

HB

185

adopted
5/5/99

AMENDMENT 1

OFFERED IN THE HOUSE

by Representative Berkowitz

TO: HB 185

- 1 Page 1, following line 8, insert,
- 2 "Sec. 2. This Act does not apply to utilities with open dockets before the Alaska Public
- 3 Utilities Commission until those dockets are closed."

HOUSE SPECIAL COMMITTEE ON UTILITY RESTRUCTURING

DATE: 5/5/99

ISSUE: Amendment 1

	YEA	NAY	PRESENT
Representative Berkowitz	/		
Representative Cowdery (VC)		/	
Representative Davies	/		
Representative Green (alternate)			
Representative Kott	/		
Representative Porter	/		
Representative Rokeberg			
Chairman Hudson	/		
TOTALS:			

PASSED 541 FAILED _____



4/28/99

REPRESENTATIVE SCOTT OGAN

Alaska State Legislature

House District 27 • Palmer • Greater Palmer • Sutton • Chickaloon • Sheep Mountain

SPONSOR STATEMENT

HB 185

Representative Ogan

This bill will make the same statutory exemptions that apply to "small electric" and "small telephone" utilities also apply to "small water utilities".

In my area, a group of homeowners who financed and built a water system are asking that they not be included under APUC oversight.

In researching the issue, I discovered there is a precedent in statute for exempting small electric and telephone utilities. I am asking colleagues to extend the same exemption to small water utilities as well.

Presently telephone and electric utilities that take in under \$50,000.00 in revenues per year are exempt from APUC.

Representative Bill Hudson
Chairman Utility Restructuring Committee
State Capital
Juneau, Alaska

RE: HB185 An act exempting certain small water utilities from regulation by APUC

CRIMSONVIEW OWNER'S ASSOCIATION TESTIMONY IN SUPPORT OF HB185
WEDNSDAY, 21 APRIL, 1999

This homeowner's association, as are most others in Alaska, is set up following the HUD model for a Community water system. These systems require Articles of Incorporation, Covenants and By-Laws and determine how the systems are owned and operated. These systems are self-regulating and HUD approval of them is required to obtain mortgages under federal programs (i.e. VA or FHA). (See encl 1)

The Articles, Covenants and By-Laws are the documents under which the current homeowners purchased their homes. This is how the property was represented to them. Clearly no one purchased their home with the understanding that they were going to have to operate a "public" utility that would have to be expanded upon a request for service by other than the 46 units that the system was approved for. Operating a public utility is not a normal part of home ownership.

APUC's current informal policy is that it does not regulate homeowner's associations. When the current complaint was filed against CVOA, our directors contacted APUC staff and were informed by five different staff members that APUC does not regulate homeowner associations. One informed a director that they do not issue certificates to homeowner's association. A second staff member would not believe that the commission had decided to hear this complaint until given the case number and then called it up on her computer. Only if a complaint is filed will APUC evaluate if the case has merit and rule whether or not to regulate.

It would appear from the APUC Staff Advocacy Group filing in the CVOA case that no regulations or procedures are in place to regulate homeowner's associations. Their filing, through their Attorney General legal counsel, recommends that the commission convene a rule-making docket to establish guidelines/regulations for homeowner associations.

Current APUC policy prevents owner operated water systems from complying with statutes. They cannot get a certificate of convenience and necessity without which they cannot file a tariff or rate schedule nor can they apply for an exemption from regulation. There are no guidelines or regulations to follow that would provide reasonable assurance of protection from even frivolous complaints.

If APUC now holds that they have the power to regulate homeowner's associations, do they then have a statutory responsibility to regulate all homeowner associations without discrimination? What statutory authority do they have to nullify Articles of Incorporation, Covenants and By-Laws under which consumers purchase their property?

ADEC indicates that there are approximately 700 Class A Water Systems in Alaska. How many does APUC regulate? Do they have the staff and budget resources to support regulation of all of them? Again, if systems fall under their regulatory authority, do they not have a statutory responsibility to regulate or establish clear rules for exemption? Under current statute, how can APUC claim power to regulate utilities that they don't certificate?

APUC staff indicate that current caseloads can exceed two years. Delays of this magnitude can jeopardize homeowner's property value and cause delays to developers as well. After nearly 8 months, the case against CVOA is unresolved and there is no indication of when a hearing will be scheduled.

Given that annual and special assessments are the only source of revenue for homeowners associations, if APUC regulates them, associations will have no way of raising funds to meet emergency situations if their reserve funds are insufficient to cover the costs. They would have to file for relief through the tariff and rate process prior to being able to collect any monies. Financial flexibility would be lost.

HB185 proposes the same exemption for water systems as that of electric and telephone utilities. A utility grossing less than \$50,000 annually has a limited subscriber base. The cost of regulation by APUC would dramatically increase per customer costs. In CVOA's case we would no longer be able to manage the water system ourselves. We would have to contract with a management firm having utility tariff and rate making experience. This, coupled with APUC's fees for regulation, could easily double the cost of operation.

The current APUC policy of "regulation by complaint" is even more expensive. When a complaint is filed the utility has little choice but to respond. Failure to do so would be construed as an admission of the facts as presented by the complainant and a judgement entered against the utility. The legal counsel costs associated with this process are high. This homeowner association is two years old. Time to accumulate reserves has been limited and legal costs associated with the APUC complaint have eroded most of those.

The issues in dispute between CVOA and a developer have little relevance to the merits of this proposed legislation.

HB185 will provide uniform standards of regulation for all small water systems, prevent unnecessary costs associated with regulation, and leave current Articles of Incorporation, Covenants and By-Laws intact while still providing the protection of AS 42.05.712(h) to subscribers.

We believe it is in the best public interest to support passage of HB185.

ADDITIONAL COMMENTS

The following are comments by CVOA members subsequent to the Wednesday, 21 April hearing.

APUC staff has indicated that current caseloads can exceed two (2) years. Regulation of homeowner associations and other small water utilities would only increase that caseload and delays in the decision process. In addition to increasing legal counsel costs, delays of this magnitude will unfavorably affect property values and cause delays in sale/loan closures. Costs to developers, builders and consumers will go up.

To illustrate. To date, this association has spent between 15 and 20 thousand dollars defending itself against a developer's complaint. Using that as a basis we estimate that the developer has now spent as much or more on legal counsel than he would have spent had he accepted our proposal for adding his proposed lots to the water system.

Within the APUC complaint process there is no mechanism for financial aid to parties if they are unable to pay the costs for adequate defense. If there is inability to contest or support expert defense of a complaint, dispute resolution due to no-contest or non-representation may occur. The APUC Staff Advocacy role does not represent those consumers residing within association against which a complaint has been filed.

Developers can and do have options to access water systems through communications and negotiations with owners of existing systems. They also have the additional choices of drilling individual wells or developing other community systems to support their development projects. Issues related to protection of developer profit margins in these decisions, or unresolved disputes amongst parties can and should be resolved in the courts.

Although the state constitution and statutes may provide for the sharing of utility assets there has been no planning of water utilities to accomplish this. Neither the state nor the Mat-Su borough has any standards or codes relating to the development of water systems. ADEC provides only suggested practices for small water systems. It is the design engineer who decides what is appropriate. As a result developers have been allowed to design water systems using a "least-cost" method and with little regard to adjacent properties and future development. These water systems are typically designed with 4-inch water mains, which allow for domestic use only. No consideration is given to yard irrigation or even fire protection. Ability to expand these systems beyond the original approved development without incurring significant costs or degrading system performance is very limited. Until such time as the useful life of these distribution systems is exhausted, it is cost prohibitive to both developers and consumers to replace them with larger mains so that these small systems can be joined together. Until then there are systems existing in close proximity to one another and more are being planned. Coincidentally, another community water system is being planned for an 83-acre tract adjacent to Crimmonview. It is currently in the borough platting process.

(As a matter of Record) This homeowners association is comprised of 46 owners and one well lot. It has been forced into a complaint with APUC by a developer who asserts right to the community well and distribution system. The association has 3 legal opinions, which state that the water system is owned by and operated for the existing association. Automatic membership to this association for the developer or any future buyers of his property is in dispute. It is not the intent of this homeowners association to try the existing complaint in this forum. Per the APUC Staff Advocacy Group, there are many issues that warrant further investigation in this case.

Should questions or concerns arise over this case as it has been addressed by the developers attorney or lobbyist CVOA would be happy to furnish any information or material requested. Additional information can be obtained through Nelson Elliott, CVOA Director at (907) 746-0775.)

**DONALD L. MELLISH
2200 CLIFF COURT
ANCHORAGE, ALASKA 99517**

April 24, 1999

Chairman Bill Hudson
Utility Restructuring Committee
State Capitol, Room 108
Juneau, Alaska 99801-1182

Re: House Bill 185

Dear Chairman Hudson:

I am writing to express my opposition to House Bill 185. This legislation would eliminate the APUC's authority to resolve a complaint against the Crimsonview Home Owners Assn which has been pending since last fall and which has been fully briefed and is awaiting the APUC's decision.

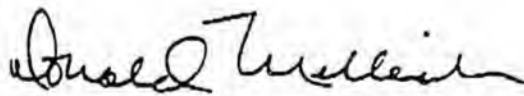
My son and I have been trying to develop the property located in the Crimsonview Subdivision and have been thwarted at every turn by the Crimsonview Owners Association. My son purchased this property located within, platted within as part of the Crimsonview Subdivision. However, the Crimsonview Owners Assn has refused to provide our property with water and has been using its control of the Crimsonview Subdivision's water distribution system to prevent our development of the remaining lots in the subdivision. They have ignored the Mat-Su Boro approval of the plat, they have ignored the approval of the Alaska Department of Environmental & Conservation's approval of the plan for upgrades to the system which I agreed to pay for and finally they ignored the opinion of their own engineer which they employed to review the plan submitted to ADEC. I negotiated in good faith with the Assn for some months and then it became apparent, after agreeing to further demands that the objective really was to stop development of Phase II of the subdivision.

As a result, we filed a complaint against the Crimsonview Owners Association with the APUC and requested a ruling as to whether or not the Crimsonview Owners Assn operating a Public Water System can refuse service. This decision to deny service is to pass up an increase in their income of 47% at no capital cost to the Assn ! This complaint has been pending since early last fall, we have already expended significant time and dollars before the APUC, and now we are only awaiting for the APUC to issue a decision. In view of this investment of public and private resources, it would not be fair for the Alaska Legislature to completely eliminate the APUC's authority to resolve this pending complaint. Moreover, based on our experience with the Crimsonview Owners Assn, I believe

that the APUC should retain its authority to resolve similar disputes in the future. We have complied with all of the laws and regulations of the State of Alaska and the Mat-Su Boro. The Crimsonview Owners Assn. have the opinion that they are not bound by any laws or regulation. Without the regulation of the APUC then someone in our predicament would have to file a lawsuit in the courts. It would appear to me that to have a regulatory body who is already established to deal with utility matters would be the proper place for settling such disputes.

Thank you for the opportunity to provide you with my comments. Please contact me if you have any question or need any additional information

Sincerely,



Donald Mellish

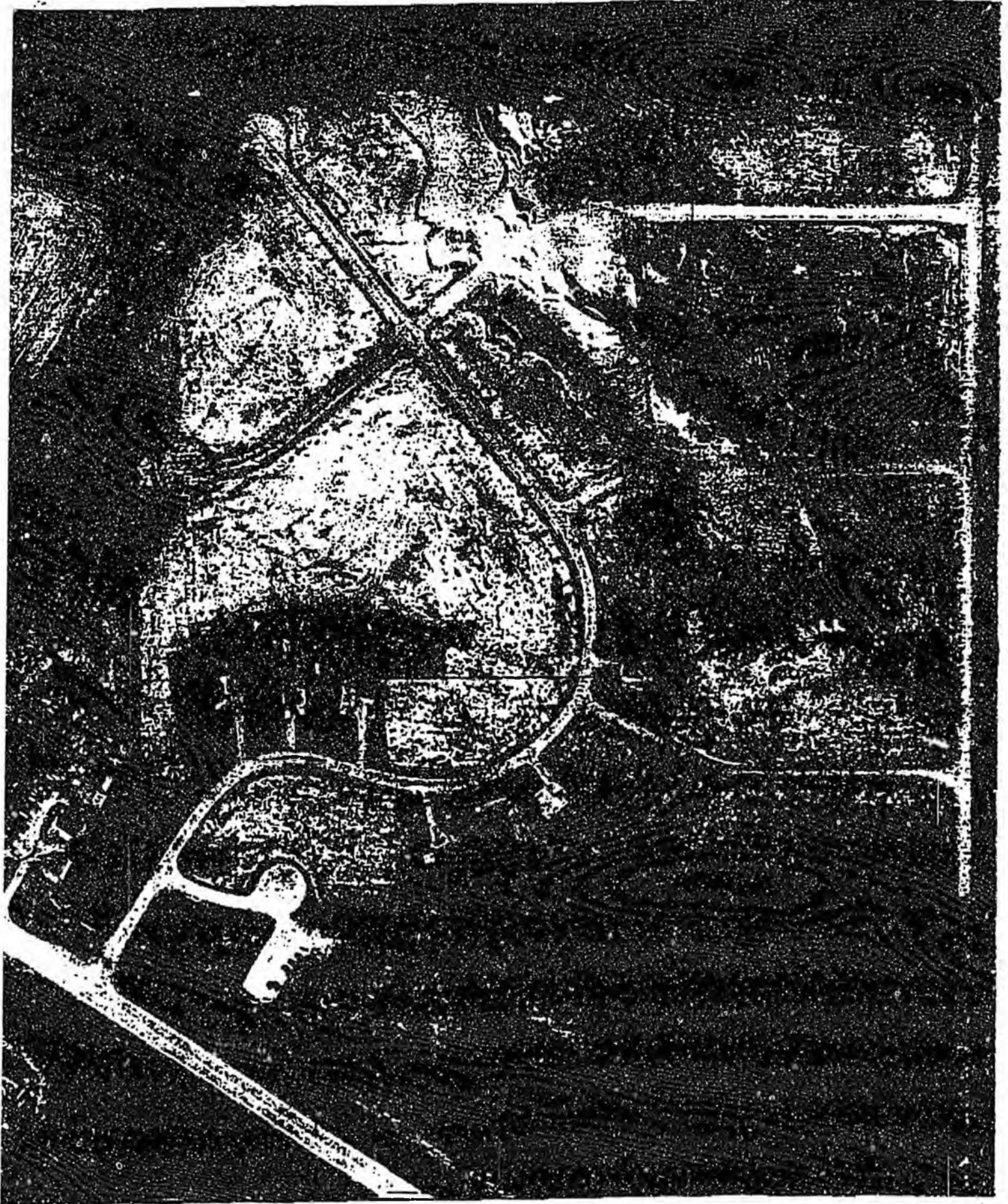
Attached:

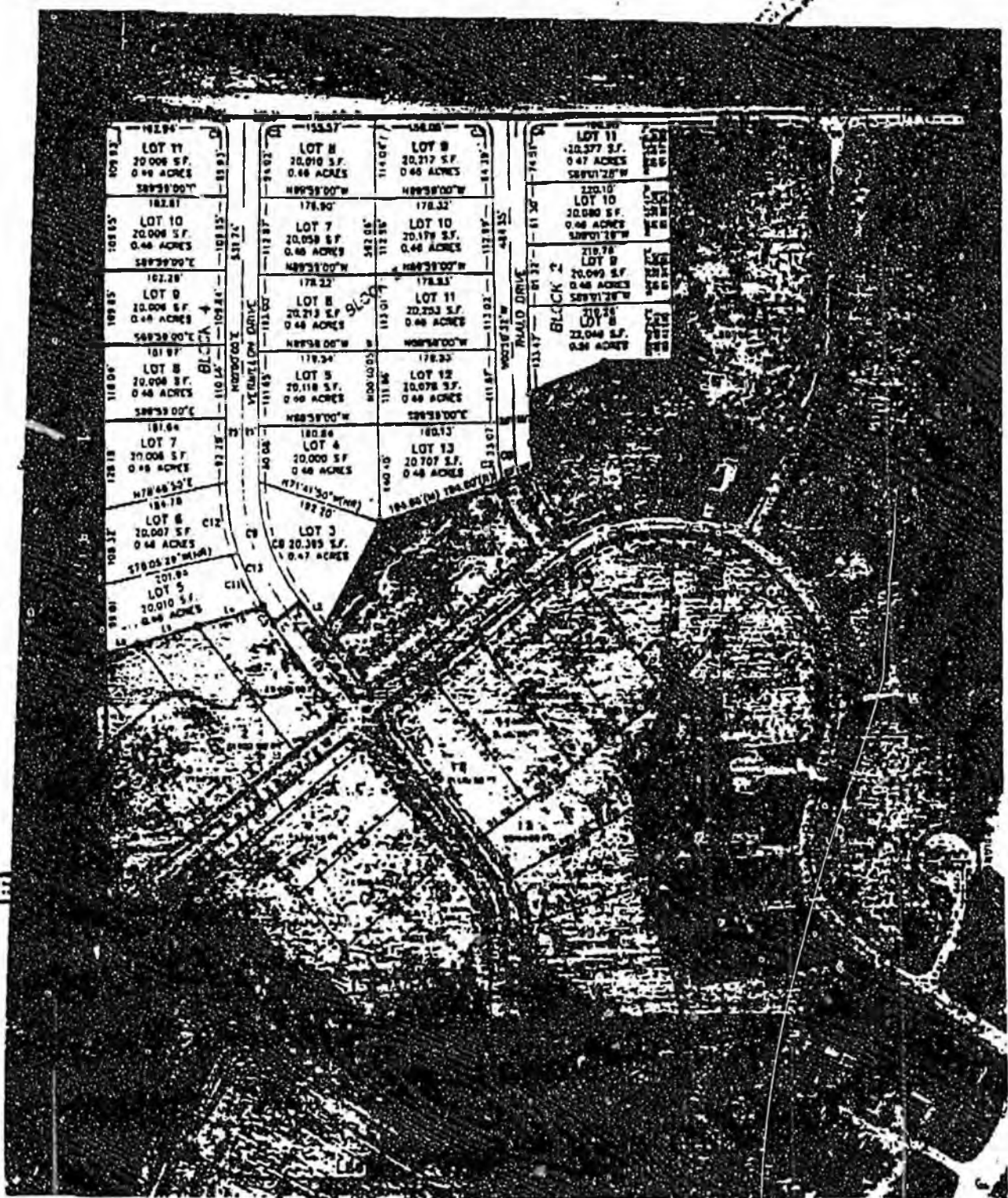
Anal photo of the subdivision when purchased by Robert Mellish

Overlaid with a transparency of Phase I lots

Overlaid bordered in yellow Phase II

THE
FOLLOWING
DOCUMENT(S)
ARE
POOR
ORIGINAL
COPIES





① SHALL BE SUBJECT OF THIS SURVEY
 ② 5/8" = 1' SCALE OF THIS SURVEY.
 COMMUNITY WILL POST

NOTES

- 1) THERE MAY BE FEDERAL, STATE AND LOCAL REGULATORY AGENCIES WHOSE JURISDICTION MAY BE INVOLVED IN THE DEVELOPMENT OF THE PROPOSED PROJECT. THE USER OF THIS SURVEY IS ADVISED THAT THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES.
- 2) THIS IS A PRELIMINARY SURVEY AND THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES.
- 3) THIS SURVEY IS INTENDED FOR DEVELOPMENT WITH A 10% GRADE AND THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES.
- 4) ALL LOTS HAVE 10% GRADE AND THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES.

CERTIFICATE OF APPROVAL BY THE ALASKA DEPT. OF ENVIRONMENTAL CONSERVATION

THIS SURVEY HAS BEEN REVIEWED BY AGENCY STAFF UNDER THE PROVISIONS OF THE ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION ACT AND IS APPROVED FOR THE PURPOSES OF THE ACT.

Shawn K. Suter
Lee Paul D'Amico
 SIGNATURE TITLE DATE 12/25/87

CERTIFICATE OF PAYMENT OF TAXES

I CERTIFY THAT ALL CURRENT TAXES AND SPECIAL ASSESSMENTS THROUGH 12/31/87 AGAINST THE PROPERTY INCLUDED IN THIS SURVEY HAVE BEEN PAID.

John K. Suter
 SIGNATURE TITLE DATE

BIRCH, HORTON, BITTNER and CHEROT
1127 West 7th Avenue
Anchorage, Alaska 99501-3563
(907) 263-7599, Fax (907) 276-2822

TELECOPY TRANSMITTAL COVER SHEET

TO: Representative Bill Hudson
FROM: Rebecca C. Paull
DATE/TIME: April 20, 1999
OUR FILE NO.: 505,640.1
SEND TO FAX NUMBER: (907) 465-2273
NUMBER OF PAGES (INCLUDING THIS COVER SHEET): 9
COMMENTS: See attached 4/20/99 letter regarding HB 185.
IF YOU DO NOT RECEIVE ALL PAGES, PLEASE CALL (907) 263-7229 AS SOON AS POSSIBLE.

Arle Dehut
Secretary

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LAW OFFICES

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April 20, 1999

Representative Bill Hudson
 Chairman, Utility Restructuring Committee
 State Capital, Room 108
 Juneau, AK 99801-1182

VIA FACSIMILE
(907) 465-2273

Re: House Bill 185, An Act Exempting Certain Small Water Utilities From Regulation by the Alaska Public Utilities Commission

Dear Chairman Hudson:

Our firm represents Robert Mellish in his Complaint against The Crimsonview Owners Association ("Association") before the Alaska Public Utilities Commission ("APUC"). The purpose of this letter is to present Mr. Mellish's position regarding HB 185, "An Act Exempting Certain Small Water Utilities From Regulation by the Alaska Public Utilities Commission," sponsored by Representative Ogan.

Over the past two years Mr. Mellish has attempted to work with the Association regarding his development of Phase II of the Crimsonview Subdivision. The Association has been both unreasonable and unfair in its demands of Mr. Mellish. The Association is located in the Matanuska-Susitna Borough. If HB 185 passes, Mr. Mellish's frustrating and time-consuming experiences will become routine for other developers. As discussed below, we believe HB 185 is both anti-consumer and anti-development.

The Crimsonview Subdivision was designed and platted to be developed in two phases. The community well and the integrated looped water distribution system were originally designed and installed to serve both Phase I and Phase II. Phase I was successfully developed in the mid-'80s. Robert Mellish owns and desires to develop Phase II. However, the Association is preventing him from developing Phase II. As owner of the community well, the Association must sign an "Owner's Statement" form authorizing the Alaska Department of Environmental Conservation to review Mr. Mellish's plans to provide drinking water to Phase II through the existing looped water distribution system. Once the plans are approved, all that is necessary to actually provide water service to Phase II is the installation of a 2 horse power booster pump and "the turning of a valve." The Association has used its control of the system to prevent further development in its neighborhood and to unjustly extract payments and facilities from Mr. Mellish.

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Representative Bill Hudson
April 20, 1999
Page 2

The Association's unreasonable actions forced Mr. Mellish to file a complaint with the APUC. Mr. Mellish is entitled to service from the Association because he is a member of the Association and because the Association is a public utility.¹ Mr. Mellish is awaiting an APUC decision on whether the Association is a public utility with an obligation to serve Mr. Mellish under the same terms and conditions as it provides service to the other members in the subdivision.

HB 185 amends AS 42.05.711(e) to read:

(e) not withstanding any other provisions of this chapter, any electric, water, or telephone utility that does not gross \$50,000 annually is exempt from regulation under this chapter unless the subscriber petition the commission fro regulation under AS 42.05.712(h).

When I contacted Representative Ogan's office and inquired into the impetus for the legislation, I was informed that Representative Ogan saw no difference between a small electric or telephone utility and a small water utility. On the surface they appear to be the same. However, water is essential to a person's survival while electricity and telephone service are not.

It is our position that HB 185 is unnecessary, reactive legislation. Historically, the APUC has not sought out small water utilities such as homeowners associations for regulation. The APUC only becomes involved in the "regulation" of these water utilities when asked to do so by a consumer or a lending institution.² Wisely, the APUC retains jurisdiction to resolve disputes in these situations but grants the association a public interest exemption under AS 42.05.711(d)³ from certification and

¹ AS 42.05.990 defines public utility as:

every corporation, public, cooperative or otherwise, company, individual, or association of individuals, their lessees, trustees, or receivers appointed by a court, that owns, operates, manages, or controls any plant, pipeline, or system for furnishing water to the public (10 or more persons) for compensation.

Under established Commission precedent, the Association is a public utility.

² See, e.g., *Re Country Lane Estate Subdivision Property Owners Association, Inc.*, 11 APUC 238 (1991) (case enclosed).

³ AS 42.05.711(d) provides "the commission may exempt a utility, class of utilities, or a utility service from all or a portion of this chapter if the commission finds that the exemption is in the public interest."

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Representative Bill Hudson
April 20, 1999
Page 3

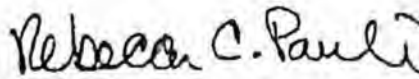
rate regulation. By providing for the public interest exemption, prior legislatures and the APUC wisely recognize that consumers must have an easily accessible and friendly forum for disputes. Perhaps the most important function of the APUC is to provide a forum where an aggrieved or potential consumer may be heard. If HB 185 became law, the only recourse for an aggrieved or potential consumer would be the court system. The APUC is a much friendlier and accessible forum than the legal system.

The impact of HB 185 on potential developments such as Mr. Mellish's must be considered. Here, we have a case where all engineers (including the Association's) agree there is an adequate water supply and an adequate water distribution system ready to provide water service with the turn of a valve. However, a few individuals who control the Association do not want further development in their neighborhood and are effectively blocking responsible development by refusing to provide water via the existing facilities. If HB 185 passes, it is possible that Mr. Mellish will have to dedicate several lots to a well to draw from the same aquifer as the existing well and install his own distribution system, thereby increasing the cost of the development. This is contrary to the public interest and this is why the APUC regularly amends water utilities service areas to accommodate new developments when it makes economical and engineering sense to do so. House Bill 185 appears to be a piece of reactionary legislation, which is both anti-consumer and anti-development. Accordingly, it should not pass.

Thank you for your prompt attention to this matter. If you have any questions or would like to discuss this matter in further detail, please do not hesitate to contact me.

Very Truly Yours,

BIRCH, HORTON, BITTNER and CHEROT


Rebecca Cohen Pauli

RCP:and
Enclosures: *Re Country Lane Estate Subdivision*
cc: Robert Mellish (w/o encls.)
Don Mellish (w/o encls.)

*Melish
Crimsonview*

ALASKA PUBLIC UTILITIES COMMISSION — 11 APUC

approved as modified herein.

2. No later than August 15, 1991, Alascom, Inc., shall submit revised tariff sheets incorporating the tariff modifications approved herein.

DATED AND EFFECTIVE at Anchorage, Alaska, this 26th day of July, 1991.

FOOTNOTES

¹The Commission understands that no charge for BCF will be applied to those customers already receiving the service. The Commission is in agreement that no charge should be applied in those cases.

**Re Country Lane Estates
Subdivision Property Owners'
Association, Inc.**

U-90-65
Order No. 1

Alaska Public Utilities Commission
July 30, 1991

ORDER declaring a small residential subdivision's sewer operations to be a public utility, but exempting the utility from regulation by the commission.

1. PUBLIC UTILITIES, § 112 — Regulatory status — Sewer service — Provided by a homeowners' association — Factors.

[ALASKA] Where a homeowners' association was providing sewer service to more than 10 customers, and owned, operated, and managed associated sewer plant, the association was found to fall within the definition of a public utility subject to commission regulation. p. 239.

2. CERTIFICATES, § 26 — When required — Sewer service — Public utility status as a factor.

[ALASKA] Any entity providing sewer

service that has been declared a public utility is subject to the commission's certification requirements. p. 239.

3. PUBLIC UTILITIES, § 51 — Regulatory status — Sewer service — Provided by a homeowners' association — Exemptions — Factors.

[ALASKA] Although a homeowners' association providing sewer service had been declared a public utility, it was exempted from regulation by the commission where (1) its operations were small and limited to the 44 lots in the subdivision; (2) by virtue of association membership, homeowners had significant control over operations; and (3) the costs of regulation would be disproportionate to the utility's size and revenues. p. 240.

4. PUBLIC UTILITIES, § 51 — Regulatory status — Sewer service — Provided by a homeowners' association — Exemptions — Conditions.

[ALASKA] The exemption from commission regulation granted a homeowners' association providing sewer service was conditioned on the association never serving more than 44 customers; also, the exemption could be rescinded should a petition requesting such and signed by at least 25% of the association's customers be filed with the commission. p. 240.

Before Commissioners:

Don Schroer, Chairman
Susan M. Knowles
Daniel Panck O'Tierney
Mark A. Foster
Donald F. May

BY THE COMMISSION:

**ORDER DECLARING
ASSOCIATION A UTILITY AND
GRANTING EXEMPTION FROM
REGULATION**

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ALASKA PUBLIC UTILITIES COMMISSION — 11 APUC

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he commission's certification

Introduction

Security Pacific Bank, Alaska (the Bank), on July 2, 1990, requested the Commission's declaration concerning the regulatory status of Country Lane Estates Subdivision Property Owners' Association, Inc. (the Association). The Bank's Request for Declaration, as confirmed by the Commission Staff's (Staff) subsequent inquiry and the May 8, 1991, letter from the Association, which is attached hereto as an Appendix, indicates that the Bank is currently the beneficial owner of at least one lot in Country Lane Estates and a member of the Association. Prior to filing its Request for Declaration on July 2, 1990, the Bank was beneficial owner of the majority of lots in Country Lane Estates and in effect controlled the Association.

ciation may constitute a public utility through its provision of sewer service. The Request for Declaration asks that the Commission determine that the Association is not a public utility or, alternatively, that the Commission exempt the Association from regulation pursuant to AS 42.05.711(d). The Association did not oppose the Bank's Request for Declaration; however, neither did the Association desire to join in that petition or participate in proceedings before the Commission. (Association Letter, May 8, 1991.)¹

Discussion

Pursuant to AS 42.05.990(4) a "public utility" or "utility" is specifically defined to include "every corporation whether public, cooperative, or otherwise. . . that owns, operates, manages, or controls any plant, pipeline, or system for . . . furnishing water, steam, or sewer service to the public for compensation . . ." The term "public" is further defined under AS 42.05.990(3)(A) to mean "any group of 10 or more customers that purchase the service or commodity furnished by a public utility . . ."

[1, 2] It is apparent to the Commission, under the facts presented by this case, that the Association is a public utility. The Association is a corporation that owns, operates, manages, and controls a system for furnishing sewer service to 10 or more customers for compensation. As a public utility, the Association is subject to the Commission's full regulatory authority set forth in AS 42.05.141.² In the absence of an exemption, a public utility which provides sewer service is subject to the Commission's certification requirements (AS 42.05.221 — 281) and to the Commission's economic regulation. Presently, the Association has not obtained or otherwise qualified for any such regulatory exemption.

Upon determining that the Association is a public utility subject to the Commission's full regulatory authority, the Commission has proceeded to evaluate the Bank's alternative request that the Association be granted an exemption from regulation.³ Pursuant to AS 42.05.711(d), "[t]he Commission may exempt a

The Association is a non-profit corporation whose members are comprised of the beneficial owners of 44 lots in Country Lane Estates. Each member of the Association is entitled to one vote for each lot held as beneficial owner. As set forth by its Articles of Incorporation and Bylaws, the purpose of the Association is, among other things, "to own and provide for maintenance and operation of a sewer drain field." The Association provides a common sewage drain system and leach field for the use of all of its members. There are 42 residences receiving sewage disposal services at this time. If sewer service is extended to Country Lane Estates by the Municipality of Anchorage d/b/a Anchorage Water and Wastewater Utility (AWWU), the Association may abandon the leach field and connect its system to the AWWU sewer system. The Association's board of directors determines the monthly charge and that portion of the charge collected for the sewer system is to be disbursed only in payment for expenses of the sewer system. Currently, the entire monthly charge is \$35, including all costs relating to the Association's operation.

The Bank's Request for Declaration further states that Alaska Housing Finance Corporation has refused to provide financing for lots within Country Lane Estates because the Asso-

UTILITIES, § 51 — Regulatory sta-
service — Provided by a home-
ciation — Exemptions — Factors.

A) Although a homeowners' providing sewer service had been public utility, it was exempted from the commission where (1) its lots are small and limited to the 44 lots in Country Lane Estates; (2) by virtue of association membership, the homeowners had significant connections; and (3) the costs of regulation are disproportionate to the utility's services.

UTILITIES, § 51 — Regulatory sta-
service — Provided by a home-
ciation — Exemptions — Condi-

(A) The exemption from commis- sion granted a homeowners' associa- tion never serving more than 44 lots. Also, the exemption could be granted only if the Association could not file a petition requesting such and could not obtain at least 25% of the association's cus- tomer support with the commission.

Commissioners:

- Director, Chairman
I. Knowles
Patrick O'Tierney
Foster
F. May

COMMISSION:

ORDER DECLARING
CIATION A UTILITY AND
TING EXEMPTION FROM
REGULATION

ALASKA PUBLIC UTILITIES COMMISSION — 11 APUC

utility, a class of utilities, or a utility service from all or part of this chapter if the Commission finds that the exemption is in the public interest."

[3] The Commission has considered the facts and circumstances of the sewer public utility service being provided by the Association and has determined that it would be in the public interest to grant the Association a complete exemption from regulation, subject to certain conditions. In this case the Commission is persuaded that the customers are provided significant protections by virtue of their right to control management and operation of utility services through Association membership. As set forth in the Association's Articles of Incorporation and Bylaws, each customer/member has the right to vote for election of the Association's board of directors and officers, who are selected from among the customers/members. Further, given the relatively small size of this utility, limited to 44 customers, even a small number of customers/members may have a significant voice in the utility's operations. The Commission also notes that the ownership of the properties which qualify individuals for customer/member status are now sufficiently dispersed that no one owner controls the Association.

In addition to the ownership and governance of the Association supporting an exemption, the cost of regulation for this utility would be significant in relation to its size, operating budget, and the benefits to be achieved from regulation. Here, the utility's sewer service is limited to 44 customers/members, and the total monthly charge, including other Association expenses as well, is only \$35. The cost burden on the Association just for the certification process could well exceed several months of its gross revenues.

At the same time, the benefits to be conferred upon the customers by extensive regulation are speculative, at best. In the case of small homeowner associations such as this Association, where membership runs appurtenant to the customer/member's ownership in a parcel of land, there is but one source for payment of expenses, whether they be utility-related or not.

In such cases it appears to the Commission that its exercise of rate regulation for utility services would likely result in little more than a change in allocation of total charges between "utility" and "other" categories, with little or no overall real savings accruing to the customers/members. The Commission also notes that the Association has been essentially self-regulated since its inception and appears to be providing satisfactory sewer service at a reasonable cost to its customers/members.

The only concern raised by the exemption of the Association is the current status of the septic plant facilities. As the Association noted in its letter of May 8, 1991, there have been a number of problems with the sewer system primarily associated with a failure to construct or repair the system according to plans and specifications. Correspondence indicates, however, that the Bank has agreed to assume, at least in part, financial responsibility for making the repairs necessary to bring the facilities into conformance with operational and regulatory standards. The problems described by the Association would generally lead the Commission to decide against an exemption, at least until it could be demonstrated that they had been resolved. In this case, however, there is documentary evidence that the Association has been aware of the situation and has been, and is, working diligently and competently to bring the matter to resolution. Further, it is the Commission's understanding that the required corrections will be completed by the end of the 1991 construction season. For these reasons the Commission is not persuaded that its intervention would assure a better, more timely, or less costly result. Therefore, under the unique circumstances of this case the plant problem does not present a necessary or sufficient basis for denying the exemption request.

Conclusion

[4] Based on the foregoing, the Commission has determined that the Association is a sewer public utility under AS 42.05 but that it is in the public interest to exempt the Association from regulation pursuant to AS 42.05.711(d), subject, however, to two conditions. First, and

— 11 APUC

appears to the Commission that regulation for utility services is little more than a change in the distribution of costs, with little or no overall benefit accruing to the public. The Commission also notes that the Association has been essentially inactive since its inception and appears to be unable to provide factory sewer service at a reasonable cost to its customers/members.

The Commission also notes that the Association is the current status of the system. As the Association noted in its letter of July 8, 1991, there have been a number of problems with the sewer system primarily with a failure to construct or maintain the system according to plans and specifications. The Commission's response indicates, however, that the Association has been unable to bring the facilities into full operational and regulatory compliance. The Commission's decision to grant the exemption, at least until the system is brought into compliance, is based on the fact that the Association has been unable to bring the system into compliance. Further, it is the Commission's understanding that the required improvements will be completed by the end of the season. For these reasons the Commission is persuaded that its intervention is a better, more timely, or less costly alternative, under the unique circumstances of this case, to the plant problem does not constitute a sufficient basis for granting the exemption request.

Conclusion

In the foregoing, the Commission has concluded that the Association is not a public utility under AS 42.05 but that it is eligible for exemption pursuant to AS 42.05.711(d), subject to two conditions. First, and

implicit in the Commission's rationale for granting the exemption, the utility is limited to providing sewer service to the 44 lots which are entitled to membership in the Association. Second, this public interest determination will be reevaluated if the Commission receives a petition for regulation signed by at least 25 percent of the customers/members of the Association. This condition utilizes a mechanism recognized by the Legislature in other exemptions to provide the customers/members of the Association with access to Commission oversight if self-regulation becomes ineffective.

ORDER

THE COMMISSION FURTHER ORDERS:

1. Country Lane Estates Subdivision Property Owners' Association, Inc., is a public utility which furnishes sewer service pursuant to AS 42.05 and is subject to the regulatory authority of the Commission.

2. Country Lane Estates Subdivision Property Owners' Association, Inc., is granted an exemption from AS 42.05 by the Commission pursuant to AS 42.05.711(d), subject to two conditions:

a. Country Lane Estates Subdivision Property Owners' Association, Inc., is limited to providing sewer service to the 44 lots which are entitled to membership in the Association.

b. The exemption shall be reevaluated if a petition for regulation under AS 42.05 is submitted by at least 25 percent of the customers/members of the Country Lane Estates Subdivision Property Owners' Association, Inc.

DATED AND EFFECTIVE at Anchorage, Alaska, this 30th day of July, 1991.

FOOTNOTES

¹At the Association's meeting on December 5, 1990, the members passed a motion agreeing "that our sewer system is a private system but that we, the Homeowners, were not the originators of suggesting that we are a Private System."

²Legal authorities advanced by the Bank in support of a finding that the Association is not a public

utility are found by the Commission to be not persuasive. In fact, the case primarily relied upon by the Bank, *Re Utility Status of Certain Water Supply Associations*, 91 PUR3d 126 (Iowa State Com. Comm'n, October 7, 1971) held that rural cooperative-type water systems constitute public utilities. In that case the Iowa Commission noted that the subject associations were formed by the rural residents who comprised the association's membership. 91 PUR3d at 127. Customers were required to be association members in order to receive water service. *Id.* The association rules also provided that following completion of the system, requests for service from potential customers may be denied by the association's board of directors. *Id.* The Iowa Commission reinforced this limited access concept somewhat in stating that those rural cooperative-type water associations would not necessarily be required to accept all future requests for new service, even though they were public utilities subject to commission jurisdiction. 91 PUR3d at 132.

Other courts likewise have supported a finding of public utility status in this case. In *State v. Mackie*, 338 S.E.2d 888 (N.C. App. 1986), the court reviewed the North Carolina Utilities Commission's order that a small water and sewer system constituted a "public utility" even where the utility had not offered to extend services to residences other than those already connected to the system. 338 S.E.2d at 893. The Mackie court noted that "although a service may be offered to only a definable class . . . it still may be considered an offering of service to the 'public' within the meaning of the regulatory statutes." 338 S.E.2d at 893-94. Like the present case, the utility in Mackie "willingly provided service to new customers who moved into homes already connected to facilities." 338 S.E.2d at 894.

The Florida Supreme Court in *Fletcher Properties, Inc. v. Florida Public Service Commission*, 356 So.2d 289 (Fla. 1978), held an entity to be a public utility where it provided water and sewer service through a master meter system from another public utility, owned the lines and lift stations from the master meter to end-user, and merely recouped the cost of water and sewer service from various end-users. 356 So.2d at 290-1.

Moreover, the Uniform Common Interest Ownership Act (UCIOA) (AS 34.08) contains no explicit reference to the provision of "utility" service for the benefit of common owners. It thus appears that the Alaska Legislature did not intend by this more recent enactment to displace the Commission's regulatory authority over sewer systems such as presented by this case. Further, as reported to Staff by the Connecticut Assistant Attorney General, the Connecticut

ALASKA PUBLIC UTILITIES COMMISSION — 11 APUC

Public Utility Control Department (CPUC) found itself in the same quandary regarding this matter. In response to an apparent belief that owner associations under Connecticut's UCIOA were subject to the CPUC's authority, the Connecticut legislature in 1987 amended the CPUC definition of "water company" to state that "[a] water company does not include homeowners, condominium associations providing water only to their members and homeowners associations providing water to customers at least eighty percent of whom are members of such associations." Conn. Gen. Stat. § 16-1(a)(10).

As a preliminary matter, while the Bank has standing to request a declaration as to the Association's status as a public utility, the Commission notes that the Bank may not have standing per se to request that the Association be exempt from regulation. However, in the instant case, the latter request has effectively been endorsed by the Association in its vote to be designated as a "private" rather than "public" utility and its explicit decision not to assume responsibility to be the moving party for acquiring such a designation. Under these circumstances to require the Association to file essentially duplicative legal pleadings would not be constructive. Additionally, and alternatively, the Commission has the option to grant exemptions on its own motion.

The Bank no longer owns the majority of the lots and, thus, does not have a dominant position in the Association relative to other lot owners.

Re Providing and Charging for Statewide Directory Assistance

R-89-2
Order No. 9

Re Alascom, Inc.
U-91-30
Order No. 2

Re Interior Telephone Company
U-91-65
Order No. 1

Re GTE Alaska Inc.
U-91-66
Order No. 1

Re Telephone Utilities of Alaska, Inc.
U-91-67
Order No. 1

Re Telephone Utilities of the Northland, Inc.
U-91-68
Order No. 1

Alaska Public Utilities Commission
August 1, 1991

ORDER setting an interim per-message rate of 40 cents for local directory assistance (DA) calls, to be assessed only after a subscriber has surpassed a free call allowance of four local DA calls per month. Also, the charge is held not to be applicable to disabled or pay telephone customers.

1. RATES, § 553 — Telephone rate design — Information service — Directory assistance — Local information — Cost components — Billing and collection.

[ALASKA] Per-message charges for local telephone directory assistance calls should not include any component for billing and collection services, since such costs are already recovered through basic local rates.
p. 244.

2. RATES, § 553 — Telephone rate design — Information service — Directory assistance — Local information — Monthly allowances — Exemptions.

[ALASKA] Per-message charges for local telephone directory assistance (DA) calls should be assessed only after a subscriber has surpassed a free call allowance of four local DA calls per month, while disabled and pay telephone users should be exempted from the charges entirely.
p. 244.

3. RATES, § 553 — Telephone rate design — Information service — Directory assistance

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FISCAL NOTE

STATE OF ALASKA
1999 LEGISLATIVE SESSION

BILL NO. HB 185

Revision Date/Time (Note if correction) _____ Dept. Affected Commerce
 Title Small Water Utilities Exempt from APUC BRU
 Component Alaska Public Utilities Commission
 Sponsor Rep. Ogan
 Requester Spec. Committee on Utility Restructuring Component Serial No. 364

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

OPERATING EXPENDITURES	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
Personal Services						
Travel						
Contractual						
Supplies						
Equipment						
Land & Structures						
Grants & Claims						
Miscellaneous						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0

CAPITAL EXPENDITURES						
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CHANGE IN REVENUES ()	0.0	0.0	0.0	0.0	0.0	0.0
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FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1037 GF/Mental Health						
Other (Specify Type)						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY99) cost: 0.0

POSITIONS

Full-time						
Part-time						
Temporary						

ANALYSIS: (Attach a separate page if necessary)
 New funds are not required to implement this bill.

Prepared by Robert A. Lohr Phone 276-6222
 Division APUC Date/Time 4/21/99 12:54 PM
 Approved by Commissioner *[Signature]* Date 4/21/99
 Agency _____

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*HB 185 Recd
4:15 PM 4/27*

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April 27, 1999

Representative Bill Hudson
Chairman
Utility Restructuring Committee
State Capitol, Room 108
Juneau, Alaska 99811-1182

Re: House Bill 185

Dear Chairman Hudson:

Enclosed please find a written copy of my testimony during last week's hearing on H.B. 185.

Thank you for the opportunity to provide you with my comments. Please don't hesitate to contact me if you have any questions or need any additional information.

Sincerely,



Rebecca C. Pauli

Enclosure

- cc: Chairman Sam Cotten (w/o enc)
- Commissioner Tim Cook, Manager of Docket U-98-151 (w/o enc)
- Bob Lohr, Executive Director (w/o enc)
- Bob Mahoney, Counsel for Crimsonview
Owners Association (w/o enc)

Testimony of Rebecca Pauli

House Bill 185

My name is Rebecca Cohen Pauli and I am an attorney with the Law firm of Birch, Horton, Bittner and Cherot. I am testifying here today on behalf of Robert Mellish. Our firm represents Robert Mellish in his Complaint against The Crimsonview Owners Association ("Association") before the Alaska Public Utilities Commission ("APUC"). We would like to thank the Committee for providing this opportunity to testify against H.B. 185, "An Act Exempting Certain Small Water Utilities From Regulation by the Alaska Public Utilities Commission".

We believe H.B. 185 was introduced in an attempt to eliminate the APUC's authority to resolve Mr. Mellish's complaint against the Association. Mr. Mellish's property is located in the Crimsonview Subdivision and the complaint is Mr. Mellish's final effort to obtain water service from the community well that serves the Crimsonview Subdivision. This is not a case of a developer seeking to obtain water service from a neighboring subdivision but rather is a case of a developer seeking to obtain water service for property located within a subdivision from a community well which was designed to service the entire subdivision and has served the entire subdivision up until now.

Over the past two years, Mr. Mellish has attempted to work with the Association regarding his development of Phase II of the Crimsonview Subdivision. The Association has been both unreasonable and unfair in its demands of Mr. Mellish. If H.B. 185 passes, Mr. Mellish's frustrating and time-consuming experiences will become routine for other developers. As discussed below, we believe H.B. 185 is both anti-consumer and anti-development.

My testimony will cover three areas. First, I will provide a brief background which will provide you with an overview of Mr. Mellish's experiences. This overview will provide insight into what the future will hold for developers and the individual homeowner seeking water should small water utilities be completely exempt from the APUC's jurisdiction. Second, I will address why we believe H.B. 185 is unnecessary reactive legislation that will have an unintended negative impact. And third, I will propose a solution.

I. Mr. Mellish's Attempts to Develop Phase II of the Crimsonview Subdivision

Following is a summary of the undisputed facts as admitted by the Association in their Answer to Robert Mellish's Complaint. The Crimsonview Subdivision was designed and platted to be developed in two phases. Phase I consists of 47 lots and Phase II consists of 22 lots. The community well and the integrated looped water distribution system were originally designed and installed to serve both Phase I and Phase II. This intent is expressed in the notes to the official plat of the subdivision.

Note 2 provides:

Lot 11 of Block 1, Phase I of this plat is the sight of the community well system, and will be exclusively used as such until the time of connection of this subdivision's designed water system to a possible future city water system at which time the community well will be abandoned.

- The community well and water distribution were installed in 1985. It is noteworthy that the water distribution system to serve both Phases I and Phase II was installed at the same time is an interconnected looped distribution system.
- In February 1997, the title to the lot in Phase I on which the well house is located was conveyed to the Association. Since that time the Association has operated the water system, asserted ownership, and charged Phase I owners an initial hook up fee and a monthly water assessment.
- When Mr. Mellish was ready to develop Phase II, he wanted to do it right. He hired the engineering firm that originally designed the water system to determine whether the existing system's distribution facilities were adequately sized to serve the lots in Phase II. The firm concluded they were, however, the additional homes in Phase II required a two horsepower pump to ensure adequate pressure. It is undisputed that the existing distribution system is adequately sized to serve all 68 lots. It is also undisputed that the aquifer is more than adequate to supply the entire subdivision.
- A second well makes no sense because it would be relatively close to the first well, would draw from the same aquifer, and would require changes to the existing distribution system to ensure against backflow from the second well.
- In an abundance of caution, Mr. Mellish hired a second engineering firm to review the original engineering firm's conclusion that the existing system's design was still suitable to serve both Phase I and II. The second firm, Alaska Rim, confirmed the existing system was appropriate. Upon two engineers' assurances, Mr. Mellish informed the Association of his plans to develop the 22 lots in Phase II and that this would necessitate the operation of the water distribution system located in Phase II.
- Throughout 1997, Mr. Mellish performed extensive work to bring Phase II into compliance with the Matanuska-Susitna Borough subdivision requirement, including upgrades to the water system.
- Mr. Mellish hired Alaska Rim to design the necessary upgrades to the water system and address any Association concerns regarding lawn watering. Prior to Mr. Mellish's plans for development, the Phase I homeowners have experienced poor water pressure when they would

be watering their lawns during the dry summer months Alaska Rim prepared a proposal to satisfy ADEC requirements and to address the Association's concerns about lawn watering.

- As I previously indicated Alaska Rim found the existing well has a flow yield capability far in excess of the total instantaneous peak demand and total daily demand of all 68 lots, the existing storage capacity is more than adequate to serve all 68 lots and the exiting pump equipment exceeds the minimum capacity requirements for Phase I and is a mere 7 g.p.m. shy of meeting the instantaneous combined peak demand of Phases I and II.
- To address these concerns and to obtain water from his Association, Mr. Mellish offered to purchase and install a 2 horsepower booster pump as recommended by his engineers.. Mr. Mellish also offered to purchase and install a multi function automatic dialer which would monitor the system's operation and immediately report any deviations from the normal. Finally he was willing to establish and fund an escrow account to cover the capital cost of a 10 horsepower pump which would provide more than adequate peak capacity to replace the existing pump if it fails in the future or to increase system capacity.
- On January 28, 1998, the ADEC agreed with Mr. Mellish's plans stating that the well yield and proposed addition of a 2 horsepower pump were adequate to meet the demand requirements of all 68 lots and that scheduled irrigation could be employed to address any concerns regarding lawn watering, the existing storage tanks were adequate to meet the storage requirements of all 68 lots and that a standby power supply is not necessary.
- The ADEC, having made these findings, required a completed "Owner's Statement" from the Association. The Association refused to sign the Owner's Statement and rejected Mr. Mellish's earlier proposal to bear all the costs of the upgrades eventhough all the lots would benefit.
- The Association counter offered demanding that, in addition to the upgrades and the payment of the higher developed lot rate for Mr. Mellish's undeveloped lots, he must also:
 1. At his own expense, design, supply, install, and warranty a 30,000 gallon water storage facility with attendant plumbing, booster pumps and installation, heating, and water treatment systems;
 2. At his own expense, design supply, install, and warranty a standby power generation system.
 3. Submit all engineering plans for the storage facility and power system for approval by the Association and pay the fees for the Association to hire an engineer to inspect and approve the plans.
 4. Pay the Association an initial assessment fee of 125 per Phase II lots (2750) in order for Mr. Mellish to accept financial responsibility for the expenses the association incurred in operating the Phase I portion of the water system during the previous year.

5. The association and additional administrative fee of 2,000
6. Maintain the system's water mains that are located in Phase II until 50% of the Phase II lots have occupied dwellings; and
7. Obtain a certificate to operate from the ADEC.

- In response to these ransom demands of the Association, Mr. Mellish reluctantly agreed to pay the \$4,750 and to maintain the water mains until 50% of the phase II lots had houses on them. Mr. Mellish had buyers for 50% of the lots. Because of the Associations refusal to provide Phase II of the subdivision with water the purchasers canceled.
- The Association rejected Mr. Mellish's second offer.
- On April 20, 1998, Mr. Mellish yet again attempted a compromise and made a third offer agreeing to pay the Phase II lots proportionate share of the cost of installing the Association's requested 30,000 gallon storage facility even though such a facility is unnecessary and would involved increased operation and maintenance costs for the entire system. The Association refused to alter its demands and ultimately added to their list of demands paved roads.
- Mr. Mellish had no recourse other than to seek a legal solution. Because the Association, by its own admission controls a water system for providing water to 10 or more persons for compensation, it is a public utility with an obligation to serve all persons within its service area under equal terms and conditions. Because it is undisputed that the water system was designed and constructed for both Phase I and Phase II to provide drinking water to all 68 lots from a single community well and water distribution system, it is only natural that the public interest would support a finding that the service area be the Crimsonview subdivision (both Phase I and II). This is the least cost means of service. Water service to Phase II is as simple as a turn of a valve. Accordingly, in mid September 1998 Mr. Mellish filed a complaint with the APUC seeking service under equal terms and conditions.
- The APUC provides a forum that is in many intances quicker that the court system and generally less expensive. In this Case, the APUC scheduled a hearing for April 5, 1999. Because it is undisputed that the Association owns the water system, provides service to 46 households, and receives payments from those households, Mr. Mellish requested the Commission rule that under the statutes the Association is public utility. Mr. Mellish was ready to proceed to hearing. The Association requested the Commission to delay the hearing until after it rules on Mr. Mellish's request.
- Were it not for the Associations request for further delay, this matter would have proceeded to hearing and a final order would be forthcoming with in the next few weeks. Because of the Association's actions, Mr. Mellish will forgo yet another construction season.

II. H.B. 185 is Both Anti-Consumer and Anti-Developer

- While HB 185 may be backed by good intentions, upon closer examination it becomes apparent as a public policy matter you do not want water service disputes in the court system.
- For these types of matters, the APUC is much more expedient, inexpensive and user friendly than the Court system. The APUC also has the expertise on staff, engineers etc. to determine whether an existing system is adequate or inadequate.
- Historically, the APUC has not sought out small water utilities such as homeowners associations for regulation. The APUC only becomes involved in the "regulation" of these water utilities when asked to do so by a consumer or a lending institution.
- By statute, AS 42.05.990, a homeowner's association that owns, operates, manages or controls a utility system servicing ten or more customer/members for compensation is a "public utility" subject to regulation under AS 42.05. The Commission will grant exemptions to homeowners under AS 42.05.711(d) because it has found that under certain circumstances, full regulation is not in the public interest.
- By providing for the public interest exemption, prior legislatures and the APUC wisely recognize that consumers must have an easily accessible and friendly forum for disputes. Perhaps the most important function of the APUC is to provide a forum where an aggrieved or potential consumer may be heard. If HB 185 became law, the only recourse for an aggrieved or potential consumer would be the court system. The APUC is a much friendlier and accessible forum than the legal system. Unlike the court system, the APUC has as one of its purposes to assist the consumer in obtaining service from a utility. By preventing the consumer from having access to the APUC, HB 185 is anti-consumer.
- HB 185 is anti-development. The impact of HB 185 on potential developments such as Mr. Mellish's must be considered. If it becomes law, you have the ultimate NIMBY ("not in my back yard") weapon. Here, we have a case where all engineers (including the Association's) agree there is an adequate water supply and an adequate water distribution system ready to provide water service with the turn of a valve.
- However, a few individuals who control the Association do not want further development in their neighborhood and are effectively blocking responsible development by refusing to provide water via the existing facilities. If HB 185 passes, it is possible that Mr. Mellish will have to dedicate several lots to a well to draw from the same aquifer as the existing well and modify the existing distribution system, thereby increasing the cost of the development. This is not a case of a developer asking a neighboring subdivision for water, this is a case of homes within the existing subdivision being deprived of water.

III. Mr. Mellish's Proposed Solution

- H.B. 185 appears to be intended to eliminate the APUC's authority to require homeowners associations to obtain certificates of public convenience and necessity, to impose rate regulation on homeowners associations and to require homeowners associations to pay the Regulatory Cost Charge. However, the APUC does not require homeowners associations to obtain certificates of public convenience, does not subject homeowners associations to rate regulation and does not require homeowners associations to pay the Regulatory Cost Charge. Rather, the APUC merely provides an accessible, user friendly and affordable forum for resolving disputes between homeowners associations and consumers.
- As a result, the Committee should adopt either one of two alternatives. First, the Committee should not pass this legislation to exempt certain small water utilities from regulation. As explained above, the APUC does not require homeowners associations to comply with most provisions in AS 42.05. Rather, the APUC only retains jurisdiction to resolve disputes such as the one between Mr. Mellish and the Association.
- Second, in the alternative, the Committee should add language providing that H.B. 185 will not become effective until January 1, 2000 to clarify that the APUC will have the authority and opportunity to resolve any pending complaints or other matters relating to small water utilities including the complaint filed by the Mellishes. This complaint has been pending since early last fall, the Mellishes have already expended a significant amount of time and resources before the APUC, and they are now only waiting for the APUC to issue a decision. In view of this investment of public and private resources, it would not be fair for the Alaska Legislature to completely and immediately eliminate the APUC's authority to resolve this and other pending complaints.
- Unlike telephone and electric where the homeowner has other means of obtaining service, water utilities maintain the ultimate natural monopoly. In small water utility situations, competition cannot protect the consumer. Therefore, as a public policy matter small water utility systems should not be deregulated leaving the consumer with no protection.

IV. Conclusion

If HB 185 passes, consumers will be left with little recourse except to resort to the judicial system. A lawsuit is more expensive and takes longer than filing a complaint at the APUC. The Court staff is not statutorily required to protect the public interest. The APUC has the authority to resolve disputes relating to the provision of water service and is less expensive. Moreover, based upon Mr. Mellish's experiences with the Crimsonview Owners Association, without APUC intervention, homeowners associations will be able to frustrate further development in their areas by refusing to provide water service to certain property owners.

Thank you for the opportunity to provide these comments.

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April 26, 1999

Representative Bill Hudson
Chairman
Utility Restructuring Committee
State Capitol, Room 108
Juneau, Alaska 99811-1182

Re: House Bill 185

Dear Chairman Hudson:

This is to follow up on my testimony during the recent hearing on H.B. 185, to respond to requests for information from you and members of the Utility Restructuring Committee and to provide you with a written copy of my testimony.

As requested by members of your Committee, enclosed please find the engineering reports and the Alaska Department of Environmental Conservation's (ADEC) review of the system upgrades. The ADEC's comments and conditions were imposed *after* the ADEC met with the Crimsonview Owners Association and were imposed upon Mr. Mellish to resolve the Association's concerns. However, the Association still refuses to provide water service to Mr. Mellish. If HB 185 passes, Mr. Mellish's frustrating and time-consuming experiences will become routine for other developers and consumers.

During the hearing on the Electric Consumer Bill of Rights immediately prior to the hearing on H.B. 185, a member of your Committee commented that competition would protect consumers if the provision of electrical service is deregulated. However, there is no competition to protect consumers if the provision of water service is deregulated. This is why it is so important for the APUC to retain jurisdiction to resolve service disputes. The APUC is less expensive and consumer friendly.

Representative Bill Hudson

April 26, 1999

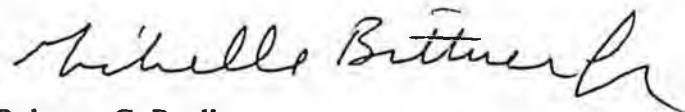
Page 2

Mr. Mellish proposes either one of two alternatives. First, the Alaska Legislature should not pass this H.B. 185 to exempt certain small water utilities from regulation. As I explained during my testimony, the APUC does not require homeowners associations to obtain certificates of public convenience and necessity and does not subject homeowners associations to rate regulation. Rather, the APUC only retains jurisdiction to resolve disputes, such as the one between Mr. Mellish and the Association.

Second, and in the alternative, Mr. Mellish proposes that the new section added by H.B. 185 not become effective until January 1, 2000 to clarify that the APUC will have the authority and opportunity to resolve any pending complaints or other matters relating to small water utilities including the complaint filed by the Mellishes. This complaint has been pending since early last fall, the Mellishes have already expended a significant amount of time and resources before the APUC, and they are now only waiting for the APUC to issue a decision. In view of this investment of public and private resources, it would not be fair for the Alaska Legislature to completely and immediately eliminate the APUC's authority to resolve this and other pending complaints. Moreover, this would be more consistent with Art. I, Section 15 of the Alaska Constitution which prohibits the passage of ex post facto laws.

Thank you for considering my comments and please do not hesitate to contact me if you have any questions or need any additional information.

Sincerely,



Rebecca C. Pauli

Enclosures

cc: Chairman Sam Cotten (w/o enc)
Commissioner Tim Cook, Manager of Docket U-98-151 (w/o enc)
Bob Lohr, Executive Director (w/o enc)
Bob Mahoney, Counsel for Crimsonview
Owners Association (w/o enc)

NOTES

1. THIS MAP IS PREPARED IN ACCORDANCE WITH THE PROVISIONS OF THE SUBDIVISION ACT AND THE ZONING ORDINANCE OF THE CITY OF CHICAGO.

2. THE MAP SHOWS THE LOTS AND BLOCKS OF THE TRACT AS THEY EXIST AT THE TIME THIS MAP WAS PREPARED.

3. THE LOTS AND BLOCKS ARE IDENTIFIED BY NUMBERS AND LETTERS.

4. THE TRACT IS BOUND BY THE CHICAGO RIVER TO THE WEST AND SOUTH, AND BY THE CHICAGO RIVER AND THE CHICAGO RIVER TO THE EAST.

5. THE TRACT IS BOUND BY THE CHICAGO RIVER TO THE WEST AND SOUTH, AND BY THE CHICAGO RIVER AND THE CHICAGO RIVER TO THE EAST.

6. THE TRACT IS BOUND BY THE CHICAGO RIVER TO THE WEST AND SOUTH, AND BY THE CHICAGO RIVER AND THE CHICAGO RIVER TO THE EAST.

7. THE TRACT IS BOUND BY THE CHICAGO RIVER TO THE WEST AND SOUTH, AND BY THE CHICAGO RIVER AND THE CHICAGO RIVER TO THE EAST.

8. THE TRACT IS BOUND BY THE CHICAGO RIVER TO THE WEST AND SOUTH, AND BY THE CHICAGO RIVER AND THE CHICAGO RIVER TO THE EAST.

9. THE TRACT IS BOUND BY THE CHICAGO RIVER TO THE WEST AND SOUTH, AND BY THE CHICAGO RIVER AND THE CHICAGO RIVER TO THE EAST.

10. THE TRACT IS BOUND BY THE CHICAGO RIVER TO THE WEST AND SOUTH, AND BY THE CHICAGO RIVER AND THE CHICAGO RIVER TO THE EAST.

CERTIFICATE OF APPROVAL BY THE BOARD OF SUPERVISORS

THIS SUBDIVISION HAS BEEN REVIEWED IN ACCORDANCE WITH THE PROVISIONS OF THE SUBDIVISION ACT AND THE ZONING ORDINANCE OF THE CITY OF CHICAGO.

IT IS THE POLICY OF THE BOARD OF SUPERVISORS TO APPROVE THIS SUBDIVISION SUBJECT TO THE FOLLOWING CONDITIONS:

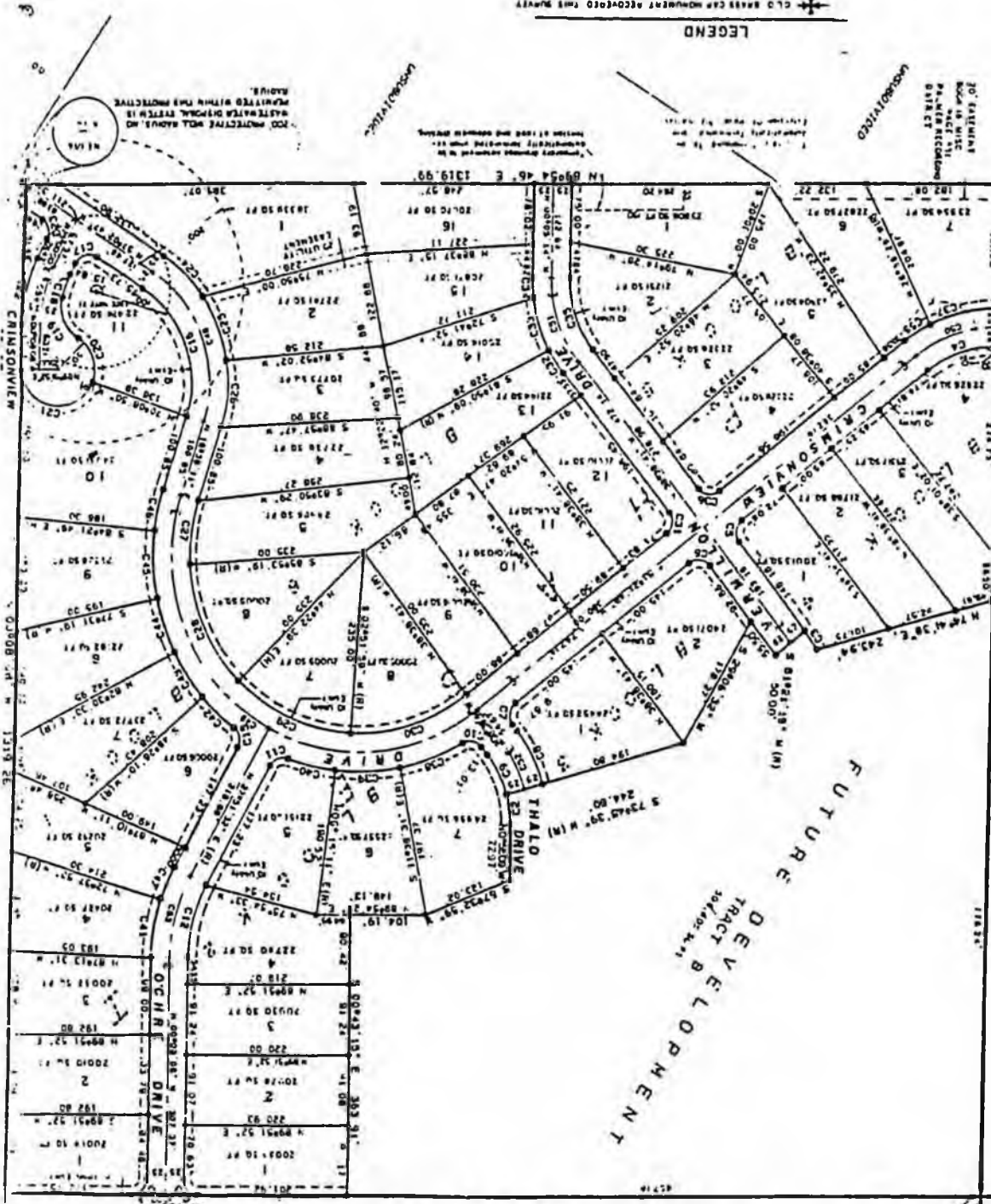
CERTIFICATE OF PART OF TAXES

I CERTIFY THAT ALL CURRENT TAXES AND SPECIAL ASSESSMENTS INCLUDED IN THE MAP HAVE BEEN PAID.

IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND AND SEAL OF OFFICE THIS 18th DAY OF FEBRUARY, 1985.

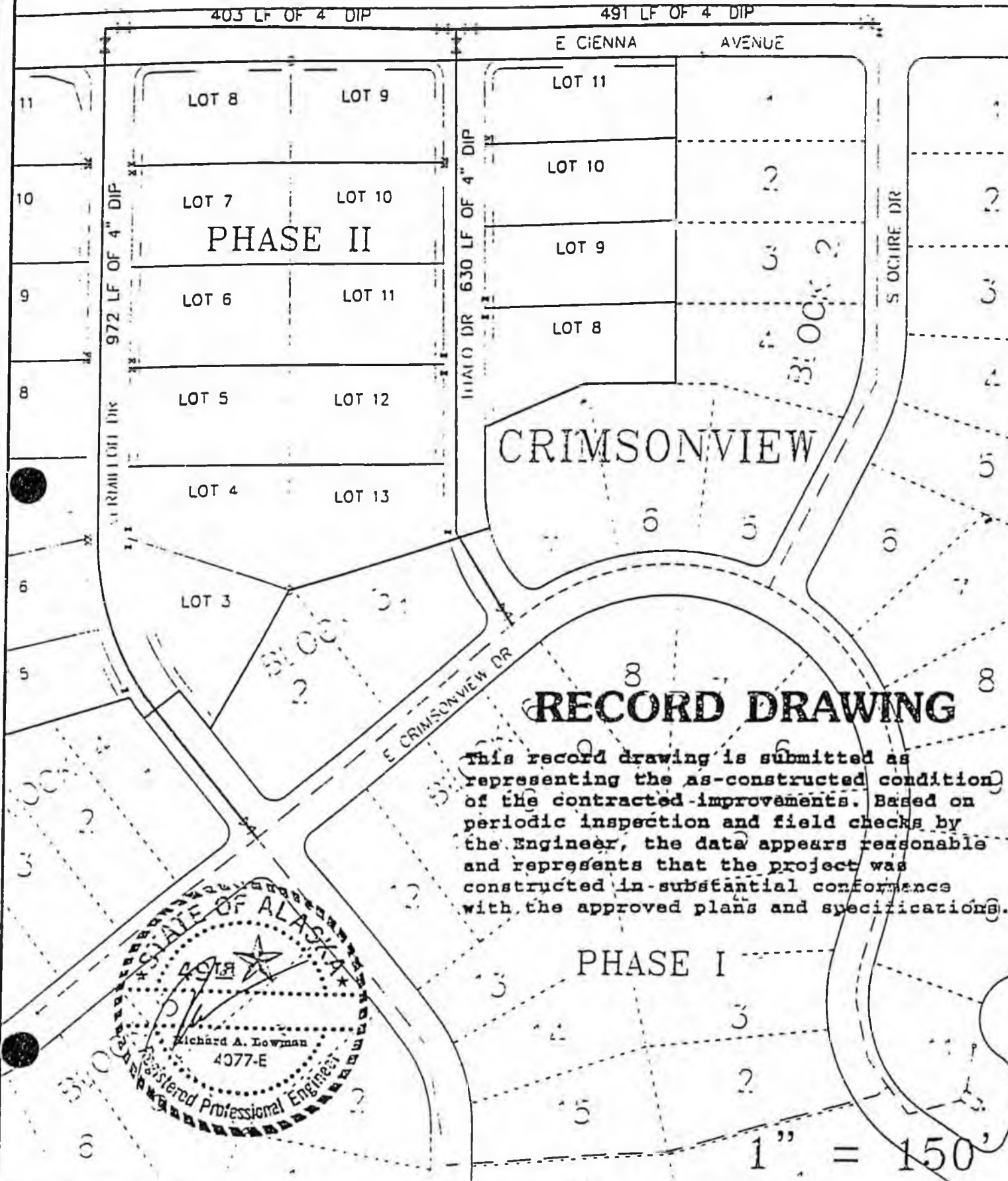
- LEGEND**
- CLC CROSS CAP MARKER RECEIVED THIS SURVEY
 - SPAS CAP MARKER RECEIVED THIS SURVEY
 - 20' x 30' x 30' x 30' THIS SURVEY
 - COMMITTEE WILL POINT

Appendix 4
Page 1



PLAT RECORD
BASIS OF BEARING
N 69° 59' 00" W 1321.82'

NW 1/4 NE 1/4 Sec. 18, T14N, R2E, S. 7M



CRIMSONVIEW

RECORD DRAWING

This record drawing is submitted as representing the as-constructed condition of the contracted improvements. Based on periodic inspection and field checks by the Engineer, the data appears reasonable and represents that the project was constructed in-substantial conformance with the approved plans and specifications.

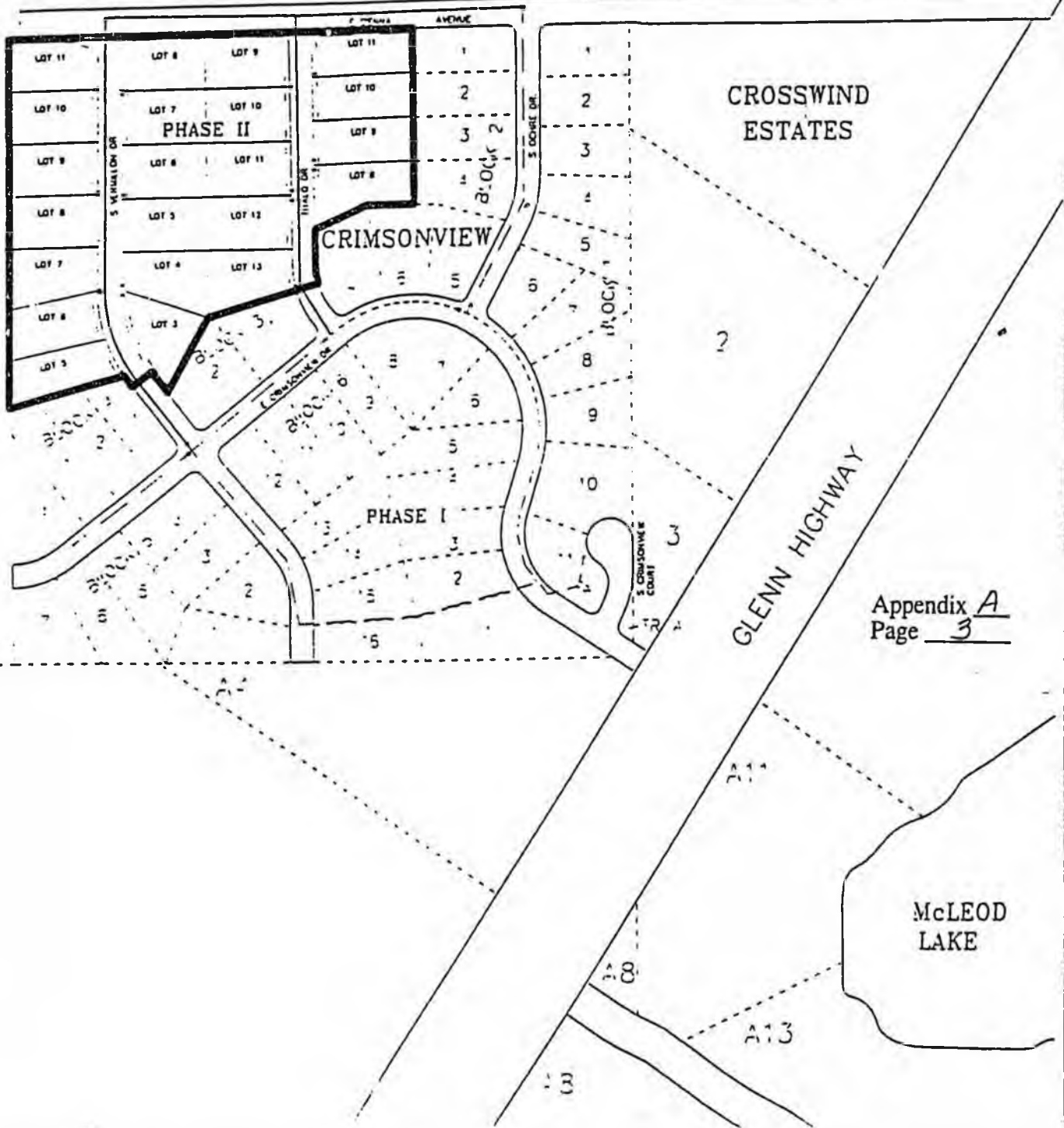
PHASE I



1" = 150'

TOWN & COUNTRY

TR A



Appendix A
Page 3



Gilfilian Engineering & Environmental Services

Bob Gilfilian, P.E. P.O. Box 871868, Wasilla, Alaska 99687 (907) 376-3005

ENGINEER REPORT
FOR
CRIMSONVIEW SUBDIVISION
WATER SUPPLY SYSTEM

PREPARED FOR
MSSRS. HUGH ADAMS & PAUL HARTIG
SRA BOX 6168
PALMER, ALASKA 99645
907-745-5937



PROJECT NUMBER 184261

September 10, 1984

Appendix B
Page 1

Crimsonview Subdivision
Water Supply System
Project Number 184261
Page 2, September 10, 1984

PURPOSE

The purpose of this report is to request plan approval from the Alaska Department of Environmental Conservation (ADEC) for a proposed community water supply system described herein. The proposed water system will serve drinking water for domestic purposes to the individual lots located in Crimsonview Subdivision.

This report was prepared in accordance with the requirements given under 18 AAC 80.100 concerning Plan Review. Attached and a part of this report are the following:

1. ATTACHMENT A - "Project Location Map"
2. ATTACHMENT B - "Driller's Well Log dated 7/30/84"
3. ATTACHMENT C - "Well Test Pump Report dated 8/22/84"
4. ATTACHMENT D - "Plan and Profile Sheets" (8 parts)
5. ATTACHMENT E - "Water Quality Test Results" (2 parts)

PROJECT DESCRIPTION

Mssrs. Hugh Adams and Paul Hartig propose to provide water supply to 68 lots in Crimsonview Subdivision. All lots will be served by a single community well and water supply distribution system. The entire water distribution will system consist of four (4) inch diameter ductile iron pipe (DIP), Class 52.

The community water supply and distribution system will be maintained and operated by a lot owners association. It is important to note the water system will be used for domestic purposes only and is not intended to provide fire protection.

It is proposed to develop the lots with individual on-site sewage disposal systems. Lot owners will be responsible for the proper design, installation and maintenance of their individual on-site septic tank/soil absorption system.

As shown on ATTACHMENT A "Project Location Map," the project site is located near Mile 40 Glenn Highway, approximately 2 miles south of the City of Palmer. The project site is located within the NW1/4 NE1/4, Section 18, Township 17 North, Range 2 East, S.M., Alaska.

DESCRIPTION OF WATER SUPPLY SYSTEM

- I. **SUPPLY SOURCE:** The source of water supply will consist of a six (6) inch diameter, steel cased, deep well equipped with a submersible pump, sanitary well cover, and pitless adapter unit. A minimum ten (10) foot section of stainless steel screen was installed on the intake end of the well casing.

It should be noted for plan review purposes, the water supply well is classified as a Class A Public Water Supply source with minimum 200 foot restrictive/protective radius as in accordance with Table A of 18 AAC 80. The well location as shown on ATTACHMENT D, "Plan and Profile Sheets" will provide the minimum separation distances given in Table A.

On July 24 1984 ADEC approval to construct the well. On July 30, 1984, the well was drilled by Wheaton Water Wells, Inc., as described on ATTACHMENT B, "Driller's Well Log."

The well was pump tested on August 12, 1984, by Anchorage Well/Pump Service. As shown on ATTACHMENT C, the yield of the well was measured at 305 gallons per minutes (gpm) with a pumping level of approximately 50.5 feet below the ground surface. Total maximum well yield was calculated at 649 gpm.

- II. **WATER QUALITY:** Included under ATTACHMENT E are the lab results of testing for inorganic, bacteriological and physical contaminants required under 18 AAC 80.100 (c)(1) for a Class A Public Water System. The water sample was collected by Anchorage Well and Pump Service. As indicated the water supply meets all of the standards except for turbidity (which will be retested).
- III. **PROJECTED WATER FLOW DEMAND:**
- A. Average Daily Demand
1. Residential users - 68 lots @ 450 gpd/lot
= 30,600 gpd
- TOTAL DAILY FLOW = 30,600 gpd
- B. Instantaneous Peak Demand
1. Residential users - 68 individual units
- TOTAL CONNECTIONS = 68

Based on Figure 3-3 in "Small Water Systems Serving The Public", published by the Conference of State Sanitary Engineers, 1979, the instantaneous peak demand was determined to be 119 gallons per minute (gpm). Allowing for a safety factor of 1.15, it is recommended a peak demand of 133 gpm be used for design purposes.

IV. DESCRIPTION OF DISTRIBUTION SYSTEM: The subject development will be served by a multi-looped main line distribution system consisting of Class 52 ductile iron pipe as shown on ATTACHMENTS D, "Plan and Profile Sheets", (8 parts).

The length of the distribution line will be approximately 5956 feet. In order to provide the maximum water demand and allow for a reasonable line head loss, the water main was designed to have a minimum diameter of four (4) inches. The minimum depth of burial for the water main and services connections will be ten (10) feet.

The entire water distribution system will be installed with continuity straps for thermal protection.

The individual lot water service connection will consist of 0.75 inch diameter, Type K copper service pipe. Connection to the main line will be via Mueller Corporation stop or equivalent and will terminate at the property line with a curb stop.

V. SIZING OF STORAGE TANK: Storage requirements are based on the average daily demand and peak instantaneous demand for the development. For the purpose of this report, the calculated storage requirements are based on full development of the subdivision. As shown above, the peak demand is 133 gpm and the total daily demand is 30,600 gpd.

Review of the attached well log and well pump test shows a well supply yield of 305 gpm which is 177 gpm greater than the estimated peak demand. Since the water supply flow rate exceeds the peak instantaneous demand, pump cycle times becomes the critical design factor.

Pump cycles per hour are most frequent when the system demand averages or equals 50% of the pump capacity. Under this condition, the time in minutes for complete draw-down of tank withdrawal capacity, "off" time, is equal to the time needed to replenish the withdrawal capacity, the "on" time. "Off" time plus "on" time equals the time for one cycle. Cycle time divided into 60 minutes equals the number of cycles per hour.

Crimsonview Subdivision
Water Supply System
Project Number 184261
Page 5, September 10, 1984

According to pump manufacturer criteria, the recommended minimum pump starts per hour is 15. The sizing of the hydropneumatic storage tanks is dependent on the number of pump cycles to be maintained. Determination of the effective withdrawal volume is based on the following equation:

$$\text{Maximum Pump Cycle} = 1 \text{ hour} / (((2 \times ((V/(Q/2))))))$$

Where:

V = Effective withdrawal volume = 135 gallons

Q = Pump capacity = 135 gpm,

Thus -

$$\text{Maximum pump cycle} = 60 \text{ min} / (((2 \times ((135/(135 \text{ gpm}/2))))))$$

$$\text{Maximum pump cycle} = 15.0 \text{ cycles per hour}$$

The maximum pump cycle is equal to 15 cycles per hour indicating that the 135 gallons of effective storage is adequate for the system. A minimum effective withdrawal volume of 135 gallons must be provided by the high pressure hydropneumatic storage tank to satisfy the maximum pump cycle rate.

However, it is our understanding the ADEC Mat-Su District Office requires the minimum effective withdrawal volume to equate to two (2) times the pump capacity. In this regard, the hydropneumatic storage tanks will need to provide a withdrawal volume of 270 gallons.

The high pressure storage requirements would be provided by fourteen (14) prepressurized hydropneumatic storage tanks having a total withdrawal volume of 270 gallons. The high pressure tanks would be operated over a range of 40 to 60 psi. It is proposed to install 14 Well-X-Trol Model No. 252 (or equivalent type) in the proposed water storage building. These high pressure storage tanks would provide sufficient storage to limit the pump cycle rate to 7.5 per hour.

Crimsonview Subdivision
Water Supply System
Project Number 184261
Page 6, September 10, 1984

VI. SIZING OF PUMPING SYSTEM

A deep well submersible pump will be used to pump the well and supply the high pressure hydropneumatic storage tanks located in the well house as shown on the attached plans. The operation of the pump will be controlled by a pressure switch and motor starter located in the well house and operated over a pressure range of 40 to 60 psi.

The total dynamic head (TDH) experienced by the well pump is equal to the sum of the following individual heads:

Pressure head = 40 psi at 2.31 ft./psi = 92.4 ft
Elevation head = well pumping head 50.0 ft
Velocity head = negligible 0 ft
Friction head = 5956 LF of looped 4"dia. 24.6 ft
pipe and 70 LF of 2.5" dia. pump supply line.

TDH 167.0 FT

In order to meet the above head requirement on the water system, the theoretical horsepower for the well pump is computed as follows:

$$\text{Theoretical Horsepower} = (\text{flow} \times \text{TDH}) / 3960$$

$$\text{Theoretical Horsepower} = (133 \text{ gpm} \times 167.0 \text{ ft}) / 3960 = 5.6 \text{ HP}$$

Assuming an overall efficiency of 75% for a submersible well pump, the size of the actual horsepower is computed as follows:

$$\text{Actual Horsepower} = \text{Flow} \times \text{TDH} \times \text{Eff. factor}$$

$$\text{Actual Horsepower} = 133 \text{ gpm} \times 167.0 \text{ ft.} \times (0.000335)$$

$$\text{Actual Horsepower} = 7.4 \text{ Hp}$$

Based on the above computations, it is recommended the minimum size of well pump be 7.4 horsepower.

VII. CONSTRUCTION STANDARDS

All construction and quality control testing shall be done in accordance with the 1984 Municipality of Anchorage STANDARD CONSTRUCTION SPECIFICATIONS FOR WATER SYSTEMS, Division 60.00.

Crimsonview Subdivision
Water Supply System
Project Number 184261
Page 7, September 10, 1984

CLOSURE

The preparation of this report was based on our understanding of the intended use of the subject public water supply system. Deviation from this use could alter the recommendations and design given herein. We would appreciate the opportunity to review and evaluate any design changes.

If you have any questions or require additional information on the subject matter, please do not hesitate to call upon us.

Sincerely,

GILFILIAN ENGINEERING



Steve Rowland
Project Engineer

Attachments

SRR:br/184261:25

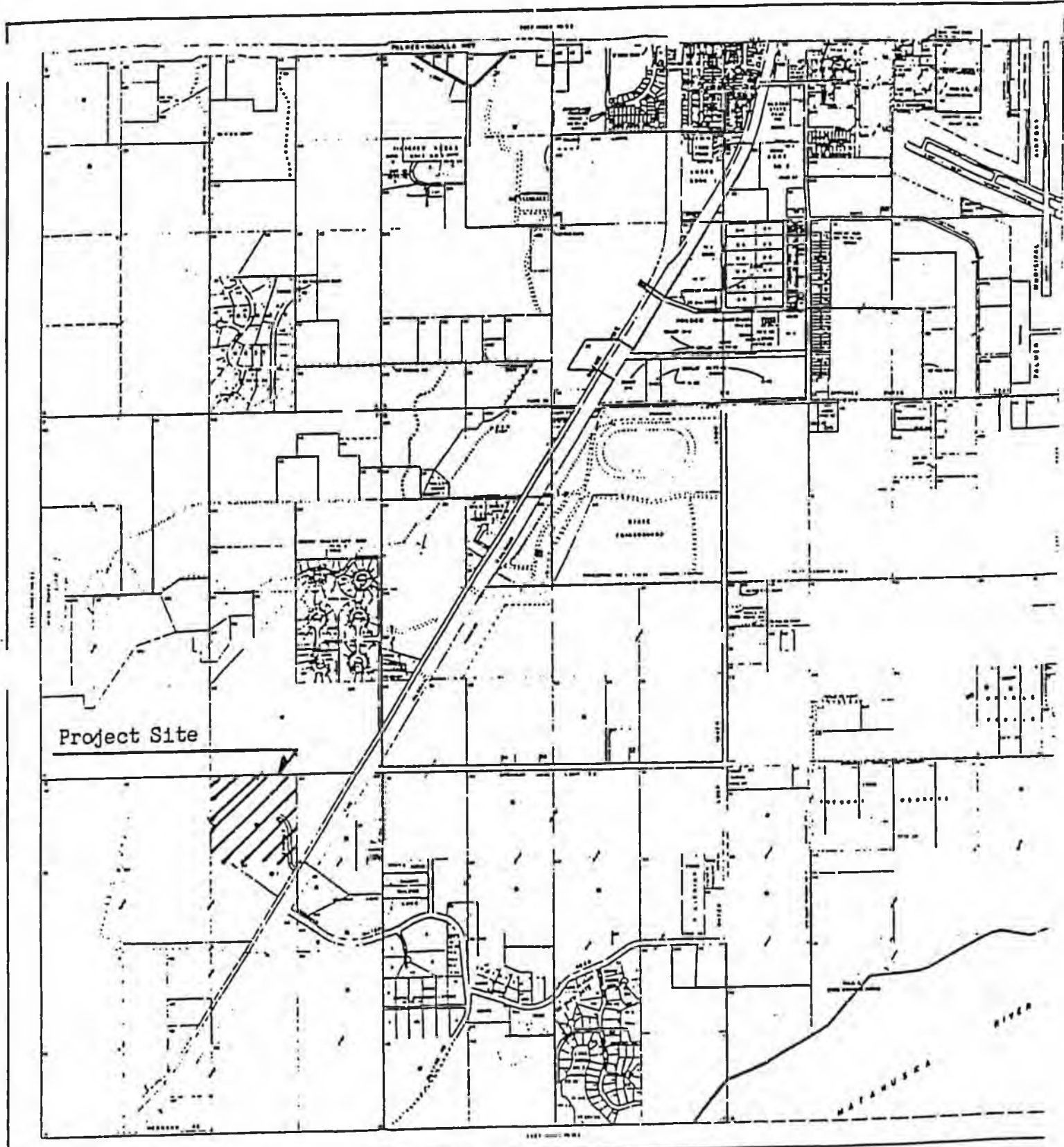


Bob Gilfilian, P.E.
Principal

ATTACHMENTS
FOR
CRIMSONVIEW SUBDIVISION
WATER SUPPLY SYSTEM

PROJECT NUMBER 184261

September 10, 1984



Project Site

- LEGEND**
- PROPOSED TO BE A NEW ALIGNMENT
 - EXISTING ALIGNMENT OF ROAD
 - EXISTING ALIGNMENT OF ROAD
 - EXISTING ALIGNMENT OF ROAD
 - EXISTING ALIGNMENT OF ROAD



MATAUSKA-SUSITMA BORDOEN
ROAD SYSTEM

PALMER
STATE OF ILLINOIS
MEASURED 0000000000

KEY INDEX MAP PA 12

ATTACHMENT B

"DRILLER'S WELL LOG"

CRIMSONVIEW SUBDIVISION

PROJECT NUMBER 184261

SEPTEMBER 10, 1984

WELL LOG

Wheaton Water Wells, Inc.

Box 871218 · Wasilla, Alaska 99687 · 376-2041

Appendix B
Page 11

OWNER Hugh Adams DEPTH OF WELL 100
 ADDRESS SRA BOX 6168, PALMER, AK. 99645 STATIC LEVEL 40
 WELL - SITE CRIMSON VIEW GALS. PER MIN. APPROX. 100
 LOT TRACT A SCREENED 20'-100 slot
 BLOCK _____ PERFORATED 60'-80'
 DATE 7-30-84 SIZE OF CASING 6.50

KIND OF FORMATION:

FROM <u>0</u> Ft. to <u>2</u> Ft. <u>Top soil</u>	FROM _____ Ft. to _____ Ft. _____
FROM <u>2</u> Ft. to <u>45</u> Ft. <u>sand/Gravel</u>	FROM _____ Ft. to _____ Ft. _____
FROM <u>45</u> Ft. to <u>60</u> Ft. <u>moist sand</u>	FROM _____ Ft. to _____ Ft. _____
FROM <u>60</u> Ft. to <u>100</u> Ft. <u>Gravel</u>	FROM _____ Ft. to _____ Ft. _____
FROM _____ Ft. to _____ Ft. _____	FROM _____ Ft. to _____ Ft. _____
FROM _____ Ft. to _____ Ft. _____	FROM _____ Ft. to _____ Ft. _____
FROM _____ Ft. to _____ Ft. _____	FROM _____ Ft. to _____ Ft. _____

DRILLER J. Poff

ATTACHMENT C

"WELL TEST PUMP REPORT"

CRIMSONVIEW SUBDIVISION

PROJECT NUMBER 184261

SEPTEMBER 10, 1984

Well / Pump Service

Anchorage

Hugh Adams + *Paul Harlig*
Wheaton Water Wells
Crimson View Subdivision
Palmer, Alaska 99645

August 22, 1984

Well / Pump Service

WATERWELL - TEST PUMP REPORT

Anchorage

OWNER Hugh Adams

ADDRESS _____

ENGINEER _____

WELL LOCATION Crimson View Subdivision

TOTAL DEPTH 101 DEPTH OF CASING 81 SCREEN FROM 81 TO 10

CASING SIZE 6" SCREEN DIA 6" SCREEN SLOT 20

REMARKS Perforated 60-80

PUMP INTAKE DEPTH 74 PUMP SIZE 20 hp AIRLINE DEPTH 68

STATIC WATER LEVEL 47 AVG DISCHARGE _____ GMP _____ MAX DRAW DOW _____

PUMP ON: 10:00 TIME 8-12 DATE _____ PUMP OFF: 4:00 TIME 8-12 DATE _____
(am) (pm)

DATE	TIME	PIEZO TUBE	FLOW RATE	WATER LEVEL	COMMENTS
8-12-84				47	
	10:00	18	178	49	Brown cast, 60 PSI
	10:05	18	178	49	Clearing
	10:10	18	178	49	
	10:15	26	214	49	OTV 55PSI
	10:20	35	250	49.5	OTV
	10:25	45	280	50	OTV
	10:30	50	300	50	OTV
	10:35	50	300	50	
	10:40	50	300	50	
	10:45	50	300	50	
	10:50	50	300	50	
	10:55	50	300	50	
	11:00	50	300	50	
	11:05	50	300	50	
	11:10	50	300	50	
	11:15	50	300	50.5	OTV - Open Discharge
	11:20	52	305	50.5	Crystal Clear
	11:25	52	305	50.5	
	11:30	52	305	50.5	
	11:35	52	305	50.5	
	11:40	52	305	50.5	
	11:45	52	305	50.5	
	11:50	52	305	50.	
	12:00	52	305	50.5	
	12:05	52	305	50.5	
	12:10	52	305	50.5	
	12:15	52	305	50.5	
	12:20	52	305	50.5	TDS ~220 PPM
	12:25	52	305	50.5	Pulled Samples
12:30	52	305	50.5		
12:35	52	305	50.5		
12:40	52	305	50.5		
12:45	52	305	50.5		
12:50	52	305	50.5		
12:55	52	305	50.5		
1:00	52	305	50.5		
1:05	52	305	50.5		
1:10	52	305	50.5		

Well / Pump Service

WATERWELL - TEST PUMP REPORT

Anchorage

OWNER Hugh Adams

ADDRESS _____

ENGINEER _____

WELL LOCATION Crimson View Subdivision

TOTAL DEPTH 101 DEPTH OF CASING 81 SCREEN FROM 11 TO 10

CASING SIZE 6" SCREEN DIA 6" SCREEN SLOT 20

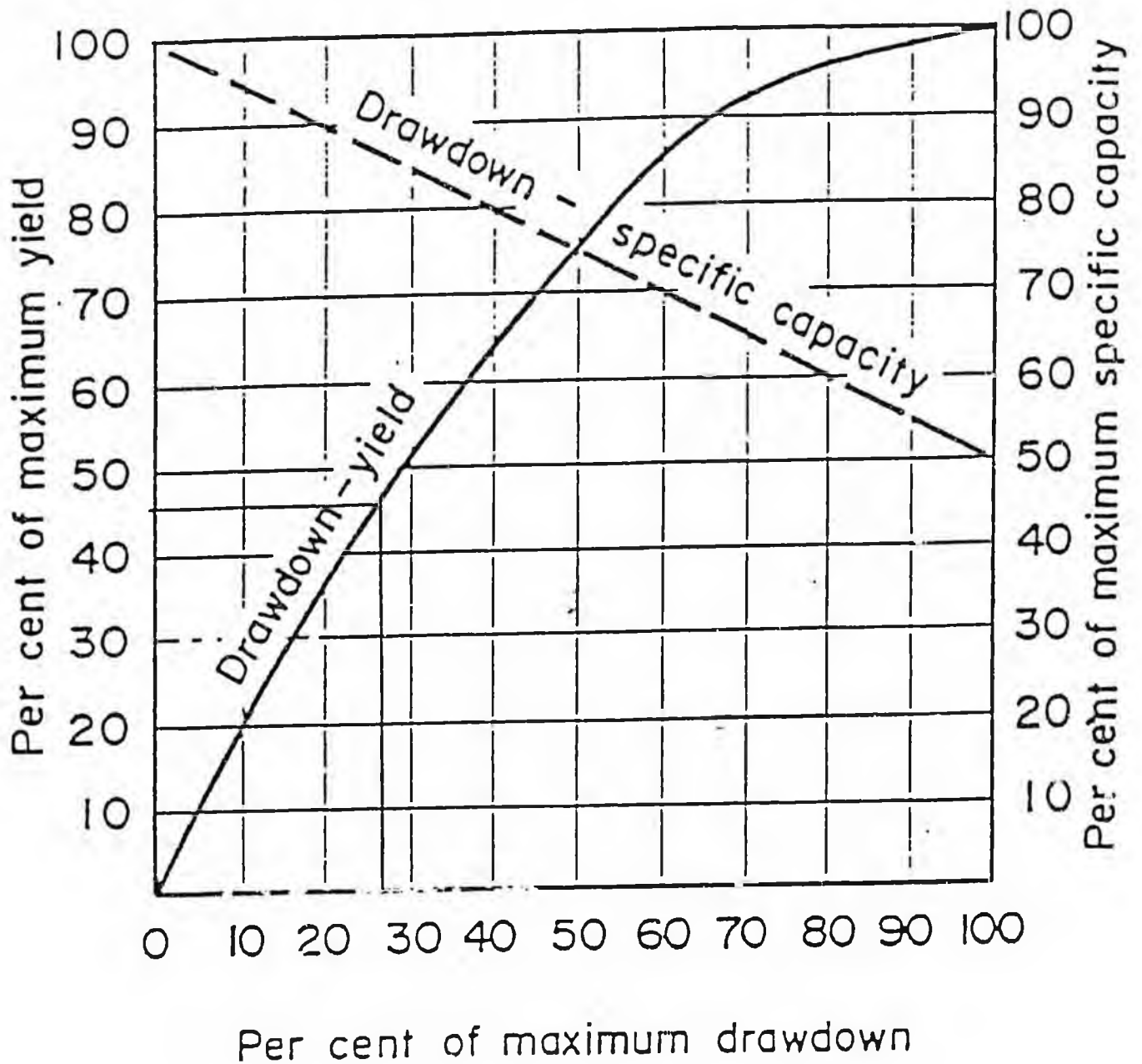
REMARKS Perforated 60 - 80

PUMP INTAKE DEPTH 74 PUMP SIZE 20 hp AIRLINE DEPTH 68

STATIC WATER LEVEL 47 AVG DISCHARGE _____ GMP _____ MAX DRAW DOWN _____

PUMP ON: 10:00 TIME 8-12 DATE _____ PUMP OFF: 4:00 TIME 8-12 DATE _____

DATE	TIME	PIEZO TUBE	FLOW RATE	WATER LEVEL	COMMENTS	
8-1-84	1:20	52	305	50.5		
	1:30	52	305	50.5		
	1:35	52	305	50.5		
	1:40	52	305	50.5		
	1:45	52	305	50.5		
	1:50	52	305	50.5		
	1:55	52	305	50.5		
	2:00	52	305	50.5		
				47		Shut down
				47		15 sec.
				47		30 sec.
				47		45 sec.
				47		End Test
		2:01				
		2:02				
		2:03				
		2:04				
		2:05				
		2:10				
		2:15				
	2:20					
	2:25					
	2:30					
	2:40					
	2:50					
	3:00					
	3:10					
	3:20					
	3:30					
	3:40					
	3:50					
	4:00					



Maximum Drawdown = Perforated Zone 60'
 Static Level 47'
 13'

Percent of Maximum Drawdown
 at 305 GPM = 3.5' (50.5)
 = 27% Maximum Drawdown

27% Maximum Drawdown = 47% Maximum Yield

$\frac{305}{.47} = 649$ GPM Maximum Yield

ATTACHMENT E

"WATER QUALITY TEST RESULTS"

CRIMSONVIEW SUBDIVISION

PROJECT NUMBER 184261

SEPTEMBER 10, 1984



CHEMICAL & BIOLOGICAL LABORATORIES OF ALASKA, INC.

TELEPHONE (907) 562-2343

ANCHORAGE INDUSTRIAL CENTER
5633 B Street



Drinking Water Analysis Report for Total Coliform Bacteria

TO BE COMPLETED BY WATER SUPPLIER

WATER SYSTEM:

(* See h on back

Water System Name

Mailing Address

City

SAMPLE DATE:

08 12 84
Mo. Day Year

SAMPLE TYPE:

- Routine
- Check Sample (for routine sample with lab ref. no. _____)
- Special Purpose
- Treated Water
- Untreated Water

SAMPLE NO.

LOCATION

Time Collected

Collected By

SAMPLE NO.	LOCATION	Time Collected	Collected By
1	CRIMSON VIEW SUBD.	12:30 PM	[Signature]
2	GREEN HWY		
3	PALMER		
4			
5			

TO BE COMPLETED BY LABORATORY

Analysis shows this Water SAMPLE to be

- Satisfactory
- Unsatisfactory
- Sample too long in transit; sample should not be over 30 hours old at examination. Indicate reliable results. Please send next sample via special delivery mail.

Date Received

8/13/84

Time Received

0800

Analytical Method:

- Fermentation Tube
- Membrane Filter

Lab Ref. No.

Result*

Analyst

Lab Ref. No.	Result*	Analyst
6209	0	S.H.
	0	
	0	
	0	
	0	

*No. of colonies/100 ml or No. of Positive portions

READ INSTRUCTIONS

BEFORE

COLLECTING SAMPLE

DS-1220 (b)
Rev. 1983

BACTERIOLOGICAL WATER ANALYSIS RECORD

Membrane Filter: Direct Count _____ Colliform/100ml

Verification: LTB _____ BGB _____

Final Membrane Filter Results _____ Colliform/100ml

Reported By S. Hartman Date 8-14-84

Time: 1500 a.m.
p.m.

TNTC = Too Numerous To Count



CHEMICAL & GEOLOGICAL LABORATORIES OF ALASKA, INC.

TELEPHONE (907) 562-2343

ANCHORAGE INDUSTRIAL CENTER
5633 B Street



Drinking Water Analysis Report for Inorganic, Organic, and Radiochemical Contaminants

TO BE COMPLETED BY PUBLIC WATER SUPPLIER

PUBLIC WATER SYSTEM:

--	--	--	--	--	--

I.D. NO.

Anchorage Well & Pump

Public Water System Name

6901 Tanaina Drive

Address

Anchorage, Alaska 99502
City State Zip Code

Note: Check box to left of contaminants listed below for the analyses desired.

SAMPLE DESCRIPTION:

Collected By J. Ridgway

Crimson View Subdivision
Sample Location

Source Type Surface Water Ground Water

Sample Date

0	8
---	---

 /

1	2
---	---

 /

8	4
---	---

Mo. Day Year

Routine Sample Untreated Water
 Special Purpose Sample Treated Water

TO BE COMPLETED BY CERTIFIED LABORATORY

CHEMICAL & GEOLOGICAL LABORATORIES OF ALASKA, INC.

Laboratory Name

5633 "B" STREET

Address

ANCHORAGE, ALASKA 99502
City State Zip Code

Sample No. Station No.

6209
Laboratory Analysis No.

DB August 13, 198
Received by Date

INORGANICS

	Limit	Mg/l
<input type="checkbox"/> Arsenic	(0.05)	< 0 . 0 0 1
<input type="checkbox"/> Barium	(1.)	0 . 0 5
<input type="checkbox"/> Cadmium	(0.010)	< 0 . 0 0 2
<input type="checkbox"/> Chromium	(0.05)	< 0 . 0 1
<input type="checkbox"/> Fluoride	(2.4)	< 0 . 1 0
<input type="checkbox"/> Lead	(0.05)	< 0 . 0 1
<input type="checkbox"/> Mercury	(0.002)	0 . 0 0 0 3
<input type="checkbox"/> Nitrate - Nitrogen	(10.)	0 . 5 2
<input type="checkbox"/> Selenium	(0.01)	< 0 . 0 0 1
<input type="checkbox"/> Silver	(0.05)	< 0 . 0 1
<input type="checkbox"/> Turbidity	(1 NTU)	1 . 2
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		

ND Indicates Not Detected

8-21-84

Date Analysis Completed

ORGANICS

	Limit	Mg/l
<input type="checkbox"/> Endrin	(0.0002)	
<input type="checkbox"/> Lindane	(0.004)	
<input type="checkbox"/> Methoxychlor	(0.1)	
<input type="checkbox"/> Toxaphene	(0.005)	
<input type="checkbox"/> 2, 4-D	(0.1)	
<input type="checkbox"/> 2,4,5 - TP Silvex	(0.01)	
<input type="checkbox"/>		
<input type="checkbox"/>		

RADIOACTIVITY

	Limit	pCi/l
<input type="checkbox"/> Gross Alpha	(15)	
<input type="checkbox"/> Radium 226 & 228	(5)	
<input type="checkbox"/> Gross Beta	(50)	
<input type="checkbox"/> Strontium - 90	(8)	
<input type="checkbox"/> Tritium	(20,000)	
<input type="checkbox"/>		
<input type="checkbox"/>		

Appendix B
Page 19

8-21-84

Date reported

Signature of Laboratory Supervisor

Stephen C. Cole

Alaska
Rim
Engineering

Phone (907) 745-0222
Fax (907) 746-0222



P.O. Box 2749
Palmer, Alaska 99645

26 November, 1997

Archie Giddings, P.E.
ADEC
Box 871064
Wasilla, AK 99687

RE: Crimsonview Class A Public Water System, Phase II
PWSID 224329

Dear Mr. Giddings

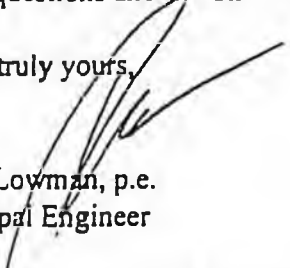
Enclosed is a design submittal relating to proposed improvements to subject water system. Phase I of this system was developed in 1984. The initial development included a well, a hydropneumatic system, a 4-inch DIP distribution system, and services for 46 single family residential lots. Phase I is now owned by the Crimsonview Owner's Association (CVOA). The Phase II distribution system was installed at that same time, but was not approved to operate by ADEC. Phase II was designed to serve an additional 21 single family residential lots. Phase II is now owned by Robert Mellish.

Mr. Mellish is presently negotiating with CVOA for expansion of the system to serve the entire development. If I have correctly interpreted the wishes of CVOA, they are not opposed to adding Phase II, but they want to be assured that they will not be damaged by the proposed expansion. I have been given explicit instructions by Mr. Mellish to design improvements which simultaneously meet ADEC criteria, and which do not damage CVOA.

I am offering this submittal for the record to give both ADEC and CVOA a proposal to review. Due to the fact that we are trying to satisfy the concerns of both ADEC and CVOA at the same time, we have little choice but to offer this to you without CVOA prior approval, and we are by copy of this offering it to CVOA without ADEC prior approval.

We are requesting nothing more than a good faith review. We are prepared to make reasonable and prudent improvements as would be done in any other similar system, but we do not have and are not offering an unlimited budget. I encourage both ADEC and CVOA to contact our firm with questions and/or concerns.

Very truly yours,


Dick Lowman, p.e.
Principal Engineer

cc: Crimsonview Owner's Association

Appendix J
Page 1

NOTE:

A signed Owner's Statement is being submitted under separate cover along with the plan review fee.

The letter from Ray Morgan referred to on page 6 of the water system design narrative is being submitted under separate cover.

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TOWN & COUNTRY

TR A



WATER SYSTEM DESIGN

Crimsonview Subdivision, Phase II
within NW¹/₄ NE¹/₄ Sec 18, T17N, R2E, S.M.

Background

Crimsonview Subdivision consists of a 40-acre parcel being developed in two phases. The first phase was developed in 1984. Phase I included 47 lots, including one which was reserved for the public water supply well. (46 of the lots are suitable for single family construction.) Phase II is presently under development. It consists of 22 additional lots. The total for both phases is 68 lots suitable for building.

Lots are approximately 1/2 acre each. Each lot will be served by a community water system. Wastewater disposal will be on-site septic systems. The public water system is designated by ADEC as PWSID # 224329.

The basic water system was developed in 1984. It consists of a single Class A public water supply well, and a looped distribution network of 4-inch ductile iron pipe. Each of the lots in Phase I were supplied with a copper water service line extending from the main to the lot line. Most of the lots in Phase II were likewise served. There are eight lots in Phase II which did not have copper service lines installed in 1984. (Those service lines have since been installed.)

The water supply well was tested after installation and development. In 1984, the well specific capacity was in excess of 80 gpm per foot of drawdown. Available drawdown was 27 feet. At developed pumping rates, the drawdown was only 2 feet. The well was therefore capable of producing far in excess of the flow needed.

The water system Phase I received final Approval to Operate on 12/19/85 (copy attached.) Phase II was excluded from the Approval to Operate. Per letter from ADEC dated 9/6/85 (Copy Attached) Phase II was required to be upgraded and documented prior to receiving approval.

ADEC Requirements

To expand the system to include Phase II, state regulations require that the following be demonstrated to the satisfaction of ADEC:

1. the source water quality meets current regulations
2. the well yield is satisfactory to serve the total development
3. the pump production is satisfactory to serve the total development
4. the pump is provided with adequate hydropneumatic protection
5. the distribution lines are sized to provide satisfactory service pressures

6. 24-hour backup storage or equal is provided
7. as-built drawings are submitted to the satisfaction of ADEC

It is proposed to utilize the existing well and distribution system, with appropriate improvements. The status of the existing system, plus the proposed upgrades are discussed below.

1. Source Water Quality

Monitoring is current. Quality is in compliance with Class A system standards. The ADEC computer has not yet registered the 1997 nitrate testing, but those results were submitted to ADEC in July by Mat-Su Test Lab. Full series inorganics are due by the end of 1998, but can be done anytime between now and then.

There has been one incident in recent years (approximately three years ago) of coliform contamination. Chlorination and flushing resolved the immediate problem. No cause was ever determined. The contamination has not returned.

2. Well Yield

A water system must be capable of producing sufficient flow to satisfy peak instantaneous demand, as well as peak daily demand. Under the regulations, peak instantaneous demand needs to be provided only for a 20 minute period. Peak daily demand needs to be provided continuously over a 24 hour period. The well yield should not be less than the peak daily demand. It is desirable for the well to be capable of also meeting the peak instantaneous demand. In this system, the well meets both criteria.

Calculations for peak instantaneous water demand are based on the ADEC publication "Suggested Practice for Small Water Systems," April 1995. The formula used, as shown on Figure 2 of that publication, is as follows:

$$Q = 125 + 1.2(n-50)$$

where

Q = required peak flow in gpm

n = number of residential units (>50)

Crimsonview is entirely single family residential. The number of residential units equals the number of buildable lots. The required peak demand for full system development (including Phase II) is 146.6 gpm.

As a comparison, ADEC criteria for the existing 48 lots is computed at 120 gpm. Conversations with CVOA have indicated that the present 140 gpm pumping setup is believed to be taxed to the limit with seasonal peak demands, specifically lawn watering. This is a fairly common occurrence in the higher value subdivisions in the valley where individual water services are not metered. In those situations where people do not pay for the amount of water consumed, there is no incentive to conserve. The water system operator is then placed in a position of trying to accommodate those who wish to use a greater than normal flow while he is also trying to keep overall system operating costs to a minimum. Usually a compromise is necessary. The water system should be capable of servicing all domestic needs, plus reasonable landscaping desires. Homeowners ultimately need to be made aware that the water supply is not limitless, and some controls (lawn watering on odd/even days during peak periods, etc.,) are often needed.

The ADEC criteria used herein is intended to provide an adequate flow, but it is not unreasonable in this case to provide an extra margin of comfort. As seen below, the 146.6 peak flow can be provided with a 10 HP submersible pump. To provide significantly above that, a 15 HP pump would be needed. That would require continuous operation and maintenance on the larger unit in order to achieve a peak flow which would only be demanded a few times during a year. As an alternative, it is possible to place a small booster pump on the well discharge pipe and activate the booster only during those rare periods when the demand is excessive. That is herein our recommendation. Analyzing the pump curves on both the installed 7.5 horsepower unit, and the proposed 10 horsepower unit, both can be operated at a 30-foot lower head while still within the optimum efficiency envelope. Thus a booster pump which provides a 20 to 30 foot lift only during extreme demand periods will allow the system to function efficiently within all of the recommended performance envelopes, and will impose only a minimal power surcharge when the pump is activated. That setup would produce a peak flow of up to 160 gpm with the existing 7.5 horsepower well pump, and up to 185 gpm with the proposed new 10 horsepower well pump.

ADEC policy is to use 450 gallons per household per day as a reasonable average daily demand. Peak daily demand for a system of this size is 3 times the average. Computed peak daily demand for 68 households at 1350 gpd per household is 64 gpm.

A flow test was conducted by Anchorage Well and Pump Service on 7/7/97. The well yields in excess of the required demands with a drawdown of only two feet. The specific capacity has not changed by any measurable amount since the original well yield test conducted on 8/12/84. The well has a yield capability far in excess of the computed minimums.

3. Pump Production.

The installed pump is a Standard Model 6N 130-4, 4 stage. The motor is a Franklin, 7.5 horsepower, single phase. Following is a tabular reproduction of a relevant portion of the pump curve.

GPM	TDH
100	210
110	200
120	190
130	180
140	168
150	152
160	136
170	120

The pump as installed exceeds the ADEC computed minimums for the entire Phase I subdivision. It yields about 7 gpm shy of the computed minimums for the entire proposed 68 lot development.

The present pump has no known maintenance problems or deficiencies. Remaining life is unknown. It is not uncommon for pumps to last for 20 years or more. It is reasonable to assume the the present pump has some significant value in remaining life. If it is removed and replaced, the unit removed will have little or no resale value.

In order to maximize the benefit to CVOA we are herein proposing (subject to their concurrence) to modify the system as follows:

- 1) Leave the present 7.5-horsepower submersible turbine in place. Continue to operate the system as it is being operated.
- 2) Install a Peerless 2-horsepower booster pump inside the well control building on the pump discharge line. The booster pump would be bypassed and non-operational during normal periods of demand. During periods of extreme demand, the booster would automatically activate providing approximately 20 to 30 feet of lift, thereby increasing system capacity by approximately 20 gpm to a total of 160 gpm. Info relating to proposed pump is attached.
- 3) Establish an escrow account to be provided by the developer of Phase II which would cover the cost of a new Red Jacket 10-horsepower 4HB pump and motor, including controls. The escrow would be under the sole control of CVOA. If and when the 10 horsepower unit is installed, the system total production capacity will then be 185 gpm.

By this submittal we are requesting ADEC approval to operate the full Phase II system, including all 68 lots, using only the 7.5 horsepower pump and 2 horsepower booster. Calculations above confirm that this combination meets ADEC criteria. It is quite possible that the entire subdivision will be substantially developed prior to the existing pump failing. Assuming that happens, then CVOA will under the approval granted by ADEC be within their rights to use the escrow funds to replace the pump with another 7.5 horsepower unit if they find that the system production is satisfactory.

By this submittal we are also requesting ADEC to approve the installation of the 10 horsepower pump, as described above. Thus, if CVOA determines that additional capacity is needed at any time in the future, they will have the authority to install the new pump at their sole option. It will exceed all ADEC criteria.

For the record, it has been our company's experience that pumps should not be oversized beyond system needs. It is our belief that a 7.5 horsepower primary pump (in conjunction with a booster for extreme periods only) is the optimum combination for this system. We advise against upsizing to a 10 horsepower primary pump unless there is strong feeling in the subdivision that the additional flow capability is really necessary.

No lead-based solder will be used for any of the improvements.

4. Hydropneumatic capacity.

The existing system is constructed with a total of 14 Con-Aire 85 gallon hydropneumatic tanks. Per ADEC's "*Suggested Practice for Small Water Systems*," the hydropneumatic capacity should be sized to provide a number of pump starts per hour of 15 or less. Calculations (attached) show that under the most extreme conditions this system will operate with a total of 8.5 starts per hour at peak demand. During all other periods, the number of starts per hour will be less than 8.5. The existing hydropneumatic capacity is more than adequate, as constructed.

Bladders in this model hydropneumatic tank are replaceable. Two were replaced in August of 1997. We propose to verify bladder integrity and pressure settings while the system is being upgraded. Any defective bladders would be replaced at that time.

5. Distribution lines.

The entire distribution system is 4-inch DIP. A computer analysis of that distribution system was performed by Gilfilian Engineering earlier this year, and a copy of that analysis is attached. I have reviewed the report and concur that the analysis was done in a proper manner. I have independently performed hydraulic calculations on individual line segments and those results are consistent with that of the computer model. Both the computer model and my calculations indicate that the headlosses in this system will be very low.

One member of the Crimsonview Owner's Association has questioned the pipe roughness value used in the hydraulic analysis. The Gilfilian report used a roughness value of 130, which is proper for a distribution system of this age and material. That is not to imply that all pipes will exhibit exactly that roughness for the life of the system. To investigate the effect of different roughness assumptions, a simplified analysis was conducted on a single pipe. In the analysis, a "worst case" scenario was predicated. It was assumed that there was a simultaneous peak demand of 20 homes at the opposite end of the subdivision from the well. It further assumes that all of the pipe branches were valved off, forcing all of the water to flow through a single pipe, that pipe being 1000 feet long. Using the ADEC "*Suggested Practice*", peak flow for 20 homes is 74 gpm. Attached calculation sheet entitled "Headloss in Distribution Systems" shows that the 1000-foot length of pipe would have a headloss of 3.4 feet with a pipe roughness of 130, and a headloss of 5.4 feet (less than 2 psi) at a pipe roughness of 100.

This distribution system is adequately sized to serve the entire proposed development.

Phase I distribution system was approved in 1984. Phase II was constructed in 1984, and the construction was coordinated through ADEC. Formal as-constructed records were not prepared. ADEC approval to operate was not obtained.

In 1997, the valve boxes were surveyed and the watermain was excavated in several locations. The missing service lines were installed at that time. The survey and the excavation confirms that the unofficial notes found in ADEC's files of the 1984 construction are correct. Those notes and our field measurements have been plotted against actual ground surface elevations. They indicate that a portion of the watermain on Thalo Drive was constructed less than 10-feet deep. The shallow portion was exposed and insulated with 2-inches of high density styrofoam at the time the other work was done in 1997.

Also at the time the 1997 work was being done the lines were flushed and an attempt was made to pressure test the system. During that attempt the 4-inch gate valve on Thalo at Crimsonview was found to be broken and leaking. Rust in the broken valve casting indicated that the valve has been broken and leaking for a long time. Activation of the valve during the 1997 work caused the leak to worsen. That valve has been replaced.

Cold weather prevented subsequent testing and chlorination of the 4-inch DIP pipe in Phase II. Those two activities are proposed to be completed in the spring.

Stamped as-constructed drawings of the Phase II water distribution system are included in this submittal.

6. Storage and reliability.

ADEC regulations embodied in 18AAC80 do not speak directly to the issue of storage and reliability. Instead, a design report is required to be prepared by an engineer. That report is required to be in general conformance with criteria contained in one or more of 14 reference manuals identified under 18AAC80.340. ADEC regulations do not specify which of those references is(are) to be used by the engineer. Where those references differ, ADEC regulations do not stipulate that one reference should hold precedence over another. Under the regulations it is the design engineer (and *only* the design engineer) who makes the determination as to which portion of which reference should apply to any specific situation. Under the regulations, ADEC is charged with reviewing the submittal offered by the engineer under the criteria stipulated within the reference that the engineer has chosen.

Evidence of the above paragraph is seen in the wide variation of design standards applied to the various water systems throughout southcentral Alaska. Different standards have been applied to different systems, generally with the concurrence of ADEC. In an apparent attempt to standardize the system designs, ADEC has developed a guidance manual, "*Suggested Practice for Small Water Systems*," which gives the engineer a more consistent set of rules on which to base the design. That manual has not been formally adopted by the regulations, but has generally been accepted by that agency as complying with the intent of the regulations.

In "*Suggested Practice*," ADEC recommends that "...if power outages occur in excess of four (4) times a year and of one hour duration, an adequately sized standby power source should be considered." Although the power source is recommended, it is not required under the regulations. Crimsonview is an approved Class A water system. It does not now have emergency power generation facilities.

The intent of the regulations is to provide water system reliability. The question to be addressed by ADEC, CVOA and the developer is "what is the highest and best use of funding to provide that reliability?"

Power to the subdivision is provided by MEA. We have contacted Ray Morgan of the engineering division at MEA to ascertain the power supply reliability. Mr. Morgan confirms (see attached letter) that the Crimsonview water system is on a highly reliable portion of the MEA facilities.

Reliability is a concern with all Class A water systems, including the present Phase I system which has already been approved by ADEC. ADEC's "*Suggested Practice*" makes a point of noting that as a water system increases in size the reliability issue becomes more critical. In other words, reliability is not a new issue being raised by Phase II, but the level of concern is being elevated.

It is fair and appropriate that the Phase II addition should improve the reliability. It would be unfair to place the full burden of all reliability features on the Phase II developer.

There are many ways to increase system reliability. In some other systems, reliability is provided through the use of a standby generator. The generator provides backup in the event of a power outage, but that addresses only one of the many problems which can beset a water system. In a system such as Crimsonview where power outages are not a major problem, it would be prudent to consider other reliability features in lieu of backup power.

We are herein proposing to provide reliability through the use of a multi-function automatic dialer to be installed in the well control building. The unit can be programmed to sense multiple conditions and to report immediately any deviation from the norm. Typical functions that these units report may include abnormal pump running conditions, unusual noises, temperature extremes, line voltage, running amps, and/or pressure abnormalities. It can also serve as a data logger. Over the long term, it is reasonable to state that this feature on the Crimsonview water system will likely prevent more down time than a generator. An additional benefit is that problems are likely to be detected before they become serious.

7. As-built drawings.

As noted above, record drawings of the distribution system are herein being submitted. All water main will be buried 10-feet deep, except as noted and insulated. No lead based solder was used.

State of Alaska
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
OWNER'S STATEMENT

- DOMESTIC WASTEWATER SYSTEM
 DRINKING WATER PLAN REVIEW

Information required by 18 AAC 15.030, 18 AAC 80.310(8) and 18 AAC 80.355.

Department Completion Only
Project No. _____
Date Received: _____

Submitted at DEC Office: Mat-Su
Public Water System Name: Crimsonview Subdivision, Phase II
Public Water System Location: Mile 40, Glenn Highway
Describe type of work proposed: Expand water system to include Phase II
Project Name: Crimsonview Subdivision, Phase II

These plans submitted by:

- Owner
 Representative of Owner

I submit the enclosed items concerning the above referenced proposed project for review. By my signature I certify that the project is (check one):

- Privately owned and that I am the owner.
 Owned by a sole proprietorship and that I am the proprietor.
 Owned by a partnership of which I am a general partner.
 Owned by a corporation of which I am a principal executive officer of at least the level of vice-president, or a duly authorized representative responsible for the overall management of this project.
 Owned by a municipal, state, federal, or other public agency, of which I am a principal executive officer, ranking elected official, or other duly authorized employee.

Signature of Owner or Representative

Date

Name and Official Title

Address of Owner

SIGNING OF APPLICATIONS. This form must be signed as follows:

- 1) in the case of corporations, by the principal executive officer of at least the level of vice-president or his duly authorized representative, if the representative is responsible for the overall management of the project or operation,
- 2) in the case of partnership, by a general partner,
- 3) in the case of a sole proprietorship, by the proprietor, and
- 4) in the case of municipal, state, federal, or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

PLAN REVIEW FEE CALCULATIONS

18 AAC 80.355

- (a) number of services on the original approved system was 46
number of people served is estimated at $3 \times 46 = 138$
- (a)(1)(B) new system fee would be \$250
-
- (c) this is a modification of a previously approved system
(c)(2) the modification is an increase in system consumption of 48 percent
fee is $0.48 \times \$250 = \120
- additionally
- (d) distribution main is being extended
(d)(2) amount added is 3000 LF
fee is $\$100 + 2 \times \$75 = \$250$

TOTAL PLAN REVIEW FEE IS $\$120 + \$250 = \underline{\underline{\$370.00}}$

STATE OF ALASKA
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SOUTHCENTRAL REGION

PLAN APPROVAL CHECKLIST
FOR ENGINEERING PLANS
CLASS A OR B
PUBLIC WATER SYSTEM
18 AAC 80.300-310

This checklist based on Drinking Water
Regulations effective March 18, 1993
amended through November 10, 1994

District Offices

Anchorage 349-7755
Kenai 262-5210
Mat-Su 376-5038
Western 349-7755

Field Offices

Bethel 543-3215
Kodiak 486-6760
Valdez 835-4698
Unalaska 581-1822*

Regional Office

Anchorage 563-6529

*Not staffed full-time

PROJECT NAME: CRIMSON VIEW SUBDIVISION, PHASE II

I. CERTIFICATE TO CONSTRUCT:

Phase I, Approval to install source

Indicate status of each item:

(S) Indicates submitted

(NS) Indicated not submitted (please attach an explanation)

- S 1. Appropriate plan approval fee submitted as required by 18 AAC 80.355.
- S 2. Number of service connections
- S 3. Population served
- S 4. Engineering report - applicable portions of Section 1.1 of the "Recommended Standards for Water Works" should be followed. 18 AAC 80.340.
- S 5. The name and phone number of the person responsible for compliance with this chapter; 18 AAC 80.310(8). (Owner's statement)
- n/a 6. The location of each proposed or existing wastewater treatment and disposal system, sewage pump station, sewer line manhole and cleanout, petroleum storage tank and line, or any other potential or actual source of pollution or contamination, including the sources in Table A in 18 AAC 80.030(a), within 200 feet of a proposed water source, regardless of property lines or ownership, drawn on a site or vicinity map. 18 AAC 80.310(5).

II. CERTIFICATE TO CONSTRUCT/APPROVED CHANGE ORDER:

Phase II, Approval for the Distribution System

- S 1. Detailed plans of the source, storage, distribution, and treatment and related structures, plan and profiles of water mains and standard details should be included.
- S 2. Data showing the capability of the water system source to meet minimum water consumption needs, criteria of water demand calculations, and the production capability of the water plant. The following is an example of the information that should be submitted in sufficient detail to allow evaluation.
 - S a. Design according to Alaska Design Manual, Alaska Drinking Water Procedures Manual, and References adopted in 18. AAC 80.340.
 - S b. Minimum water consumption needs established.
 - S c. Design criteria for water demand and calculations for a minimum 20 psi service pressure at highest service elevation under design conditions.
 - S d. Design calculations and flow analysis computations, such as water demands, storage tank sizing, mains, hydraulic analysis, pump sizing. Worksheets should be attached to the submittal to allow evaluation.
 - S e. Production capability of plant
 - S f. Freeze protection of mains/services.
- S 3. Specification that only lead-free pipe, flux, and solder will be used during the installation of the public water system, as required by 18 AAC 80.800; 18 AAC 80.310(9).
- S 4. The location (longitude and latitude) of each well and surface water intake as available from existing sources (within one second is desirable).
- S 5. Well log(s) and well yield test data.
- n/a 6. The overall treatment scheme, including calculations for disinfection and how Giardia and viruses will be removed or inactivated, if applicable. 18 AAC 80.310(7)
- n/a 7. Per 18 AAC 80.810 Chemical Additives: Direct additives for water treatment and materials in contact with potable water must be approved for that use by the National Sanitation Foundation (NSF) or by an equivalent organization. This includes equipment which has direct water contact.
- NS 8. A copy of a submitted Water Rights Application to the Alaska Department of Natural Resources (this is information only and is not required for approval).

The following information is needed to allow the department to evaluate treatment effectiveness:

This section applies to all surface water and groundwater under the direct influence of surface water sources as specified in 18 AAC 80.500.

- n/a a. A design report should address watershed source/characteristics for contaminants / Water Quality parameters; Giardia concentration potential, raw water analysis for turbidity and range of values for temperature and pH. 18 AAC 80.501 (a), 18 AAC 80.310(7).
- n/a b. Giardia Reduction Target (3 or 4 or 5 log) overall for filtration/disinfection process.
- n/a c. Identify filtration type/Identify credit for Giardia removal
- n/a Conventional Filtration /
- n/a Direct Filtration /
- n/a Alternative Filtration: Cartridge Membranes /
- n/a Diatomaceous Earth /
- n/a Slow Sand Filtration /
- n/a Natural Filtration /
- n/a d. Design for Turbidity Performance of
1 NTU
0.5 NTU
- n/a e. Waiver Requested /
- n/a f. Identify disinfection process parameters
- n/a g. CT Disinfection / log reduction
- n/a h. Peak Hourly Flow GPM, during disinfection "CT"
- n/a i. Disinfection Contact "T" minutes
- n/a j. CT Time mg Cl/min
- n/a k. Design Assumptions for CT: pH, temp, Cl residual, peak hourly flow of disinfection facility, hydraulic efficiency factor "T", attached.

Analysis of raw water is required to assess treatment characteristics and compliance with all contaminants regulated by a Maximum Contaminant Level or that may be of a health risk. Refer to sections 18 AAC 80.070 and 18 AAC 80.310 (1) for application. Refer to all footnotes within these sections.

9. The following list is an outline of analysis by source type that will be required, choose the appropriate class and type water system.

For Class A Public Water Systems, Surface Water Source

- | | |
|-----|--|
| n/a | a. Inorganic |
| | b. Organic Chemicals |
| n/a | Pesticides |
| n/a | VOC's |
| n/a | THM's |
| n/a | Other Organics |
| n/a | c. Radiological Organic Chemicals |
| n/a | d. Coliform Bacteria |
| n/a | e. Turbidity - as needed for compliance with 18 AAC 80.500 for design criteria |
| n/a | f. Secondary Contaminants 18 AAC 80.070(b) |

For Class A Public Water System, Ground Water Source

- | | |
|-----|--|
| NS | a. Inorganic |
| | b. Organic Chemical |
| NS | Pesticide (Departmental discretion) |
| NS | VOC's |
| n/a | THM's if over 10,000 |
| n/a | Other organics (Departmental discretion) |
| n/a | c. Radiological |
| n/a | d. Coliform Bacteria |
| n/a | e. Secondary Contaminants |

For Class B Public Water Systems, Surface Water

- | | |
|-----|----------------------|
| n/a | a. Turbidity |
| n/a | b. Nitrate/Nitrite |
| n/a | c. Coliform Bacteria |

For Class B Public Water Systems, Ground Water

- | | |
|-----|----------------------|
| n/a | a. Nitrate/Nitrite |
| n/a | b. Coliform Bacteria |

- n/a 10. For all public water systems, raw water analyses for any potential contaminant that the department, in its discretion, identifies.
- n/a 11. Copies of the operations and maintenance manuals for all water treatment equipment specified.
- n/a 12. Other information that the department, in its discretion, requires in order to assess compliance with this chapter.

Please note that the discharge of the water to pressure test and the disinfect the distribution system may need to be permitted through this department to minimize water quality concerns.

I verify that all of the above listed items have been addressed in my submittal, an explanation is attached for any that are not submitted.

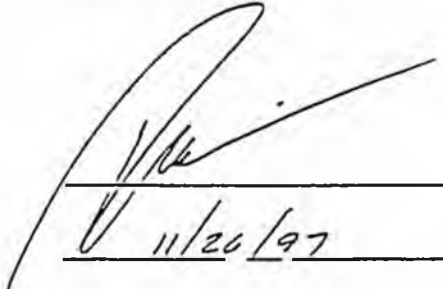
Engineer's Name: Dick Lowman, p.e
Registration Number: CE-4077

Address: Box 2749
Palmer, AK 99645

Phone: 907-745-0222

Signature:

Date:



11/26/97

ONSITE SYSTEMS DESIGN SUMMARY

Project name

Crimsonview Phase II, PWSID #224329

Client

Robert Mellish

Legal description

Crimsonview Subdivision, Phase II

Water Supply

Design daily flow	30600	gpd
Min. sustained well flow rate	63.9	gpm
Design peak flow	147	gpm
Design minimum pumping head	178	feet
Design maximum pumping head	224	feet
Pump manufacturer	Red Jacket	
Pump model	4HB	
Pump horsepower	10	
No. of bladder tanks	14	
Tank manufacturer	Con-Aire	
Tank model	220-E	
Total system pressure tank volume	1190	
Tank pressure at pump startup	45	psi
Tank pressure at pump stop	65	psi

Well Location

Key North

Key East

Section

Township North

Range East

Range West

Latitude

Longitude

USAGE DATA

Number of residential service connections		68
Other service connections > 60 days / yr		
Individuals served	residents year round	
	same individuals > 6 mo / yr ⁽¹⁾	
	other persons >60 days / yr	
	< 60 days / yr	
Number of bedrooms		
PUBLIC WATER SYSTEM CLASS		Class A

(1) "same persons" include such persons as employees, as opposed to full time residents

Demand	No.	per each	total
Residential service connections	68	450	30600
Bedrooms			
Residents			
Same individuals (> 6 mo / yr)			
Other individuals (> 60 days / yr)			
Other individuals (< 60 days)			
Other demands routed to septic			
Other demands not routed to septic			
DESIGN DAILY FLOW, SEPTIC SYSTEM, GPD			30600
DESIGN DAILY FLOW, WATER SYSTEM, GPD			30600
computed average well flow (24 hr. avg.), gpm			21.3
sustained flow, peak day (average x 3), gpm			63.9
MIN. SUSTAINED WELL FLOW RATE, GPM			64

**PEAK WATER DEMAND AS COMPUTED BY
EQUIVALENT RESIDENTIAL UNIT METHOD**

	No.	range	gpd / person	total
Assembly hall (per seat)			2	
Bowling alley (per lane w/o food)			75	
Church (small)		1-4	2.5	
Church (w/ kitchen)		5-7	6	
Camps				
campground w/ comfort station			35	
construction			50	
day (no meals)			15	
resort (limited seating)			50	
luxury			100	
RV (tent sites) 1			50	
RV (self contained) 1			75	
RV (wet hookup) 1			100	
Dwellings				
single family	68		75	5100
multi-family			60	
luxury			150	
apartments			60	
boarding			40	
mobile home park (per space)			300	
motel (per unit)			100	
Food service				
restaurant (per seat)			35	
restaurant (per patron)		7-10	8.5	
24-hr restaurant (per seat)			50	
tavern (limited food service)			35	
tavern (per patron)			10.5	
drive-in (per car space)			50	
drive-in (per person)			2	
banquet rooms (per seat)			5	
Hospitals (per bed)			300	
Laundry (coin, per machine cycle)			50	
Office buildings		20-35	28	
Retail store (per employee)			20	
Retail store (per restroom)			400	
Schools (elementary)			15	
Schools (high and jr. high)			20	
Service stations (per bay)			1000	
Shopping centers (per sq. ft. of floor)		16-2	0.18	
Swimming pools		3-5	4	
Other				
Other demands not routed to septic irrigation use				
design daily flow, septic system, gpd				5100
design daily flow, water system, gpd				5100
EQUIVALENT RESIDENTIAL UNITS				68
ESTIMATED PEAK WATER DEMAND				146.6

Gallons per day used on ADEC's "Suggested Practice for Small Water Systems," April 1985, except
(1) is based on "Design Standards for Large On-site Sewage Systems" by the Washington State Department of Health.
Estimated peak is from Figure 2 of "Suggested Practice," average of cold regions and residential mean.

HEADLOSS BETWEEN PUMP AND PRESSURE TANK

based on the Hazen-Williams formula

$$\text{headloss} = 10.55 \times (q^{1.85} \times L) / (c^{1.85} \times d^{4.87})$$

$$\text{velocity} = 0.407 \times q / (d^2)$$

q = flow in gallons per minute
 L = length in feet
 c = friction coefficient
 d = diameter in inches

pipe segment headlosses									
pipes assumed in series									
	pipe type	c	nom dia inches	r inches	q gpm	L feet	velocity ft/sec	headloss feet	
riser pipe in well	GIP (std)	120	2.50	2.47	147	60	9.8	11.2	
supply pipe from well to house	GIP (std)	120	2.50	2.47	147	10	9.8	1.9	

total pipe segments headloss 13.1 feet

20% factor for aged system 2.6 feet

estimated minor headloss 4.0 feet

Total system friction loss 19.7 feet

COMPUTE PUMPING HEAD

elevation of ground at well	<input type="text" value="0"/>	feet
elevation of pitless / outlet	<input type="text" value="-10"/>	feet
elevation of static water level	<input type="text" value="-47"/>	feet
elevation @ drawdown level	<input type="text" value="-49"/>	feet
elevation of service	<input type="text" value="5"/>	feet
design pressure range	<input type="text" value="20"/>	psi
design peak flow	<input type="text" value="147"/>	gpm
minimum tank pressure	<input type="text" value="45"/>	psi
maximum tank pressure	<input type="text" value="65"/>	psi
minimum tank head	<input type="text" value="104"/>	feet
maximum tank head	<input type="text" value="150"/>	feet
elevation @ top pump impellers	<input type="text" value="-70"/>	feet
gravity lift	<input type="text" value="54"/>	feet
minimum tank pressure lift	<input type="text" value="104"/>	feet
total system friction loss	<input type="text" value="20"/>	feet
Design Pumping Head	<input type="text" value="178"/>	feet

note: enter
distances below
datum: 0 as
negative

SELECT PUMP

Design peak flow	147	
Design head at pump startup	178	feet
Design head at pump stop	224	feet
Shutoff head must be above	235	feet

Pump selected

Manufacturer	Red Jacket
Model	4HB
Horsepower	10
Voltage	230
Phase	1

Performance read from curve

Flow @ startup	160	gpm
Flow @ stop	120	gpm

insert pump curve

SEE ATTACHED

SELECT PRESSURE TANKS

based on ADEC Suggested Practice

$$E = 0.95 \times (1 - (P_b / P_a))$$

$$V_t = 15 \times Q_p / (N \times E)$$

P_a = upper pressure, psia
 P_b = lower pressure, psia
 E = tank efficiency
 N = number of pump starts / hour
 Q_p = max. pump output, gpm
 V_t = tank volume, gallons

pump start pressure setting	45	psi
pump stop pressure setting	65	psi
pump start pressure, atmospheric	59.7	psia
pump shutoff pressure, atmospheric	79.7	psia
tank efficiency	0.24	
maximum pump output from curve	160	gpm
minimum pump output from curve	120	gpm
average pump output from curve	140	gpm
number of pump starts per hour	8.5	

Minimum bladder tank capacity	1184	gallons
Tank Manufacturer	Con-Aire	
Model	220-E	
Volume per tank	85	gallons
number of tanks	14	
Volume per this design	1190	gallons
Factory precharge pressure of tank		psi
Reset tank precharge to within 1 psi of	44	psi
Max. acceptance factor allowed		
Computed acceptance factor		
Net minimum effective volume	289	gallons
Run time at average flow from curve	2.1	minutes

HEADLOSS IN DISTRIBUTION PIPING

based on the Hazen-Williams formula

$$\text{headloss} = 10.55 \times (q^{1.85} \times L) / (c^{1.85} \times d^{4.87})$$

$$\text{velocity} = 0.407 \times q / (d^2)$$

q = flow in gallons per minute
 L = length in feet
 c = friction coefficient
 d = diameter in inches

pipe segment	headlosses	nom dia	d	q	L	velocity	headloss	
pipes assumed in series	pipe type	c	inches	inches	gpm	feet	ft./sec	feet
distribution pipe	DIP 52	130	4.00	4.22	74	1000	1.7	3.4
distribution pipe	DIP 52	120	4.00	4.22	74	1000	1.7	3.9
distribution pipe	DIP 52	110	4.00	4.22	74	1000	1.7	4.6
distribution pipe	DIP 52	100	4.00	4.22	74	1000	1.7	5.4

Well / Pump Service

Anchorage

OWNER CRITICAL ADDRESS 16th, Anchorage, Alaska

ENGINEER ALASKA RITE ENGINEERS

WELL LOCATION _____

TOTAL DEPTH 100 DEPTH OF CASING 80 SCREEN FROM 80 TO 100

CASING SIZE 6 SCREEN DIAMETER 5 3/8 SCREEN SLOT 100

REMARKS FERE 60-50 25 CONNECTED SITE

PUMP INTAKE DEPTH 72 PUMP SIZE 7 1/2 HP AIRLINE DEPTH _____

STATIC WATER LEVEL 47 AVG. DISCHARGE 165 GPM _____ MAX DRAWDOWN _____

PUMP ON: 23:30 TIME 7/7/97 DATE PUMP OFF: 01:30 TIME 7/8/97 DATE

DATE	TIME	PIEZO TUBE	FLOW RATE	WATER LEVEL	COMMENTS
7/7/97	23:30	—	8	47'	—
7/7/97	23:31	14.9	160	49'	OTV
7/7/97	23:32	—	159	—	20 PSI
7/7/97	23:35	14.8	165	49'	20 PSI
7/7/97	23:45	14.5	165	49'	20 PSI
7/8/97	24:00	14.8	165	49'	20 PSI
7/8/97	00:15	14.8	165	49'	20 PSI
7/8/97	00:30	14.9	165	49'	—
7/8/97	00:45	14.9	165	49'	—
7/8/97	01:00	14.9	165	49'	—
7/8/97	01:15	14.9	166	49'	—
7/8/97	01:30	14.9	166	49'	—
		14.4	15	—	RECOVERY
		14.4	30	—	—
		14.4	45	47'	—
7/8/97	01:31	—	0	—	END TEST

403 LF OF 4" DIP

491 LF OF 4" DIP

E CIENNA AVENUE

S VERMILLON DR. 972 LF OF 4" DIP

HIALO DR. 630 LF OF 4" DIP

S OCHIRE DR.

PHASE II

CRIMSONVIEW

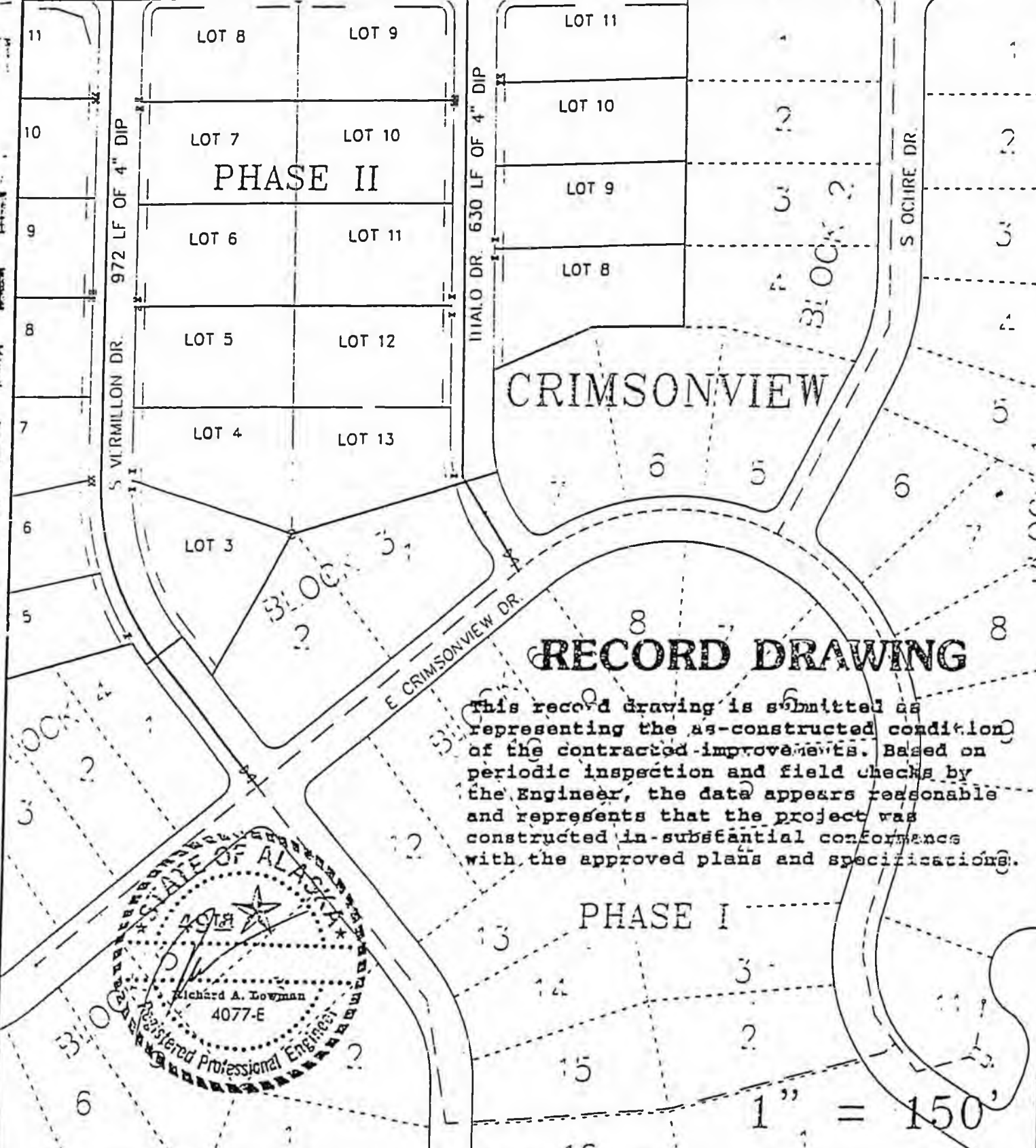
RECORD DRAWING

This record drawing is submitted as representing the as-constructed condition of the contracted improvements. Based on periodic inspection and field checks by the Engineer, the data appears reasonable and represents that the project was constructed in-substantial conformance with the approved plans and specifications.

PHASE I



1" = 150'



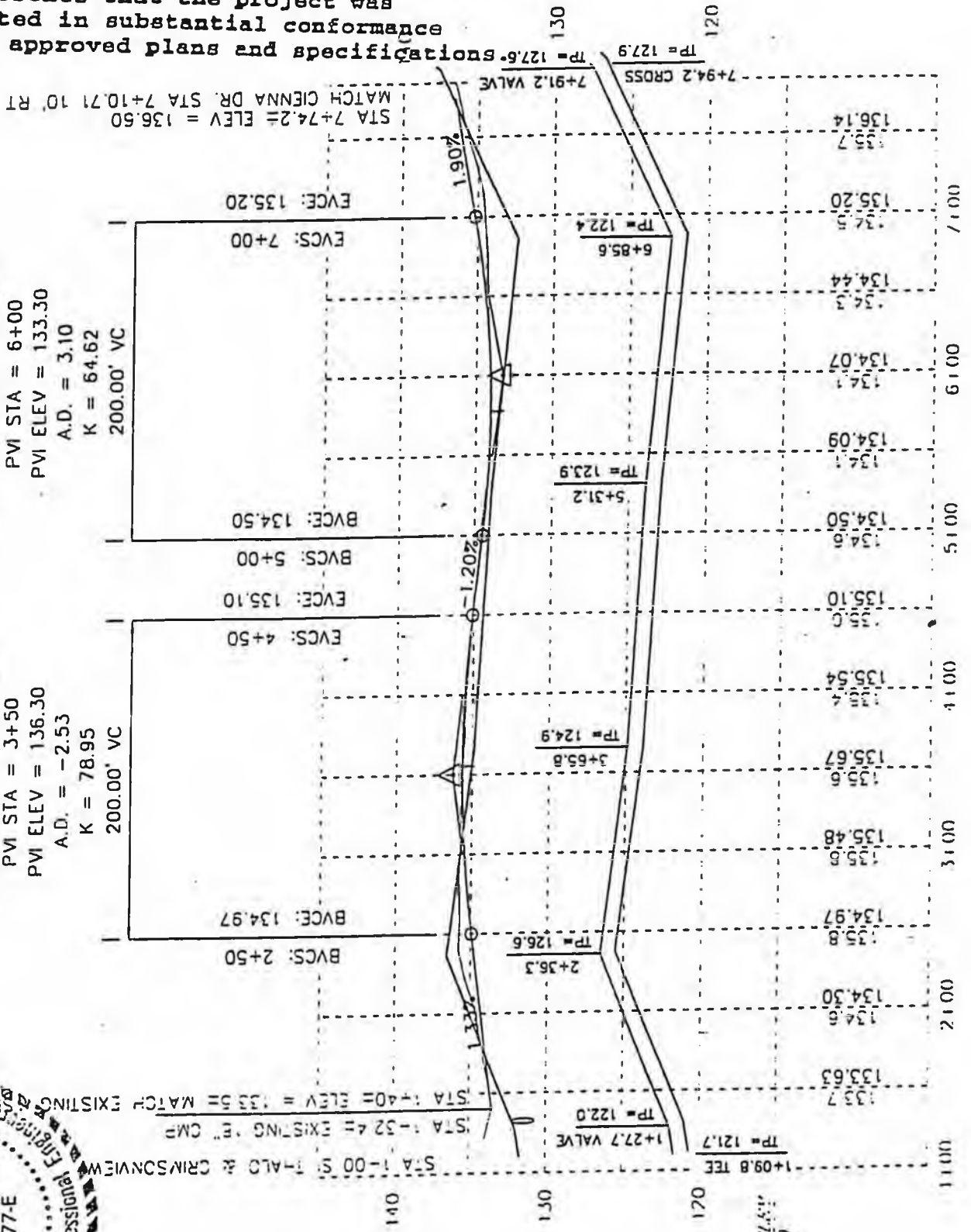
RECORD DRAWING

This record drawing is submitted as representing the as-constructed condition of the contracted improvements. Based on periodic inspection and field checks by the Engineer, the data appears reasonable and represents that the project was constructed in substantial conformance with the approved plans and specifications

THALO DRIVE

HIGH POINT ELEV = 135.67
 HIGH POINT STA = 3+55.26
 PVI STA = 3+50
 PVI ELEV = 136.30
 A.D. = -2.53
 K = 78.95
 200.00' VC

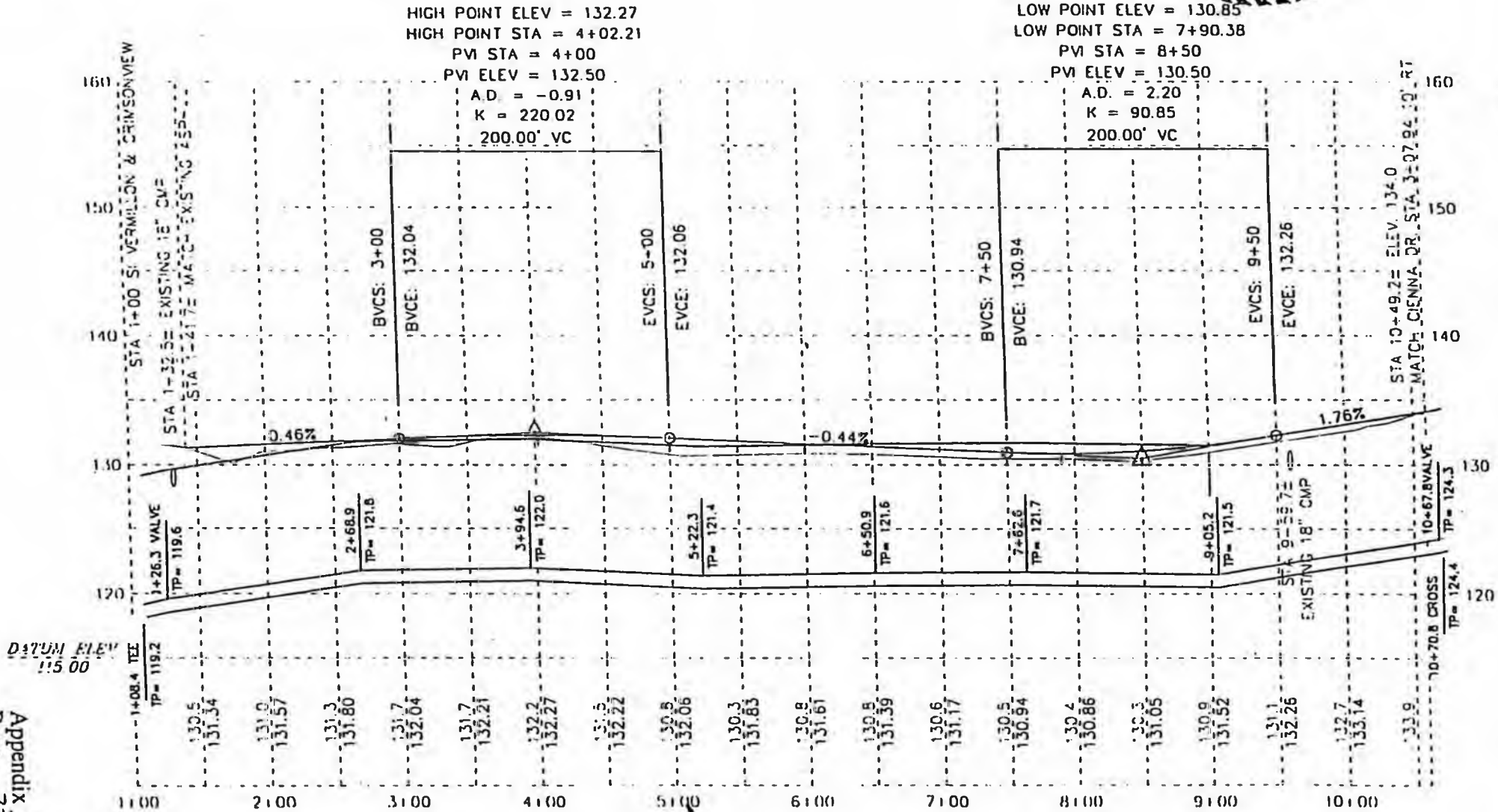
LOW POINT ELEV = 134.03
 LOW POINT STA = 5+77.54
 PVI STA = 6+00
 PVI ELEV = 133.30
 A.D. = 3.10
 K = 64.62
 200.00' VC



RECORD DRAWING

This record drawing is submitted as representing the as-constructed condition of the contracted improvements. Based on periodic inspection and field checks by the Engineer, the data appears reasonable and represents that the project was constructed in substantial conformance with the approved plans and specifications.

VERMILLON DRIVE



376-5038
P.O. Box 871064
Wasilla, Alaska
99687-9998

September 6, 1985

Mr. Bob Gilfillian, P.E.
Gilfillian Engineering, Inc.
P.O. Box 871868
Wasilla, Alaska 99687

Re: Crimsonview Subdivision, Class A Public Water Supply System, Phase I

Dear Mr. Gilfillian:

Please refer to the Department's letters of July 24, 1984 and October 12, 1984, which conditionally approved construction of the referenced system. On the Department's behalf, I have reviewed the information submitted by your letter of August 12, 1985 and the record drawings that were submitted on August 13, 1985. Based upon these submittals, the system was constructed in substantial conformance with the approved plans. Therefore, a 90 day Interim Approval to Operate the well house and the Phase I portion of the distribution system is being granted at this time. This approval is constituted by the enclosed certificate. During the interim approval period, the results of routine monitoring of the water from this system for coliform bacteria must be submitted on a monthly basis. Noting the date of the most recent analysis for coliform bacteria, August 9, 1985, the next analysis should be conducted within the next week. The Public Water System Identification Number assigned to this system is: 224329. This number should be included on all water quality testing results submitted to this Department.

Prior to the expiration date of the Interim Approval to Operate this system, and before the issuance of a Final Operation Certificate, an operation and maintenance agreement must be submitted to and approved by this Department along with assurance that easements for distribution system and well house will be recorded. As previously requested, data verifying that the service factor for the well pump's motor will not be exceeded under conditions of normal operation must also be submitted. In addition, the Department would like to conduct a Public Water System Sanitary Survey during the interim approval period. At this time the survey is being scheduled for 11:00 a.m. on September 17, 1985. It may be beneficial to have someone familiar with the system present during the survey. If the scheduled date or time is not convenient, this office should be notified no later than September 13, 1985. The survey may then be rescheduled.

It is noted that there appears to have been some confusion regarding the applicability of the Department's October 12, 1984 construction approval to the "Phase II" portion of the subject system's distribution piping. Although the Department does not object to the construction of that portion of the distribution system, an additional well and/or expanded storage and standby power facilities will need to be provided and unqualified as-built or record drawings for the "Phase II" distribution piping will need to be submitted before approval to operate that portion of the system can be granted. Plans for any expansion of the system will, of course, need to be approved by this Department.

September 6, 1985

Page 2

It is also noted that the Interim Approval to Operate the subject water supply system neither constitutes nor implies approval of the subdivision plans. A copy of the Department's letter of June 25, 1984, which summarizes the Department's review of the proposed subdivision plans, is enclosed for your information.

Thank you for your continued cooperation with this Department. If you have any questions, please do not hesitate to contact me.

Sincerely,

Shaun E. Sexton

Shaun E. Sexton
Environmental Engineer

SES:bkr

Enclosures: As Stated

cc: Ray Nfemi/Mat-Su Borough, w/o Encs.

ABC Pump & Well Supply

SR BOX 2201
WASILLA, ALASKA 99687

December 17, 1985

Re: Crimson View Pump House

6N 130-4 Standard Pump
7½ hp 230V 1Ø 6" Franklin Motor

140 Gpm @ 168 TDH

Water Horsepower - 5.9

Pump Efficiency - 70%

BHP - 8.48

Motor Efficiency - 79.8%

Motor Input Hp - 10.63

Unit Efficiency - 56%

KWH Per 1000 Gal. Pumped - .942

Motor Kw Load - 7.93

Motor SF - 1.15

Motor SF Hp - 8.625

Sincerely yours,



Robert Tapley

Pump Specialist

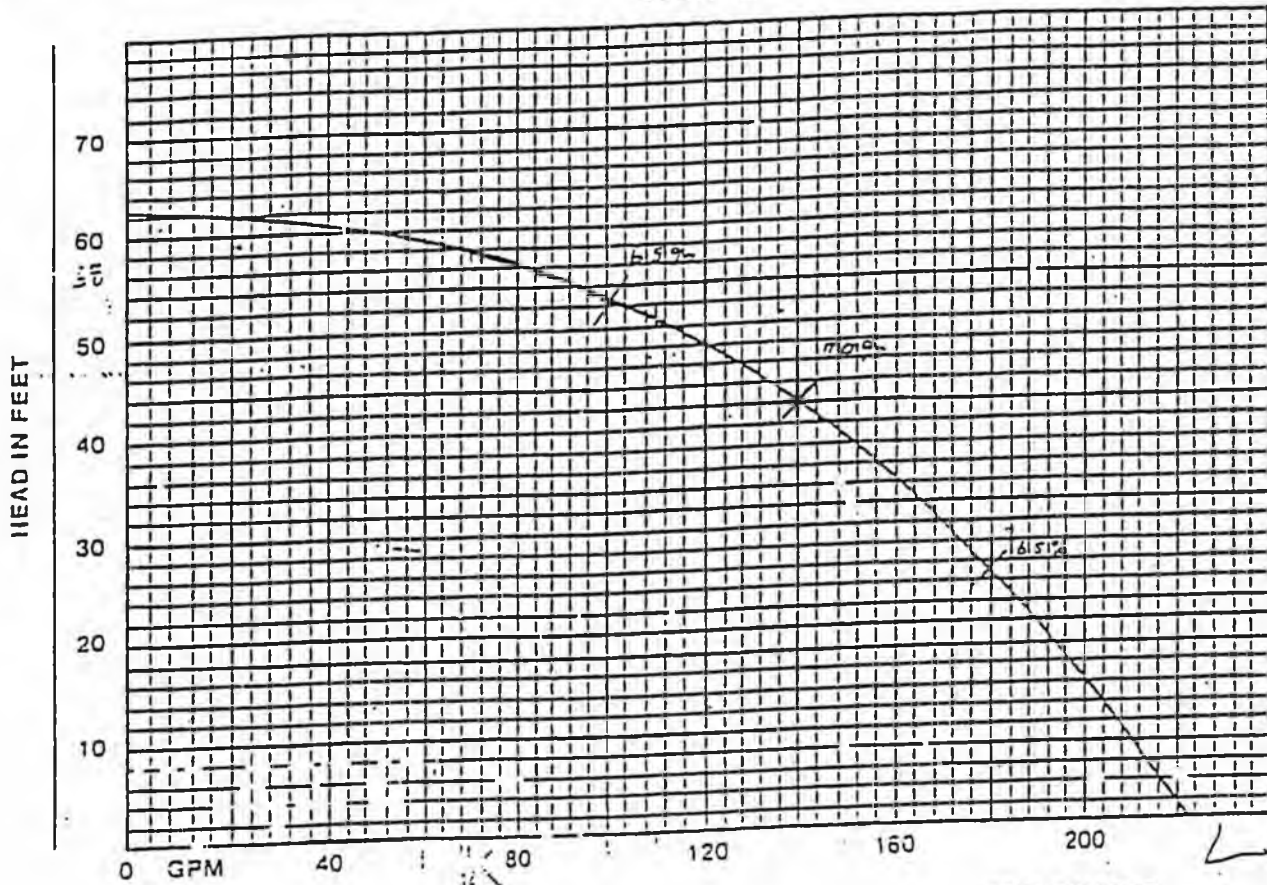
RT/ngs



6N130

PUMPS INC.

ONE STAGE PUMP PERFORMANCE
3450 RPM



2 hp per stage

4" DISCHARGE

Handwritten notes:
 10 1/2" = 65.0
 10 1/2" = 65.0
 10 1/2" = 65.0

Handwritten notes:
 10 1/2" = 65.0
 10 1/2" = 65.0

MODEL	NO. OF STAGES	HP REQUIRED	LENGTH	SHIP WT.	PART NUMBER
6N130-2	2	5	22.13"	70	47607-7
6N130-4	4	7 1/2	28.25"	99	47608-5
6N130-5	5	10	32.13"	113	47609-3
6N130-8	8	15	43.75"	156	47510-1
6N130-10	10	20	51.13"	184	47511-9
6N130-13	13	25	62.25"	227	47512-7
6N130-16	16	30	73.38"	270	47513-5
6N130-21	21	40	91.88"	341	47514-3

RECEIVED

DEC 18 1985

Environmental Conservation

BARTLESVILLE, OKLAHOMA

STANDARD PUMPS Inc.

Appendix J
Page 37

APRIL 1, 1983

WELL LOG

Wheaton Water Wells, Inc.

Box 071218 • Wasilla, Alaska 99607 • 376-2011

230' 10' 10V
77

OWNER Hugh Adams DEPTH OF WELL 100
 ADDRESS SRA, BOX 61128, PALMER, AK. 99645 STATIC LEVEL 40
 WELL - SITE CRIMSON VIEW GALS. PER MIN. APPROX. 100
 LOT TRACT A SCREENED 20'-100' slot
 BLOCK _____ PERFORATED 60'-80'
 DATE 7-30-84 SIZE OF CASING 6.50

KIND OF FORMATION:

FROM <u>0</u> Ft. to <u>2</u> Ft. <u>Top soil</u>	FROM _____ Ft. to _____ Ft. _____
FROM <u>2</u> Ft. to <u>45</u> Ft. <u>sand, gravel</u>	FROM _____ Ft. to _____ Ft. _____
FROM <u>45</u> Ft. to <u>60</u> Ft. <u>moist sand</u>	FROM _____ Ft. to _____ Ft. _____
FROM <u>60</u> Ft. to <u>100</u> Ft. <u>gravel</u>	FROM _____ Ft. to _____ Ft. _____
FROM _____ Ft. to _____ Ft. _____	FROM _____ Ft. to _____ Ft. _____
FROM _____ Ft. to _____ Ft. _____	FROM _____ Ft. to _____ Ft. _____
FROM _____ Ft. to _____ Ft. _____	FROM _____ Ft. to _____ Ft. _____
FROM _____ Ft. to _____ Ft. _____	FROM _____ Ft. to _____ Ft. _____

DRILLER J. R. [Signature]

Anchorag

OWNER Hugh Adams ADDRESS _____

ENGINEER _____

WELL LOCATION Crimson View Subdivision

TOTAL DEPTH 101 DEPTH OF CASING 81 SCREEN FROM 81 TO _____

CASING SIZE 6" SCREEN DIA 6" SCREEN SLOT 20

REMARKS Perforated 60-80"

PUMP INTAKE DEPTH 74 PUMP SIZE 20 hp AIRLINE DEPTH 68

STATIC WATER LEVEL 47 AVG DISCHARGE GMP MAX DRAW DC _____

PUMP ON: 10:00 TIME 8-12 DATE _____ PUMP OFF: 4:00 TIME 8-12 DATE _____
(am) (pm)

DATE	TIME	PIEZO TUBE	FLOW RATE	WATER LEVEL	COMMENTS
8-12-84	10:00	18	178	47	Brown cast, 60 PSI Clearing
	10:05	18	178	49	
	10:10	18	178	49	OTV 55PSI
	10:15	26	214	49	
	10:20	35	250	49.5	
	10:25	45	280	50	OTV
	10:30	50	300	50	OTV
	10:35	50	300	50	
	10:40	50	300	50	
	10:45	50	300	50	
	10:50	50	300	50	
	10:55	50	300	50	
	11:00	50	300	50	
	11:05	50	300	50	
	11:10	50	300	50	
	11:15	50	300	50.5	OTV - Open Discharge
	11:20	52	305	50.5	Crystal Clear
	11:25	52	305	50.5	
	11:30	52	305	50.5	
	11:35	52	305	50.5	
	11:40	52	305	50.5	
	11:45	52	305	50.5	
	11:50	52	305	50	
	12:00	52	305	50.5	
	12:05	52	305	50.5	
	12:10	52	305	50.5	
	12:15	52	305	50.5	
	12:20	52	305	50.5	TDS ~220 PPM
	12:25	52	305	50.5	Pulled Samples
	12:30	52	305	50.5	
12:35	52	305	50.5		
12:40	52	305	50.5		
12:45	52	305	50.5		
12:50	52	305	50.5		
12:55	52	305	50.5		
1:00	52	305	50.5		
1:05	52	305	50.5		
1:10	52	305	50.5		

NOV 27 1982
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
MSD

Anchorage.

WELL - TEST PUMP RE T

OWNER Hugh Adams ADDRESS _____

ENGINEER _____

WELL LOCATION Crimson View Subdivision

TOTAL DEPTH 101 DEPTH OF CASING 81 SCREEN FROM 11 TO _____

CASING SIZE 6" SCREEN DIA 6" SCREEN SLOT 20

REMARKS Perforated 60 - 80

PUMP INTAKE DEPTH 74 PUMP SIZE 20 hp AIRLINE DEPTH 68

STATIC WATER LEVEL 47 AVG DISCHARGE _____ GPM _____ MAX DRAW DC _____

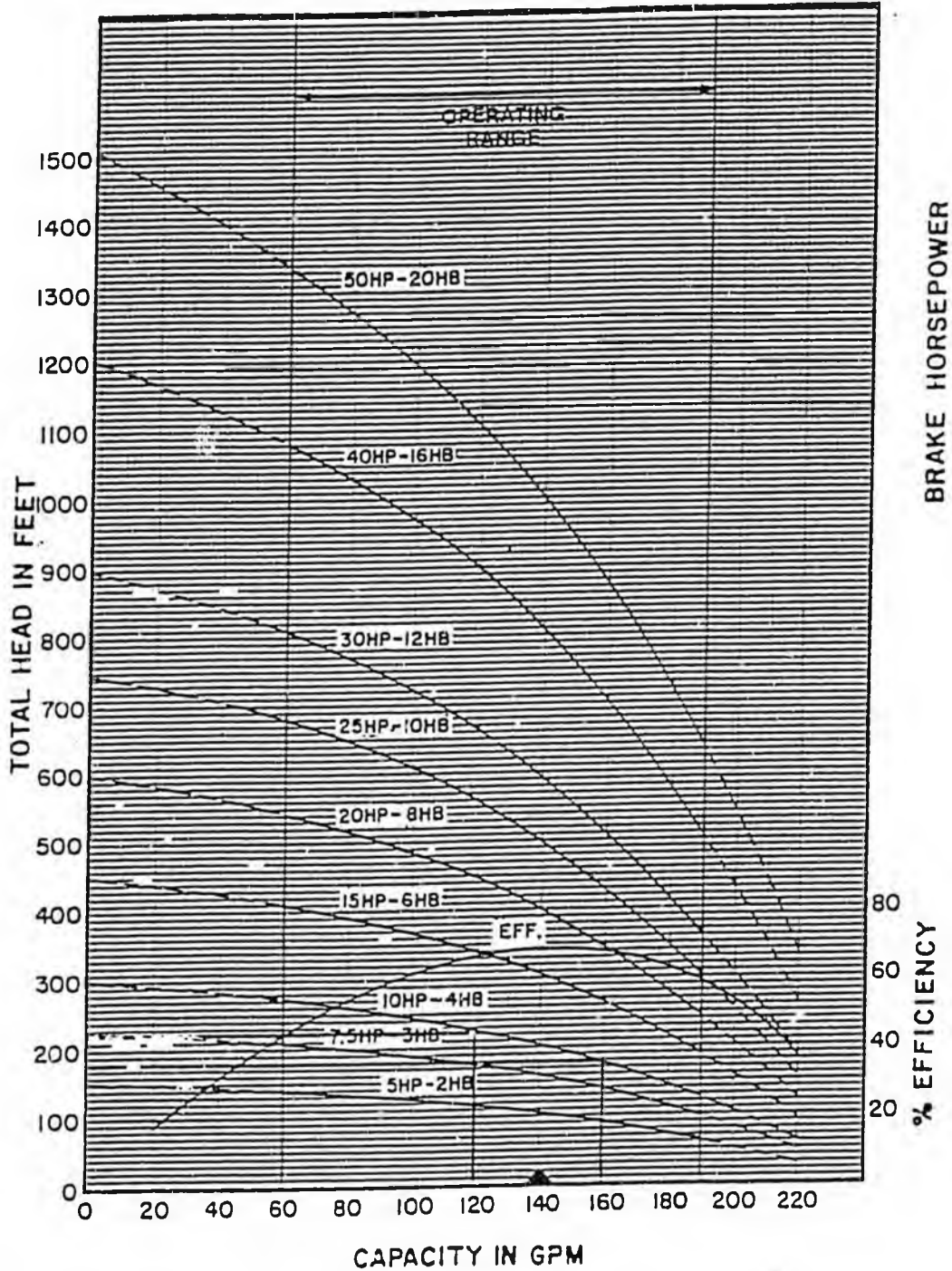
PUMP ON: 10:00 TIME 8-12 DATE _____ PUMP OFF: 4:00 TIME 8-12 DATE _____

DATE	TIME	PIEZO TUBE	FLOW RATE	WATER LEVEL	COMMENTS
8-1-84	1:20	52	305	50.5	
	1:30	52	305	50.5	
	1:35	52	305	50.5	
	1:40	52	305	50.5	
	1:45	52	305	50.5	
	1:50	52	305	50.5	
	1:55	52	305	50.5	
	2:00	52	305	50.5	Shut down
				47	15 sec.
				47	30 sec.
				47	45 sec.
				47	End Test
	2:01				
	2:02				
	2:03				
	2:04				
	2:05				
	2:10				
	2:15				
	2:20				
2:25					
2:30					
2:40					
2:50					
3:00					
3:10					
3:20					
3:30					
3:40					
3:50					
4:00					

RECEIVED
 NOV 27 1984
 CRIMSON VIEW SUBDIVISION
 ANCHORAGE, ALASKA



140 GPM SERIES "HB" PUMPS PERFORMANCE CURVES



▲ RATED FLOW

Note: Continuous operation outside operating range will void warranty.

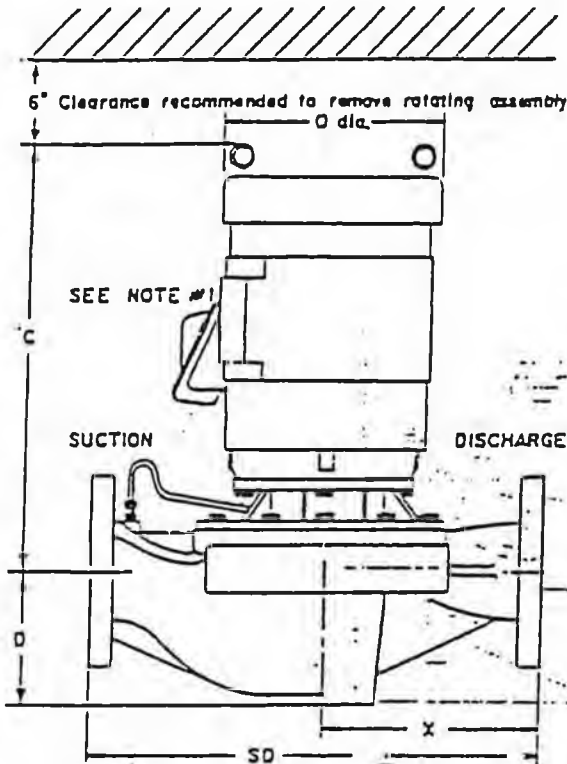
MODEL HB 140 GPM — RPM 3450
STAGE "HB" SERIES

GUARANTEED AS MINIMUM PERFORMANCE ONLY IF CERTIFIED

MINIMUM WELL SIZE 6" I.D.

INLINE PUMPS
TYPE PV

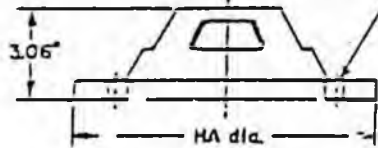
OUTLINE DIMENSIONS
SINGLE PHASE UNITS



PUMP SIZE	ANSI 125 LB. FLANGES SUCT. & DISCH.	BARE PUMP DIMENSIONS					APPROX. PUMP WT. LBS.
		D	SD	X	HA	HE	
2X2X6A	2	4.88	13.50	6.50	9	7.88	63
2.5X2.5X6A0B	2.5	5.62	15.50	7.00	10	8.68	83
2X2X8A	2	4.88	15.50	7.50	9	7.88	85
2.5X2.5X8A	2.5	5.62	16.50	8.00	10	8.88	99
3X3X8A	3	5.88	18.00	8.50	10	8.88	113
4X4X8A	4	6.50	21.00	10.00	11	9.88	148
4X4X7A	4	6.50	20.50	9.50	11	9.88	153
2X2X10A	2	5.50	19.00	9.50	9	7.88	121
3X3X10B	3	5.88	20.00	9.50	10	8.88	142
4X4X10B	4	6.50	22.00	11.00	11	9.88	173

BASE (Pedestal)
OPTIONAL
 Furnished
 Not Furnished

.5 Dia. 4 Holes
equally spaced
straddle
centerline
on HE dia.
half arc



ALL DIMENSIONS
ARE IN INCHES

APPROX. TOTAL
UNIT WT. LBS.

NOTE 1: CASING BOX LOCATED 45° CLOCKWISE FROM SUCTION FLANGE WHEN VIEWED FROM MOTOR END. (MOTOR MAY BE ROTATED IN 90° INCREMENTS)

NOTE 2: MAINTAIN 'X' DIMENSION FROM CENTERLINE OF UNIT ON EACH SIDE OF CASING FOR MINIMUM CLEARANCE.

SINGLE PHASE MOTOR HP	MOTOR FRAME	UNIT DIMENSIONS		APPROX. MOTOR WT. LBS.
		C MAX	D MAX	
1750	3500			
.50	1.5			35
.75	-	15.75		35
1	-		8.50	35
1.5	2	16.75		45
2	3	20.50		75
3	5	21.25	10.50	87
5	7.5	23.25		127
7.5	10	24.25	12.12	160
10	-	24.25		170

CUSTOMER _____ JOB NAME _____
P.O. NO. _____ ITEM NO. _____
S.O. NO. _____ SERIAL NO. _____
MOTOR MFR. _____ ENC. _____ FRAME _____ HP _____ VOLTS _____ HZ. _____
PUMP TYPE & SIZE _____ RPM _____ G.P.M. _____ TOTAL HD. FT. _____
CERTIFIED FOR APPROVAL CONSTRUCTION BY _____ DATE _____

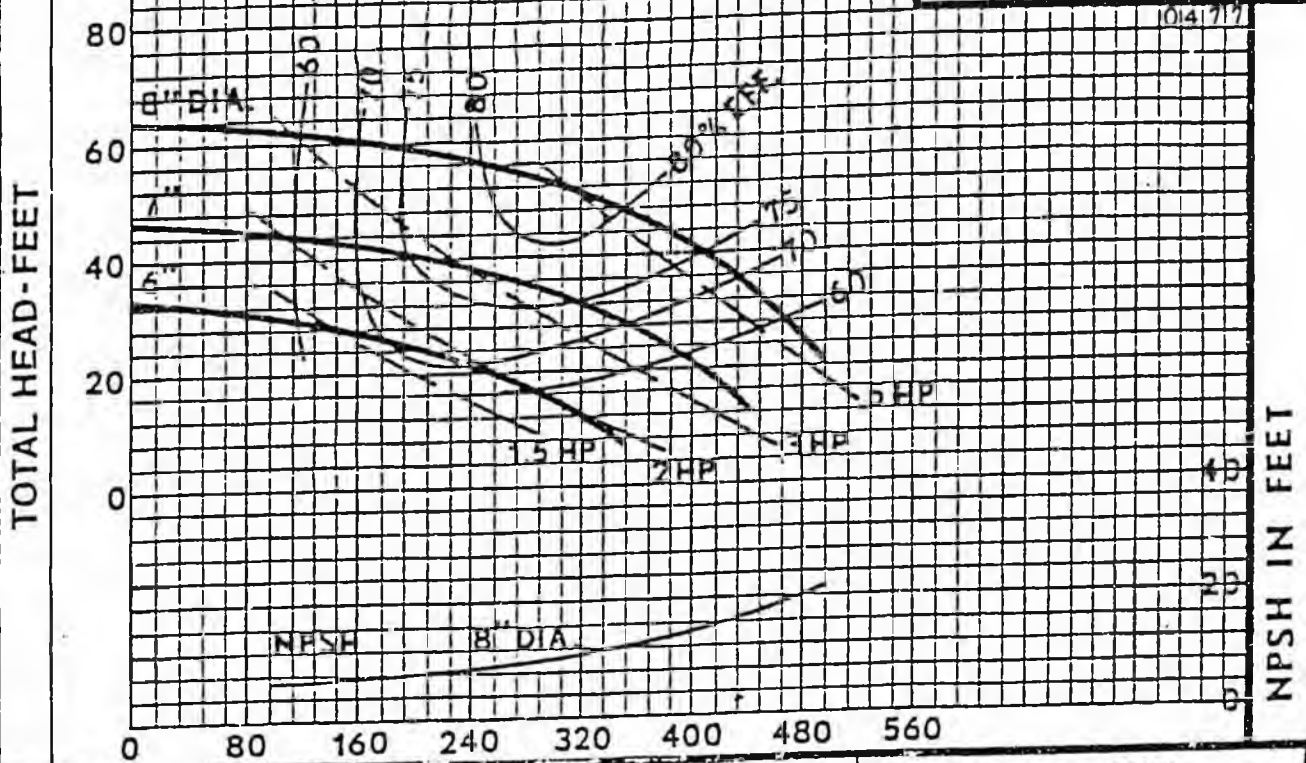
SUBJECT TO
CHANGE UNLESS
CERTIFIED FOR
CONSTRUCTION

SECTION 2240
INLINE PUMPS

PV 4 x 4 x 8A

 Peerless Pump
An Indian Head Company

1750 RPM



Imp 2683739 (143-215JMV)

U.S. GALLONS PER MINUTE

Curve 2897846i

RECEIVED DEC 0 1 1987

Appendix J
Page 43

CUSTOMER _____ JOB NAME _____
P O NO _____ ITEM NO _____ S O NO _____ SERIAL NO _____
PUMP TYPE & SIZE _____ HP _____ RPM _____ GPM _____ TOTAL HO FT _____
CERTIFIED FOR APPROVAL CONSTRUCTION BY _____ DATE _____

STATE OF ALASKA

DEPT. OF ENVIRONMENTAL CONSERVATION

DIVISION OF ENVIRONMENTAL HEALTH
DRINKING WATER AND WASTEWATER PROGRAM
1075 CHECK STREET
P.O. BOX 871064
WASILLA, ALASKA 99687-1064
<http://www.state.ak.us/home.htm>

Telephone: (907) 376-5038
Fax: (907) 376-2382

January 28, 1998

Mr. Dick Lowman, P.E.
Alaska Rim Engineering
P.O. Box 2749
Palmer, Alaska 99645

RE: Crimsonview Class "A" Public Water System (PWSID #224329); Proposed Water System Upgrades for Phase II Service; Plan Review/More Information Requested

Dear Mr. Lowman:

On December 5, 1997, this office received your submittal of plans to upgrade the referenced public water system. Subsequently, on December 8 and 17, 1997, additional information was provided for this project. On January 27, 1998, I met with Mr. Nelson Elliot and two other members of the Crimsonview Homeowners Association to discuss the proposed upgrades. These upgrades are intended to expand the capacity of the system to provide service to phase II of Crimsonview Subdivision. I have reviewed the submittals and have the following comments:

Owner's Statement: You provided an owner's statement from the developer of phase II of this subdivision. This owner's statement provides authorization to review the proposed system upgrades. However, since most of the water system is owned by the Homeowners Association, a second owner's statement will need to be completed and submitted by the Homeowners Association before an "Approval To Construct" Certificate can be issued.

Peak Demand: You provided peak demand calculations for phases I and II combined (68 lots), which show that the water system needs to be capable of producing 146.6 gpm under peak demand. You provided current well flow test results (July 7, 1997) which show the well is capable of meeting the estimated peak demand and total daily demand requirements of the subdivision. You stated that the existing well pump (7.5HP/140 gpm) is slightly undersized to meet the estimated peak demand and you are proposing the installation of a Peerless 2HP inline booster pump to provide 20 to 30 feet of additional lift. You stated that this will result in the existing well pump being capable of producing 160 gpm. Based on the information you provided, it appears that the proposed booster pump is adequately sized, when combined with the existing well pump, to meet the minimum peak demand requirements for both phases I and II.

During my meeting with the Homeowners Association representatives, a copy of the subdivision covenants was provided. Article #5, item #7 of the covenants provides a requirement for landscaping the lots. The Homeowners Association has reported water use of 1000 gpd/home during

peak irrigation months for phase I in the past. This is twice the total daily demand expected from typical residential use. The peak demand calculations you provided do not address the expected additional demand from landscape irrigation. The original water system design for this subdivision also did not include additional demand capacity for landscape irrigation. Although the State's Drinking Water Regulations do not require public water systems to meet additional demand expected from landscape irrigation, this issue needs to be addressed, since it is a requirement of the subdivision covenants. One means of addressing this issue is to amend the subdivision covenants to include a provision for scheduled irrigation. Specific times or days can be identified for the homeowners to irrigate their yards. Irrigation periods should not coincide with typical morning and evening peak demand periods.

Future Well Pump: You stated that the developer of phase II is proposing to establish an escrow account to cover the cost of a larger well pump (10HP), when the existing well pump is failed. You provided a performance curve for the proposed well pump: Red Jacket 10HP-4B. Based on the information you provided, it appears that this well pump is adequately sized for the intended use.

Storage: You stated that the system currently uses 14 Con-Aire 85 gallon pressure tanks. The ADEC records indicate that 14 Con-Aire 220 gallon pressure tanks were originally installed. It appears that there is an error in the ADEC records. The Homeowners Association has verified that the pressure tanks provide approximately 300 gallons of drawdown storage under the normal operating pressures. Based on this information, it appears that the pressure tanks are adequately sized to meet the minimum storage requirements for both phases I and II, with either the existing 7.5 HP well pump or the proposed 10HP well pump, and including the proposed 2HP booster pump.


Water Mains: The distribution system (4-inch DIP) for phase II was installed in 1985 along with the construction of the water system for phase I. You stated that the phase II water main was excavated in several locations and a portion of the water main was found to have inadequate ground cover. You verified that insulation has been installed on that portion of the water main. You also stated that the water main was pressure tested and a leaking valve was found. You verified that the valve has been replaced. You stated that the water main will be retested and chlorinated in the spring prior to use. This is acceptable to the Department once the proposed upgrades have been approved, subject to a requirement that satisfactory bacteria test results be obtained from this portion of the distribution system, once it has been disinfected and flushed.

System Reliability: You stated that the system is currently provided with reliable power through the Matanuska Electric Association, and that a backup power supply is not needed. You are proposing the installation of a multi-function automatic dialer in the well control building. You stated that the operator can be alerted to abnormal pump running conditions, unusual noises, temperature extremes, line voltage, running amps, and pressure abnormalities, and that the automatic dialer can serve as a data logger. The Department agrees that a backup power supply is not required for this public water system, and that the automatic dialer can be used to enhance system reliability.

Construction Approval: Before an "Approval to Construct" Certificate can be issued for the proposed upgrades, an owner's statement will need to be provided by the Homeowners Association. The owner's statement needs to specifically identify which items are authorized for installation: 2HP booster pump and/or future 10HP well pump. Once this information is received, an "Approval to Construct" can be issued by the Department.

If you have any questions, please do not hesitate to contact me.

Sincerely,



Archie Giddings, P.E.
Environmental Engineer

AG:
cc: Donald Mellish
Nelson Elliot