



CITY OF WASILLA

290 E. HERNING AVE.
WASILLA, ALASKA 99687
PHONE: (907) 373-9050
FAX: (907) 373-0788

COUNCIL MEMORANDUM NO. 91-66

FROM: Deputy Administrator

DATE: August 30, 1991

RE: Upgrade of Sewer Treatment Facility

The memorandum is intended to outline:

- (a) The process and Council directions which culminated in Council voting down authorization for funds to design the facility on August 26, 1991.
- (b) The activities and decisions that remain before construction bids can be awarded.

Enclosure 1

Council Memorandum No. 90-78, approved by Council on November 14, 1990. The memo proposed a work plan and budget to evaluate, bench test, discharge permit process and conceptual plans to develop a replacement sewage treatment and disposal system with an initial capacity of 250,000 gallons per day.

Enclosure 2

Council Memorandum No. 91-05 and Ordinance No. 91-03, approved by Council on February 11, 1991, appropriated \$19,960 to fund the proposal approved on November 14, 1990.

Enclosure 3

The results of the work approved by Council was reported verbally to Council and presented in writing as a proposed upgrade and expansion to the sewer treatment and disposal system at the Council meeting of April 22, 1991.

Enclosure 4

A copy of the proposed upgrade (Recirculating Granular Media Filter) presented at the April 22, 1991 meeting. The proposal included a preliminary cost estimate, one item of which is the estimated design and construction administration costs (includes engineering and construction inspection) of \$78,000.

Enclosure 5

Council passed Resolution No. WR91-21 which directs the City Engineer to prepare engineering plans and specifications for the construction of a replacement/upgrade of the sewer treatment facility. The Deputy Administrator requested the engineer to provide a cost estimate to perform the work directed by Council.

Enclosure 6

Gilfilian responded by letter dated July 15, 1991 with a cost estimate of \$39,000. The letter explains the rationale for arriving at the cost estimate and includes a description of the scope of work. The work includes plans, specifications and construction cost estimates - in a form to make a complete bid package (emphasis added).

Administration's intent was to enter into a formal contract agreement for the design work as the scope of work and value of the contract is, in our estimate, too much for a simple work order directive.

Enclosure 7

Ordinance No. 91-29, introduced on July 22, 1991 was to appropriate the estimated cost to design the upgrade of the sewer treatment facility. The ordinance was accompanied by CM 91-47 which outlines the present status of the project.

Council did not authorize the requested design funds (Ord. 91-29 failed).

The following activities/actions must occur prior to advertising for construction bid.

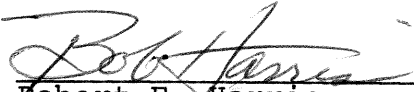
- (1) Complete final design and obtain all required permits. Prepare final construction cost estimate.
- (2) Compare construction cost estimates with grant funds available to the City to determine the amount of shortfall.

Evaluate alternative for obtaining funds:

- (a) FY93 legislative appropriation (grant). Unknown until July 1992.
- (b) Conventional financing.
- (c) Farmers Home Administration loan.
- (d) Department of Environmental Conservation Loan. (Requires prioritization of the project in competition with other statewide needs but is presently the best interest rate. Requires application and complete project description, cost/benefit analysis to be submitted in November. Awards are usually announced in July.)
- (e) Evaluate reducing scope of project or other cost reduction measures.
- (f) Compute loan impact on sewer rate structure.

- (3) After securing adequate financing, advertise for construction bids and award contract (approximately 2 month process).

Council also postponed action on proposed Ordinance No. 91-35 which was to allocate up to \$20,000 for site preparation. The intent was to reduce the overall cost of construction. The work would not eliminate the need for additional excavation and site preparation by the contractor, but would accomplish much of the rough work. Final grades, compaction and all of the pipe trench and vault excavations would still have to be done by the contractor. An exact savings from the estimate \$165,000 for clearing, grubbing and excavation could probably not be accurately projected. Staff will reconsider re-submitting the proposal as the extra staff time requirement and the on-set of freezing soil makes the activity less attractive to undertake at this time.



Robert E. Harris
Deputy Administrator



Gilfilian Engineering, Inc.

Mail: P.O. Box 871868, Wasilla, Alaska 99687 (907) 376-3005 FAX (907) 373-5686
3111 'C' Street, Suite 200, Anchorage, Alaska 99503 (907) 562-2021

COUNCIL MEMORANDUM NO. 90-78

TO: Wasilla City Council

FROM: Bob Gilfilian, P.E. *Robert Gilfilian*
City Engineer

DATE: October 17, 1990

SUBJECT: Wasilla STEP Drainfield Facility
Replacement of Sewage Treatment and Disposal System

This memo describes a work plan for the development of conceptual engineering plans for the replacement of the Wasilla drainfield facility. On October 11, 1990 I had the opportunity to meet with representatives from the Alaska Department of Environmental Conservation (ADEC) to discuss the merits of a work plan to replace the drainfield facility. ADEC representatives present at the meeting included Mr. Paul Pinard and Mr. Keven Kleweno of the Mat-Su District Office and Mr. George Wilson, a permit coordinator from the Southcentral Regional Office.

BACKGROUND

The City of Wasilla is one of the first Alaskan communities to construct and operate a large municipal drainfield facility, considered to be one of the nation's largest. The drainfield facility is used as the final treatment and disposal process on the Septic Tank Effluent Pumping (STEP) sewer system serving the City of Wasilla.

The construction of the STEP sewer and drainfield facility received 85% grant funding under the U.S. EPA Innovative and Alternative (I&A) Technology Program as provided in the 1977 Amendments to the Clean Water Act (P.L. 95-217). These amendments created a program that encouraged municipalities to use innovative and/or alternative technologies for the treatment of wastewater. Provisions under Section 202(a)(3) of P.L. 95-217 allows EPA to pay 100% of the cost of modifications or replacement of any of the innovative or alternative processes which fail to meet their design performance standards.

Approved 11/14/90

Page 1

Memo to Wasilla City Council
Replacement of Wasilla Drainfield Facility
Page 2, October 17, 1990

The City of Wasilla monitored the performance of the drainfield facility during the first two years of operation. The monitoring program involved the monthly collection of samples from the wastewater influent, ground water and surface water bodies and analyzed these samples for several physical and chemical parameters.

On December 7, 1988, the City of Wasilla completed a Performance Evaluation Report that was based on the results of the 2 year monitor study and concluded the drainfield facility failed to meet project performance standards for hydraulic and treatment capabilities. The hydraulic loading rates resulted in premature hydraulic failure of the drainfield beds. In addition, wastewater effluent discharged from the drainfield facility caused an adverse environmental impact on the receiving ground water and surface water bodies.

As a result of the negative findings of the Performance Evaluation Report, the City of Wasilla petitioned U.S. EPA on December 22, 1988 for a 100 % modification or replacement grant for correcting the operating deficiencies of the drainfield facility. On May 23, 1989 the City of Wasilla was informed by Mr. Dick Marcum, Chief Municipal Grants & Loans for ADEC, that the U.S. EPA had denied the City's request for a 100% modification/replacement (M/R) grant. In response to EPA's negative decision, the City filed an appeal on June 23, 1989 to EPA's Grants Dispute Coordinator of Region X. On April 19, 1990 Mr. Ron Kreizenbeck, Acting Director of Water Division of Region X EPA, responded to the appeal and informed the City that EPA's previous negative determination on the M/R grant request was appropriate.

On May 15, 1990 the City requested the EPA Regional Administrator to review the negative determination reached by Mr. Kreizenbeck. The City submitted additional documentation on the progressive hydraulic failure of the drainfield beds and findings of adverse environmental impact on the ground water system at the drainfield site. On July 10, 1990 the EPA Dispute Coordinator granted the City the right to an informal conference with their technical review committee. The conference was held on September 13, 1990 at the EPA Region X Seattle office. The City presented operational data that substantiated the claim that the drainfield had failed severely in achieving its performance goals. The City is currently awaiting a determination from the EPA technical review committee.

ASSESSMENT OF EXISTING DRAINFIELD FACILITY

The Council should be aware that the existing drainfield facility has several major shortcomings that include the following:

- * Limited Hydraulic Capacity - Although the 10-acre drainfield facility was originally designed to handle 440,000 gallons per day (gpd), it appears the existing system is currently at capacity of less than 150,000 gpd. Based on current operational data, the City should not allow additional users on the sewer system.

- * Negative Environmental Impact - The discharge of sewage effluent into the drainfield beds has caused degradation of the quality of the ground water aquifer and surface water spring on the drainfield site. Treatment of the effluent in the soil zone beneath the beds has been documented to be minimal.

- * Costly Monitoring Program - Because the discharge of effluent enters the ground water system, the ADEC disposal permit requires extensive sampling and testing of the receiving ground waters. Unlike a surface water discharge which typically requires monitoring at one (1) location for a limited number of test parameters, a discharge to the ground water requires monitoring at many locations and testing for a large number of chemical parameters. As a result, the cost for permit monitoring is many times higher for ground water discharges.

- * Limited Expansion Capability - The drainfield facility is located on a 40-acre parcel. Based on hydrogeological information on the remaining available acreage at this site, the subsurface soil and ground water conditions are not suitable for drainfield expansion unless expensive pre-treatment of the effluent applied to the beds is provided.

PROPOSED REPLACEMENT SEWAGE TREATMENT/DISPOSAL SYSTEM

In consideration of the above shortcomings, it is strongly recommended alternatives be evaluated for the replacement of the drainfield facility in the very near future. The drainfield beds are currently undergoing a progressive failure process whereby the hydraulic capacity of the usable beds are being reduced by biological clogging in the rock filter media. Under such conditions the beds will eventually clog and cause raw sewage to backup and possible daylight on the ground surface.

The I&A drainfield system should be replaced with a conventional sewage treatment and disposal system that will discharge treated effluent to the surface water located on the City's 40-acre site. The replacement treatment system could utilize the existing improvements located at the 40-acre site that include the flow measurements weir, clarifier, dosing chamber, aerobic digester, sludge drying beds and control building. A secondary treatment plant would be needed with a disinfection processing unit. The existing drainfield beds could be used as a backup system for emergency situations, if needed.

Several alternatives for a secondary treatment process need to be evaluated to determine the most cost effective and reliable system to treat the City's STEP wastewater effluent. The disposal system would consist of a single point discharge into the headwaters of the wetland stream located along the southern boundary of the City's 40-acre parcel.

PROPOSED WORK PLAN FOR DEVELOPMENT OF CONCEPTUAL PLANS

The development of conceptual engineering plans for the replacement sewage treatment/disposal system should be done on a phased approach. Each phase will involve a series of specific tasks. A description of individual tasks and related budget are given as follows:

TASK I Discharge Permitting Process

It is essential that a wastewater discharge permit be obtained from ADEC to determine if the proposed concept of surface water discharge is feasible at the City's 40-acre site. Under this task, a discharge permit application will be prepared and submitted to ADEC for processing purposes. The permit application will include information obtained from the other tasks described below. Presentation of the permit application may be required for public hearing purposes.

TASK II Evaluation of Receiving Stream

The hydrological characteristics of the surface water stream will be determined under this task. A reconnaissance study will be undertaken to determine physical location of the stream with respect to adjacent property ownership. Stream flow measurements will be obtained and used to determine the assimilation capacity of the water body and evaluate the environmental impact from the proposed treated effluent discharge.

TASK III BENCH TESTING OF SEWAGE EFFLUENT

The quality of the sewage effluent received at the drainfield facility has unique characteristics compared to conventional sewer system's effluent. The main difference is that the clarifier receives primary treated sewage that was pre-treated in septic tanks. Treatment of septic tank effluent may involve unique processes to achieve secondary treatment standards that will be required under the discharge permit issued by ADEC. Under this task, effluent samples from the clarifier will be collected and tested to determine its characteristics. The effluent samples will be used in a series of bench tests that will evaluate various treatment processes.

Memo to Wasilla City Council
Replacement of Wasilla Drainfield Facility
Page 6, October 17, 1990

TASK IV Preparation of Conceptual Engineering Plans

Based on information obtained from Task II & III, a conceptual design for the replacement treatment and disposal processes will be prepared. The engineering plans will be sufficient in detail for ADEC review purposes and submitted with the discharge permit application prepared under Task I. The replacement sewage treatment and disposal system will be conceptually designed to handle a projected initial flow of 250,000 gpd, and designed for expansion to allow future flow up to 1 million gallons per day. The design will use technology that is reliable, cost effective, flexible to allow for expansion, and capable to adequately treat the sewage to minimize environmental impact.

BUDGET SUMMARY

TASK I:	Discharge Permitting Process	\$ 3,640.00
TASK II:	Evaluation of Receiving Stream	\$ 5,400.00
TASK III:	Bench Testing of Sewage Effluent	\$ 4,900.00
TASK IV:	Preparation of Conceptual Engineering Plans	\$ 6,020.00 -----
	BUDGET TOTAL	\$19,960.00 =====

As directed by Council, we are prepared to initiate the above work plan under the City engineering work order process. Services are rendered on a time and expense bases for a cost not to exceed the above budget without prior Council approval. During the October 22, 1990 I will make a verbal presentation to the Council on this work plan. Additional technical information including slides will be presented. Questions you may have on this memo will be addressed at that time.



CITY OF WASILLA

290 E. HERNING AVE.
WASILLA, ALASKA 99687
PHONE: (907) 373-9050
FAX: (907) 373-0788

Non-Code Ordinance

Requested By: Finance Dept.
Prepared By: Finance Dept.

ORDINANCE SERIAL NO. 91-03

AN ORDINANCE OF THE CITY OF WASILLA, ALASKA AMENDING THE FY-91 BUDGET BY APPROPRIATING FUNDS TO THE SEWER CONSTRUCTION FUND.

BE IT ORDAINED AND ENACTED BY THE CITY OF WASILLA, ALASKA AS FOLLOWS:

SECTION I. Classification. This is a non-code ordinance.

SECTION II. Purpose. To appropriate additional funds to the FY-91 Sewer Construction Fund.

SECTION III. Appropriation. Funds are appropriated to the following fund:

<u>Sewer Construction Fund</u>		
Sewer Treatment Plant Design	#14456950400	\$19,960.00

SECTION IV. Source of Funds.

MG #4/87-475		\$19,960.00
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SECTION V. Effective Date. This ordinance becomes effective upon adoption by the Wasilla City Council.

Introduction: 01/28/91


Public Hearing: 02/11/91

ADOPTED by the Council of the City of Wasilla on this 11th day of February, 1991.



JOHN C. STEIN, MAYOR

ATTEST:



ERLING P. NELSON, CMC
City Clerk

SEAL

5/12/91



CITY OF WASILLA

290 E. HERNING AVE.
WASILLA, ALASKA 99687
PHONE: (907) 373-9050
FAX: (907) 373-0788

COUNCIL MEMORANDUM NO. 91-05

FROM: Finance Officer

DATE: January 18, 1991

RE: Ordinance Amending FY91 Budget

At the City Council meeting of November 14, 1990 Council Memorandum 90-78 requesting additional funds for the development of engineering plans for the replacement of the sewer drainfield facility was approved. The amount approved was \$19,960 and the funding source is MG# 4/87-475.

In January Gilfilian Engineering was given Work Order #G91-01 for completion of this task.

An ordinance appropriating additional funds to the FY91 budget for this project was overlooked. Ordinance Serial No 91-03 accomplishes this task.

We hereby recommend and ask you to introduce Ordinance Serial No. 91-03 and set public hearing and action at the February 11, 1991 regular meeting.



Erling P. Nelson, CMC

Encl 2

- D. Ordinance Serial No. 91-18; Amending the FY-91 Budget by Appropriating Funds to the General Fund (Road Maintenance)
1. CM. No. 91-26

Motion/Second: McCarthy/Erickson

To adopt Ordinance Serial No. 91-18. Motion passed.

- E. Building Codes; Larry Teague

Mrs. Harris stated that copies of the Palmer building codes had been passed out to the Council and introduced Larry Teague the building inspector for Palmer.

Mr. Teague explained Palmer's code and manner it functions and that he is certified to do most inspections but will not guarantee soil. Mr. Teague stated he received his certification after he became employed by the City of Palmer. Mr. Teague stated he did not believe that Palmer assumed any more liability because of their building inspection program, but that the building inspections is part of the ISO ratings and that Palmer has the lowest in the Valley and has an ISO rating of 4.

Mayor Stein read a letter from Robert Friesen opposed to having a building inspection program in Wasilla.

INTERMISSION: 8:00--8:10 PM

- F. Sewer System Upgrade and Expansion

Mr. Gilfilian drew a diagram of the proposed system and its process.

Motion/Second: Hjellen/Smith

To authorize Mayor Stein to seek funding from the State on the proposed system upgrade.

Councilman Carson stated for the record that he is in favor of waiting to see what the outcome is from EPA first.

Motion passed with Mr. Carson dissenting.

- G. EPA Appeal Report; Bob Gilfilian

Mr. Gilfilian explained the problems with the current drainfield problem and stated that the letter to the EPA Engineer has not been responded to yet, Mr. Severtson called and stated that it would possibly be another two weeks before he reviewed the letter Mr. Gilfilian sent him.

Mayor Stein asked if there was any objection from Council to consider Item 9D at this time. There was no objection from Council.

9. NEW BUSINESS:

- D. Ordinance Serial No. 91-20; Authorizing the Transfer of Real Property in Block 8, Wasilla Townsite to the Wasilla, Knik Willow Creek Historical Society (Introduction)

Motion/Second: Smith/McCarthy



CITY OF WASILLA

290 E. HERNING AVE.
WASILLA, ALASKA 99687
PHONE: (907) 373-9050
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PROPOSED UPGRADE AND EXPANSION SEWAGE TREATMENT AND DISPOSAL SYSTEM

April 18, 1991

BACKGROUND

The City of Wasilla is the first community in Alaska to construct and operate a large municipal drainfield facility. The drainfield facility is used to treat and dispose of septic tank effluent collected in the City's pressure sewer system. The drainfield facility was constructed under the US Environmental Protection Agency's Innovative and Alternative Program and is one of the largest municipal drainfields in the nation.

Since the start-up of the drainfield facility in December 1986, the City has monitored the drainfield's operation and performance. The monitoring program has involved the monthly collection and analyses of samples from the wastewater influent, drainfield beds, groundwater wells and a nearby stream. The hydraulic capacity of the individual drainfield beds was also monitored.

Based on the results of the comprehensive monitoring program, the City identified several significant problems associated with the operation and performance of the drainfield facility. The two (2) most significant problems that need to be resolved are:

1. Limited Hydraulic Capacity- The drainfield facility was originally designed to treat and dispose of 440,000 gallons per day (gpd). Since the start-up of the facility, the quality of the wastewater applied to the drainfield beds caused a rapid formation of clogging in the soils beneath the beds. The drainfield beds have experienced premature hydraulic failure as a result of the excessive soil clogging condition.

The drainfield facility appears to have a limited long-term hydraulic capacity of approximately 100,000 gpd. Consequently, the use of the City's new sewer system is restrictive and will severely limit the growth and proper development of Wasilla.

2. Adverse Environmental Impact- The discharge of sewage effluent into the drainfield beds caused degradation of the quality of the groundwater aquifer and a groundwater spring located on the drainfield site. The treatment of the wastewater effluent in the soil zone beneath the drainfield beds had been documented to be inadequate. The untreated wastewater effluent has violated the permit discharge standards established by the Alaska Department of Environmental Conservation (ADEC).

PROPOSED UPGRADE AND EXPANSION IMPROVEMENTS

The City of Wasilla has evaluated several corrective action alternatives to provide an acceptable method for the treatment and disposal of the septic tank effluent. Because of the unique high strength characteristics of septic tank effluent, the City has selected an alternative treatment process that can affectively treat septic wastewater.

The selected treatment process, referred to as a Recirculating Granular Media Filter (RGMF), involves the use of a gravel media that filters recirculated effluent. The RGMF process was recently developed for the treatment of strong wastewater and found to consistently produce high quality effluent at relatively low operating and maintenance costs.

The RGMF treatment process offers several advantages for the conversion (upgrade and expansion) of the existing Wasilla drainfield facility. The existing treatment plant facilities are usable with minor modifications to retrofit the components for use in the RGMF treatment process. The RGMF system is capable of being developed in phases that will accommodate future increases in wastewater flow; thereby, decreasing initial capital improvement costs. Also, minimal operator skill is needed for the operation of the RGMF treatment process.

Operation of the RGMF Treatment System: Influent from the City's septic tank effluent pump (STEP) sewer system flows to a recirculating tank. In controlled doses, the mixture of fresh influent and recirculated, partially treated, filtrate is applied to a gravel media filter bed through a pressure distribution system. The wastewater drains through the gravel media and undergoes biological treatment on the surface of the media particles. The treated wastewater (filtrate) is collected at the bottom of the filter, and returned to the recirculating tank. The filtrate is mixed with fresh influent and cycles to the gravel filter bed. A portion of the filtrate flow is discharged through a float controlled valve to a chlorination unit. The chlorinated treated effluent flows through the chlorine contact chamber and discharges by gravity to a nearby stream.

A schematic flow diagram of the proposed upgrade and expansion improvements is shown on the attached drawing. The proposed improvements are designed to provide adequate treatment for 200,000 gpd. The RGMF process is designed for a recirculation ratio of 5:1 at a dosing rate of 2,000 gpm for 5 minutes every 30 minutes.

The RGMF treatment process has the potential to handle greater hydraulic flows, but the ultimate capacity will be dependent on the cold climate affect on the performance of the gravel filter media. Because of the limited information on the performance of RGMF treatment systems in cold climate areas, the initial use of the RGMF system will be seasonally restricted to the above freezing temperature times of the year.

The normal operation (current use) of the drainfield system will be activated during the winter months. This arrangement will allow the drainfield beds to rest for nearly 6 months of the year. The operation of the RGMF system will be tested and evaluated during the colder times of the year and may prove to be usable for the entire year.

As shown on the attached flow diagram, the proposed upgrade and expansion improvements will consist of the following changes and additions:

- The existing 100,000 gallon clarifier will be converted into a recirculation tank.
- Effluent from the recirculating tank will be alternately dosed via 2 - 2,000 gpm pumps to 4 - 20,000 s.f. surface area recirculating gravel media filters (RGMF).
- Filtrate from the RGMFs will flow by gravity to a 10,000 gallon return vault and pumped via 2 - 500 gpm pumps to the inlet of the recirculation tank.
- An overflow volume equivalent to the influent flow will be discharged from the recirculating tank through a float controlled valve to a chlorination unit.
- The chlorinated effluent will flow into the existing 17,500 gallon dosing chamber that will be converted into a chlorine contact chamber.
- The finished treated effluent will flow by gravity from the chlorine contact tank through an existing overflow main to the headworks of Drainfield Bed No. 1.
- A new gravity outfall main will discharge the treated effluent to the nearby stream on the City's property.

PRELIMINARY COST ESTIMATE

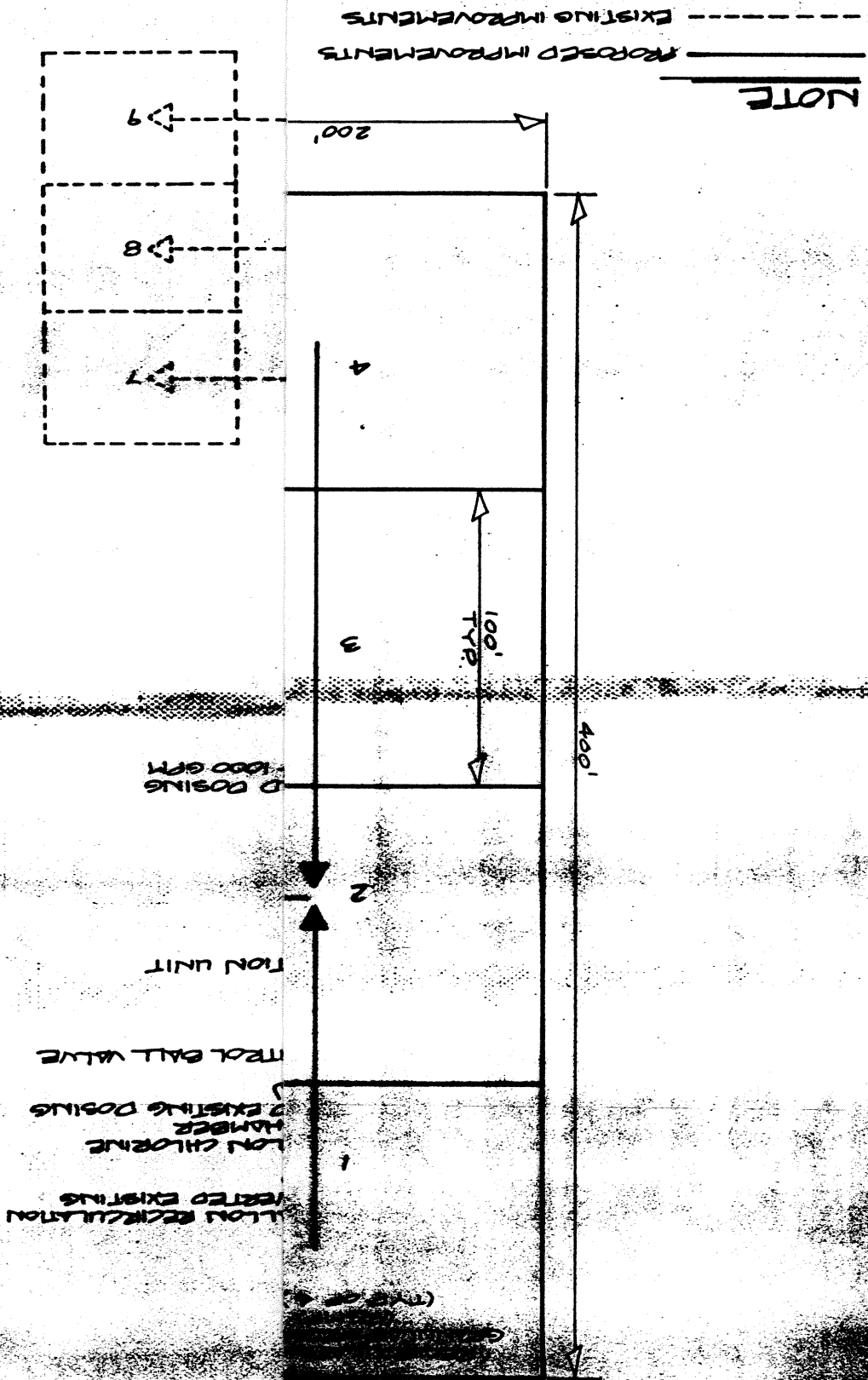
SITWORK: clearing, grubbing, and excavation	\$165,000
RECIRCULATING TANK: clarifier conversion and chlorine contact chamber	100,000
YARD PIPING & PUMPING SYSTEM	100,000
RECIRCULATING GRANULAR MEDIA FILTERS	650,000
OUTFALL DISCHARGE SYSTEM	<u>20,000</u>
Total Construction Cost Estimate	\$1,035,000
Design and Construction Admin. (7.5%)	78,000
Administration Costs (2%)	21,000
Subtotal Cost	\$1,134,000
Contingency (10%)	<u>113,000</u>
ESTIMATED TOTAL PROJECT COST	\$1,247,000



Gilfillan Engineering, Inc.
 P.O. Box 871868
 Wasilla, Alaska 99687

SCHEMATIC FLOW DIAGRAM
CITY OF WASILLA
PROPOSED UPGRADE AND EXPANSION
SEWAGE TREATMENT AND DISPOSAL SYSTEM

W.D. 91-01
 DATE: APRIL 1991
 DRAWN BY: J.M.
 NOT TO SCALE



NOTE

————— EXISTING IMPROVEMENTS
 _____ PROPOSED IMPROVEMENTS



CITY OF WASILLA

290 E. HERNING AVE.
WASILLA, ALASKA 99687
PHONE: (907) 373-9050
FAX: (907) 373-0788

RESOLUTION NO. WR91-27

A RESOLUTION OF THE CITY COUNCIL OF WASILLA, ALASKA PERTAINING TO THE OPERATION OF THE CITY'S DRAINFIELD FACILITY AND THE REPLACEMENT, UPGRADE OF A SEWAGE TREATMENT FACILITY.

WHEREAS, the City of Wasilla is the first community in the State of Alaska to construct and operate a large municipal drainfield facility used for the treatment and disposal of wastewater collected from the City's septic tank effluent pumping (STEP) sewerage system; and

WHEREAS, the drainfield facility was constructed under the U.S. E.P.A.'s Innovative and Alternative Program, and is one of the largest municipal drainfields in the Nation; and

WHEREAS, the drainfield facility was originally designed to treat and dispose of 440,000 gallons per day, based on an organic loading rate of 30.5 pounds per acre per day that is equivalent to a maximum daily load of 203.1 pounds of organic waste equally dosed over a 6.66 acre absorption area; and

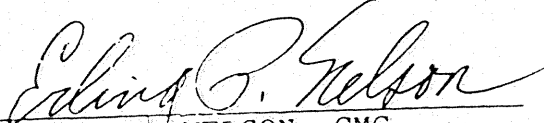
WHEREAS, the drainfield facility is currently receiving approximately 125,000 gallons per day with an average organic waste load of 273.5 pounds per day which is 35 percent above the designed organic load operating capacity of the facility;

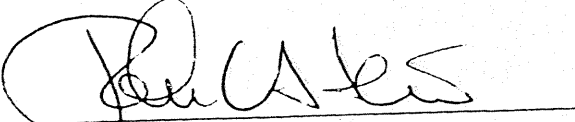
NOW THEREFORE BE IT RESOLVED, that the City of Wasilla direct the City Engineer to prepare engineering plans and specifications for the construction of a replacement/upgrade sewer treatment facility to handle a minimum sewage flow of 200,000 gallons per day.

I certify that a resolution in substantially the above form was passed by a majority of those voting at a duly called and conducted meeting of the governing body of the City of Wasilla this 29 day of MAY, 1991.

ATTEST:

APPROVED:


ERLING P. NELSON, CMC
City Clerk


JOHN C. STEIN, Mayor

(SEAL)

ENCL 5-



Gilfilian Engineering, Inc.

Mat-Su Office: P.O. Box 871868 • Wasilla, Alaska 99687 • (907) 376-3005 FAX 373-5686
Anchorage Office: 3111 "C" St., Suite 200, • Anchorage, Alaska 99503 • (907) 562-2021 FAX 563-2605

July 15, 1991

RECEIVED

JUL 19 1991

City of Wasilla, Alaska

City of Wasilla
290 E. Herning Ave.
Wasilla, AK 99654

Attn: Bob Harris
City Administrator

RE: Wasilla Sewage Treatment and Disposal System
Proposed Engineering Design Budget

Dear Mr. Harris:

Per your request, we have completed a review of our April 18, 1991 preliminary cost estimate to complete the design and contract administration of a Recirculating Granular Media Filter (RGMF). As a rule, the cost for design is approximately 50% of the total engineering budget. In this regard, a Work Order in the amount of \$39,000 should be prepared so that we can begin the design of the RGMF. This project will be conducted on a time and expense basis as typically used on our City Engineer projects.

The design effort will include the preparation of plans, specifications and the engineering construction estimate. Plans will be on reproducible mylars and the specifications will be in a form as to make up a complete bid package. This budget does not include the cost for reproduction of plans and construction bidding documents.

If you have any questions regarding this letter please feel free to call.

Sincerely,

GILFILIAN ENGINEERING, INC.

C. Peter Curtis
Senior Environmental Technician

$$\$78000 \div 2 = \$39,000$$

ENC 6



CITY OF WASILLA

290 E. HERNING AVE.
WASILLA, ALASKA 99687
PHONE: (907) 373-9050
FAX: (907) 373-0788

Requested By: Administration
Prepared By: Finance Dept.

ORDINANCE SERIAL NO. 91-29

AN ORDINANCE OF THE CITY OF WASILLA, ALASKA AMENDING THE FY-92 BUDGET BY APPROPRIATING FUNDS TO THE SEWER CONSTRUCTION FUND.

BE IT ORDAINED AND ENACTED BY THE CITY OF WASILLA, ALASKA AS FOLLOWS:

SECTION I Classification. This is a non-code ordinance.

SECTION II. Purpose. To appropriate additional funds to the Sewer Construction Fund.

SECTION III. Appropriation. Funds are appropriated to the following fund:

<u>Sewer Construction.</u>		
Sewage Treatment & Disposal System	#144569507	\$39,000.00

SECTION IV. Source of Funds.

MG #4/87-475		\$39,000.00
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SECTION V. Effective Date. This ordinance becomes effective upon adoption by the Wasilla City Council.

Introduction: 07/22/91

Public Hearing: 08/12/91

ADOPTED by the Council of the City of Wasilla on this _____ day of _____, 1991.

JOHN C. STEIN, MAYOR

ATTEST:

ERLING P. NELSON, CMC
City Clerk

ENC 7



CITY OF WASILLA

290 E. HERNING AVE.
WASILLA, ALASKA 99687
PHONE: (907) 373-9050
FAX: (907) 373-0788

COUNCIL MEMORANDUM NO. 91-47 (Amended)

FROM: Deputy Administrator

DATE: August 12, 1991

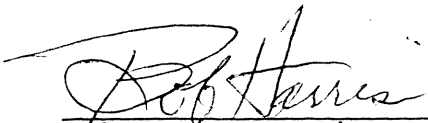
RE: Final Design of Sewer Treatment Plant

The Department of Environmental Conservation has not received any protests or negative comments regarding our proposed construction of a Recirculating Granular Media Filter (RGMF) and subsequent discharge proposals. We expect the permit to be issued to us within the next few days. It is time to authorize funding for final design of the facility. The project description contained in the April 18, 1991 memorandum projects an estimated \$78,000 for design and construction administration (7.5%) of the estimated \$1,247,000 project.

We do not expect to advertise the project for construction until spring 1992 at the earliest. The timing will allow us to prepare final cost estimates and to evaluate the potential of obtaining additional legislative grant funding. Alternatively, we will have to borrow some portion of the funds for construction. I believe we can reasonably plan on construction late next summer. In the meantime, we will continue to request Council authority to expend sewer construction grant funds for some preliminary clearing, grubbing and excavation work that will reduce the overall construction costs.

Municipal Grant 87/475, for sewer construction, has a balance of \$372,135.84. Recommend that Council introduce Ordinance 91-29 for public hearing and adoption on August 12, 1991. The funds are the amount estimated by Gilfilian Engineering for design of the new sewage treatment facility.

Administration requests authority from Council to authorize final design and preparation of contract documents by Gilfilian Engineering, Inc. at a not to exceed \$39,000.



Robert E. Harris
Deputy Administrator



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COUNCIL MEMORANDUM NO. 91-66 (REVISED)

FROM: Deputy Administrator

DATE: August 30, 1991 (Updated November 22, 1991 - Enclosures 8-12)

RE: Upgrade of Sewer Treatment Facility

The memorandum is intended to outline:

- (a) The process and Council directions which culminated in Council voting down authorization for funds to design the facility on August 26, 1991.
- (b) The activities and decisions that remain before construction bids can be awarded.

Enclosure 1

Council Memorandum No. 90-78, approved by Council on November 14, 1990. The memo proposed a work plan and budget to evaluate, bench test, discharge permit process and conceptual plans to develop a replacement sewage treatment and disposal system with an initial capacity of 250,000 gallons per day.

Enclosure 2

Council Memorandum No. 91-05 and Ordinance No. 91-03, approved by Council on February 11, 1991, appropriated \$19,960 to fund the proposal approved on November 14, 1990. (Plans for RGMF)

Enclosure 3

The results of the work approved by Council was reported verbally to Council and presented in writing as a proposed upgrade and expansion to the sewer treatment and disposal system at the Council meeting of April 22, 1991.

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Enclosure 4

A copy of the proposed upgrade (Recirculating Granular Media Filter) presented at the April 22, 1991 meeting. The proposal included a preliminary cost estimate, one item of which is the estimated design and construction administration costs (includes engineering and construction inspection) of \$78,000.

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