per week and determine the weekly and total difference between groundwater dewatered and water demand of water trucks.  6

4. Determine the total cost to purchase water for the water trucks (cost per gallon to purchase water from municipal hydrants is \$0.003612/gal). How much money can be saved if the water trucks use water from the trench instead of purchasing water, and what will be the net cost to discharge into the system selected in problem 2?  4

Attachments:

- SOE Drawings
- Schedule (dust control, excavation)
- Construction Dewatering and Discharge Plan
- Lake for Lease Scope

Additional Question - may or may not include as part of Question 3.

See attached plan sheets. At a location elsewhere on the site a storm drain system is to be installed. Assume the following requirements:

1 Acre-Foot Water Per Acre of Land is needed for site-pre-watering

0.01 Acre-Foot of Water Per Acre during average weather conditions for surface dust control daily

30 Gallons of Water Per Cubic Yard of cut or fill material moved

Assuming a production of 50' installed per day, what is the total quantity of water needed for site-pre-watering, and the average daily water quantity for surface dust control and spoil haul off. Assume a slurry mix will be used for backfill.

