

A RECOMMENDATION CONCERNING MODIFICATIONS
TO THE WATER POLLUTION CONTROL PLANT

To: Harvey Rose, City Manager

From: Jim Patterson, Utilities Director



Date: February 3, 1975

Recently you received a copy of the "Preliminary Report - Waste-water Treatment for Grand Junction, Colorado" which was prepared by N.H.P.Q., Inc. The report outlines several alternate ways of upgrading the existing Water Pollution Control Plant to produce a higher quality effluent.

Over the last three years I have spent a great deal of time trying to improve the operational process of the plant to achieve maximum efficiency. Through the sincere and dedicated efforts of the chief operator and plant operators, we have done that. I have also spent much time in trying to plan for the future, both in the area of the existing plant as to meeting future state and federal standards, and in the area of the development of other systems and plants. During this time I attached much importance to the federal regulations and tried to proceed as rapidly as possible to meet those standards. We have proceeded with preparing engineering studies and plans and have received the first part of a \$750,000 grant for plant improvements.

During those three years and especially in the last few months, I have given a lot of second thought as to what we are doing and trying to accomplish. The reconsideration plus other developments that have taken place recently have caused me to take another position. Because of that, it is now my recommendation that the City not proceed rapidly with modifications to the Water Pollution Control Plant.

On March 18, 1974, the City was issued a National Pollution Discharge Elimination System (NPDES) discharge permit. The permit has an expiration date of December 31, 1975. Some of the effluent limitations are a BOD of 45mg/l and suspended solids of 30 mg/l as immediate limitations and 25 mg/l for both BOD and suspended solids no later than July 1, 1975. On September 5, 1975, the City received an amendment to the NPDES permit changing the limitations to 45 mg/l of both BOD and suspended solids for a seven consecutive day period and 30 mg/l for a thirty consecutive day period to be met as soon as reasonable, but no later than July 1, 1977. No reference was made to future more stringent requirements.

In section III of the report by N.H.P.Q., it is pointed out that two tentative revisions to the standards have been proposed and some type of revision will become effective after the public hearings scheduled for February, 1975. One revision calls for 30 mg/l

for BOD and suspended solids by July 1, 1977, and 20 mg/l by July 1, 1983. Another revision which seems to be favored establishes the same standards set by the amendment to the City's permit and does not set any future goals.

During the last two years the effluent BOD and suspended solids averages have met or exceeded the 1977 standards in 17 of the 24 months. Of the 167 individual tests run, 143 met or exceeded the standards. The federal and state regulations also require the elimination of the bypassing of treatment facilities during excessive flow periods such as rain storms. In 1974 the plant was bypassed on two occasions for a total of three hours. The plant is now operating at an average of 50% of the hydraulic capacity and 70% of the biological treatment capacity. The biological load is determined by the nature of the wastewater as it reaches the plant and may or may not correspond to the percentage of capacity that the flow represents. Future capacity, therefore, will depend on the type of collection systems that will be installed as well as the nature of the wastewater in the system.

The Federal Water Pollution Control Act was passed in an effort to clean up the nation's water ways. I believe that it is possible for the job to be accomplished on the local level with each city or district determining how great a problem they have or are causing a neighbor, what corrective actions must be taken, and how to best eliminate the problem. Because many local entities did not recognize this or face the issue, federal control resulted. I think the federal action is an over-reaction. The total elimination of pollution was set as a 1985 goal in the 1972 amendments to the act. I don't believe that the elimination of pollution is a realistic or necessary goal. I believe in controlling pollution and reducing it to a level that is compatible to our environment. That level will be different for different local environments. The federal law has set minimum standards that supposedly apply to every situation nationwide.

The City of Grand Junction has built and maintained a Water Pollution Control Plant that efficiently reduces the pollution level of the wastewater by 90% before discharging to the Colorado River. Upon completion of the plant, the City received an award for its efforts in reducing pollution. About a year later the City received a letter suggesting that the City not allow any additional connections to the system because the plant effluent did not meet the new standards.

In considering the natural quality of the Colorado River and the use of the river downstream from Grand Junction, I believe that the intent of the federal act is being accomplished by the City. In order to achieve the new standards, the existing plant would have to be modified to increase the efficiency of BOD and suspended solids removal by another four to six percent. From the report that N.H.P.Q. has submitted it appears that it will cost from two to four million dollars to accomplish that. I do not think that the

additional efficiency will improve the environmental quality of the river at all. I think that all we will buy for that two to four million dollars is the satisfaction of knowing that on our monthly reports the numbers are within the range set by the EPA and as a result, we are not subject to whatever penalty that can be imposed on the City by the EPA.

These thoughts are a reversal of the way I have previously thought and planned. When the economy was in a more healthy state and the proposed burden on the users in Grand Junction was thought to be less, I felt that I could justify the modifications to the plant. If I thought today that the money required for the modifications is a good investment or that the people want the results for the cost involved, then I could still support the modifications without question. As a result of our utility rate increase, I am hearing from the people of Grand Junction that they are concerned about each dollar that goes into the utility fund. With the economic situation as it is, I think that we need to look hard and close at the projects we undertake, and limit ourselves to those that are absolutely necessary and beneficial.

I have developed some strong personal feelings in this area, but after considerable and careful consideration, these are also my professional thoughts and recommendations as City Utilities Director. I am not proposing that the modification project be abandoned, but that we not rush into any construction project until we can determine the outcome of future regulations and economic conditions.

There are many things to be considered in making a decision as to whether to proceed immediately with plant modifications or to postpone indefinitely. We must consider the consequences of possible violation of federal law. We must consider the possibility of being caught at a later date in a hurry catch up position when construction costs could be even higher. We must consider the possible limited use of the existing plant to prevent an effluent with a higher pollution level. We must consider the possible loss of future federal grants.

I am not recommending that all efforts be stopped. I feel that we should continue with our planning to determine what type of modifications should be made if we do decide to proceed. We must continue to plan for future growth and be prepared to handle additional sewage. We should also continue in our efforts through laboratory testing and pilot studies to determine better and more efficient treatment processes. Our present grant will aid in carrying out these activities at a minimum cost to our users. Considering the enormous cost of modifying the existing plant, I think that we should look at the possibility of putting that money into the second large regional plant that will be needed in the near future so that it can handle the additional capacity. The existing facility could be abandoned or converted to a pre-treatment type of facility.

The immediate result of delaying construction will be an occasional violation of effluent standards. The future and long range results may or may not be greater problems. After much consideration, it is my recommendation that construction be delayed.