C Neal Carpenter,
President
Eugene R. Brauer
Gordon W. Bruchner
Patrick C. Dwyer
Robert J. Shreve
Dale J. Steichen
Robert D. Thomas
Gary R. Windolph

— Stevy
— Achen

ARIX

A Professional Corporation
Engineers Architects Planners

Greeley, CO • Riverton, WY
Orem, UT • Laramie, WY
Grand Junction, CO

Administrative
— Utility Billing Dept or
— Co. Bldg Dept or
— Co. Health Dept.
— Role of plant in this process

May 16, 1985

— Contract Amendment?
— No real idea of what 3+4 would take (#). Means of comparison?

Mark Eckert
Assistant County Administrator
P. O. Box 897
Grand Junction, Colorado 81502

SUBJECT: Grand Junction/Mesa County 201 Facility Plan Update
Project No. 84153.00

Dear Mr. Eckert,

At our last meeting on May 8th, we submitted the draft of the "Grand Junction/Mesa County 201 Wastewater Facility Plan Update." The contents of this report were reviewed by yourself and City staff and there was the consensus that it included all the salient points needed to fulfill the intent of the study. As I had indicated, at this time we have expended approximately $8,000 of the $23,902 contract fee to complete this work. Within the scope of this project the County Commissioners have requested that we modify our contract to include the development of:

15,902 remainder

> "A worksheet (manual or on micro) be established for each interceptor on the system. The goal of the worksheet would be to monitor building permit data and approved plans to add estimated plant usage so that the cumulative, actual and potential use is kept current."

To perform this work we propose the following approach:

1. Review the recently completed Nichols Report on interceptor sewer capacity and loading to identify for each line system:
   . existing average daily flow
   . existing EQR's
   . existing peak flow
   . average flow/EQR
   . peak flow/EQR

2. Develop spreadsheet program on IBM-PC computer using Lotus 1,2,3 software that would enable the City/County to constantly update demands from existing and new development on each interceptor line,

Define interceptor. Will program deal w/ non-interceptors. Input as easy as possible, program does the work

identify impacts from planned development, and help City/County staff better define when infrastructure improvements are needed. To do this we see two spreadsheet formats being used. The first one would be for each interceptor line and would be updated continuously as new development took place. It would contain:

. existing EQR
. average total flow
. flow/EQR
. peaking factor
. peak total flow
. capacity of line
. reserve capacity

Each new development would show up as a separate entry and be automatically totalized into the interceptor's total flow.

The second spreadsheet program would take the totals from each interceptor line's spreadsheet and summarize the entire system. This program would add up each interceptor's ~~flow and~~ show downstream impacts caused by growth on upstream interceptors. — trunk or connectors

3. In order for the City/County to fine tune the model, it is necessary to update the actual flow in each interceptor by field measurements. We will recommend which manholes should be monitored for flow, the frequency of monitoring, the method of monitoring, and the duration of monitoring.

Methodology statement of dynamic

4. It is also important that the City/County develop a better understanding of the nature of flows derived from the various sanitation and metro districts. We will recommend which manholes should have a permanent flow monitoring system to identify flows developed by each district. As part of this effort we will provide a standard design and a cost estimate for these permanent flow monitoring stations.

5. In order for the City/County staff to utilize the spreadsheet program we will develop, ARIX will assist in training your computer people in the operation and modification of the program.

To perform this work we estimate a cost between $13,500 and $16,000. This range of fees is a function of the ease of retrieval of basic data from the Nichols Sewer Capacity Report and the number of changes needed in the spreadsheet program to satisfy all the City/County staff inputs. For this reason, we propose that the simplest and fairest approach

for both parties would be to work on an hourly basis that in aggregate would not exceed our current contract amount of $23,902. The rates we would use are:

Tim Carlson, Senior Engineer	$50.00/hour
Mike Curtis, Project Engineer	35.00/hour
Drafter	25.50/hour
Secretary	20.00/hour
Computer time	10.00/hour
Xerox copies	0.10/each

If this scope of services and fees meets with your approval, please initial this letter and return a copy to us.

We appreciate your input on this project.

Respectfully,

ARIX, A Professional Corporation

Timothy J. Carlson, P.E.

TJC:psw

xc: Mark Akens
Gordon Bruchner