ALASKA LEGISLATURE COMMITTEE FILES 1999-2000 8672

9853 HOUSE JUDICIARY

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 enginerring firm's conclusion that the existing system's desing was still sutiable to serve both Phase I and II. The Seond firm, Alaksa 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 Assocition concerns Regarding lawn watering. Prior to Mr. Mellish's plans for development, the Phase I homeowners has 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 Assocition, 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 norm. 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 becaomes 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, engeniers 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 assocition that owns, operates, nmanages or controls a utility system servicng ten or more cusotmer/members for compensation is a "public utility" subject to regulation under AS 42.05. The Commission will grant exemptions to homeowners under AS42.05.711(d) because it has found that under certain circumstances, full regulation is not in the public interst.

- 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 prventing the consumer from having access to the APUC, HB 185 is anti-consumer.

- HB 185 is anit-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 esisting distribution system, thereby increasing the cost of the development. This is not a case of a developer asking a neiboring subdivision for water, this is a case of homes with in 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, andthey 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 utlimate natural monopoly. Ir. 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 deveopment 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.

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,

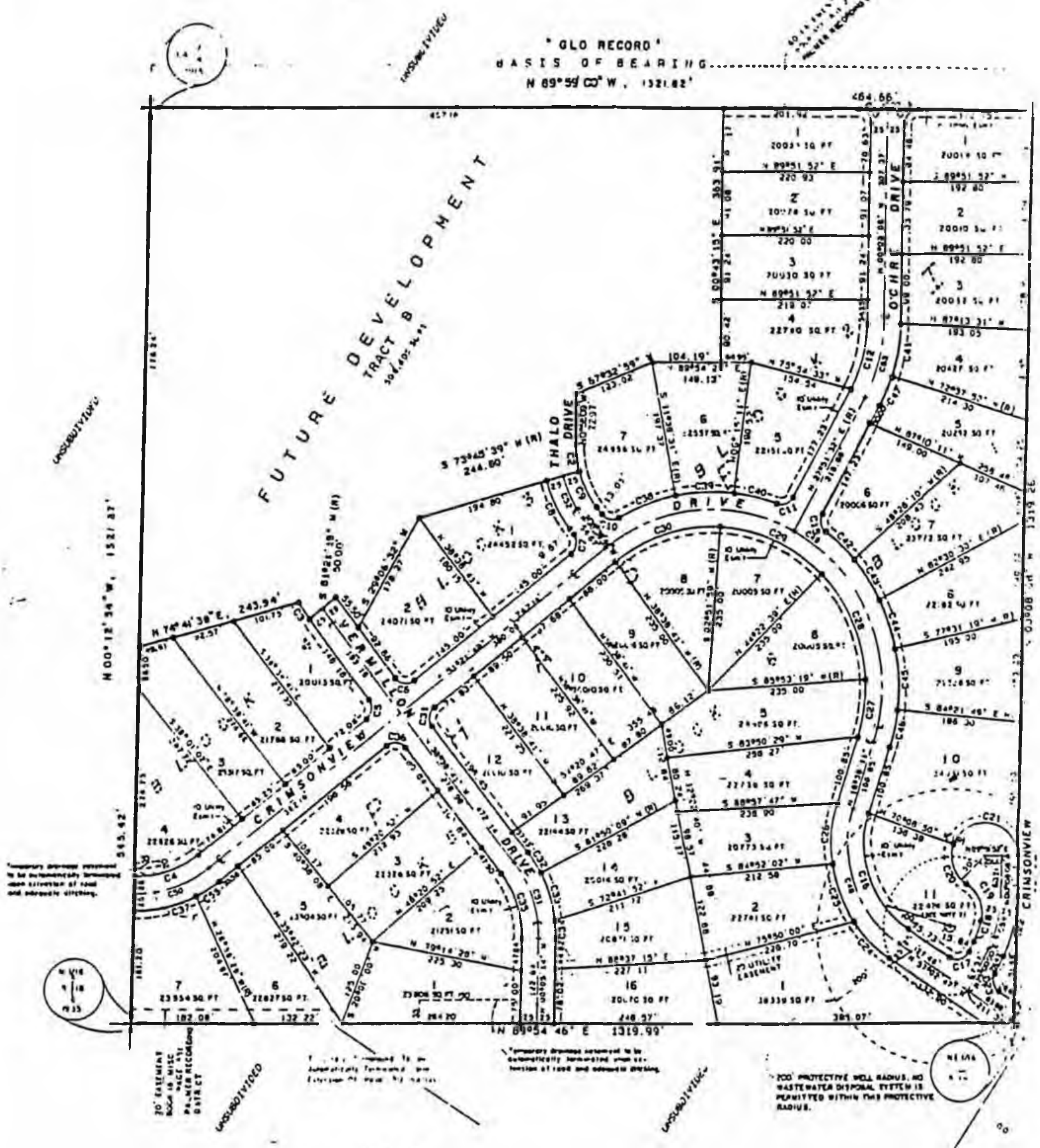
Michelle Bittner

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)

NW 1/4 NE 1/4 Sec. 18, T17N, R2E, S.M.



LEGEND

- GLO BRASS CAP MONUMENT RECOVERED THIS SURVEY
- BRASS CAP MONUMENT RECOVERED THIS SURVEY
- 5/8" x 30" REBAR SET THIS SURVEY
- COMMUNITY WELL POINT

Appendix 4
Page 1

NOTES

1) THERE MAY BE FEDERAL, STATE AND LOCAL REQUIREMENTS GOVERNING LAND USE. IT IS THE RESPONSIBILITY OF THE INDIVIDUAL PARCEL OWNER TO OBTAIN A DETERMINATION WHETHER SUCH REQUIREMENTS APPLY TO THE DEVELOPMENT OF PARCELS SHOWN HEREON.

2) LOT 11 BLOCK 1 PHASE I OF THIS PLAT IS THE SITE OF THE COMMUNITY WELL SYSTEM; AND, WILL BE EXCLUSIVELY USED AS SUCH UNTIL THE TIME OF A CONNECTION OF THIS SUBDIVISION'S DESIGNED WATER SYSTEM TO A POSSIBLE FUTURE CITY WATER SYSTEM AT WHICH TIME THE COMMUNITY WELL WILL BE ABANDONED.

3) TRACT B IS RESTRICTED FROM DEVELOPMENT UNTIL IT CAN BE BROUGHT INTO COMPLIANCE WITH MATANUSKA-SUSITNA BOROUGH SUBDIVISION ORDINANCE.

4) ALL LOTS HAVE 100% USABLE AREA UNLESS OTHERWISE NOTED.

CERTIFICATE OF APPROVAL BY THE ALASKA DEPT. OF ENVIRONMENTAL CONSERVATION

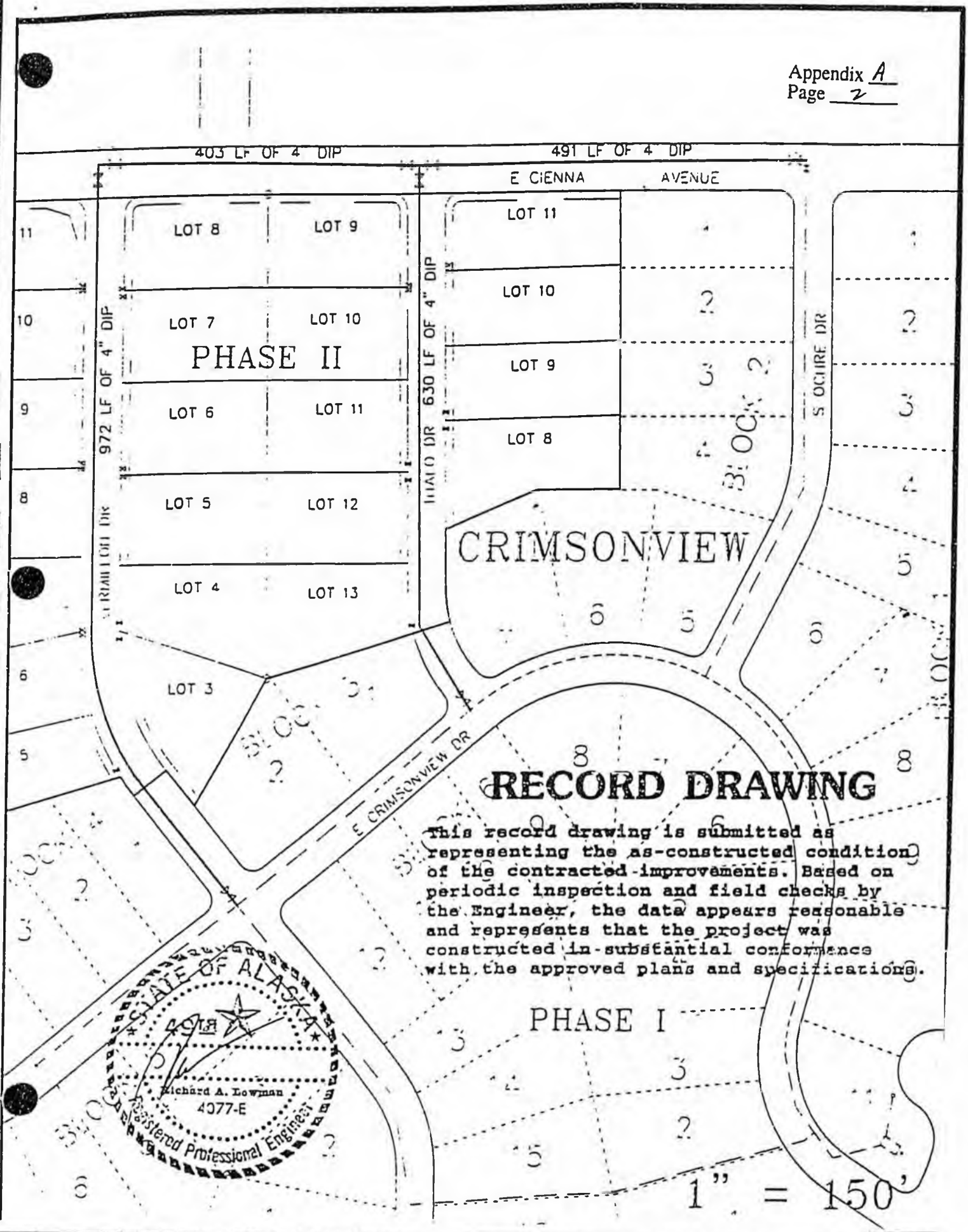
THIS SUBDIVISION HAS BEEN REVIEWED IN ACCORDANCE WITH 18AAC72.065 AND IS APPROVED, SUBJECT TO ANY NOTED RESTRICTIONS.

Sharon L. Sexton for Paul Pinard — SIGNATURE
District Supervisor — TITLE
DATE October 16, 1985

CERTIFICATE OF PAYMENT OF TAXES

I CERTIFY THAT ALL CURRENT BOROUGH TAXES AND SPECIAL ASSESSMENTS THROUGH ______ 19__ AGAINST THE PROPERTY INCLUDED IN THE SUBDIVISION OR RESUBDIVISION HEREON HAVE BEEN PAID.

BOROUGH TAX COLLECTION OFFICIAL — DATE



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.

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

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 contaminents 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 recommened 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.

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:

Maximum Pump Cycle = 1 hour / (((2 x ((V/(Q/2)))

Where:
V = Effective withdrawal volume = 135 gallons
Q = Pump capacity = 135 gpm

Thus -
Maximum pump cycle = 60 min/ (((2 x ((135/(135 gpm/2)))
Maximum pump cycle = 15.0 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.

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. pipe and 70 LF of 2.5" dia. pump supply line.	24.6 ft
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:

Theoretical Horsepower = (flow x TDH) / 3960
Theoretical Horsepower = (133 gpm x 167.0 ft)/3960 =5.6HP

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

Actual Horsepower = Flow x TDH x Eff. factor
Actual Horsepower = 133 gpm x 167.0 ft. x (0.000335)
Actual Horsepower = 7.4 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.

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

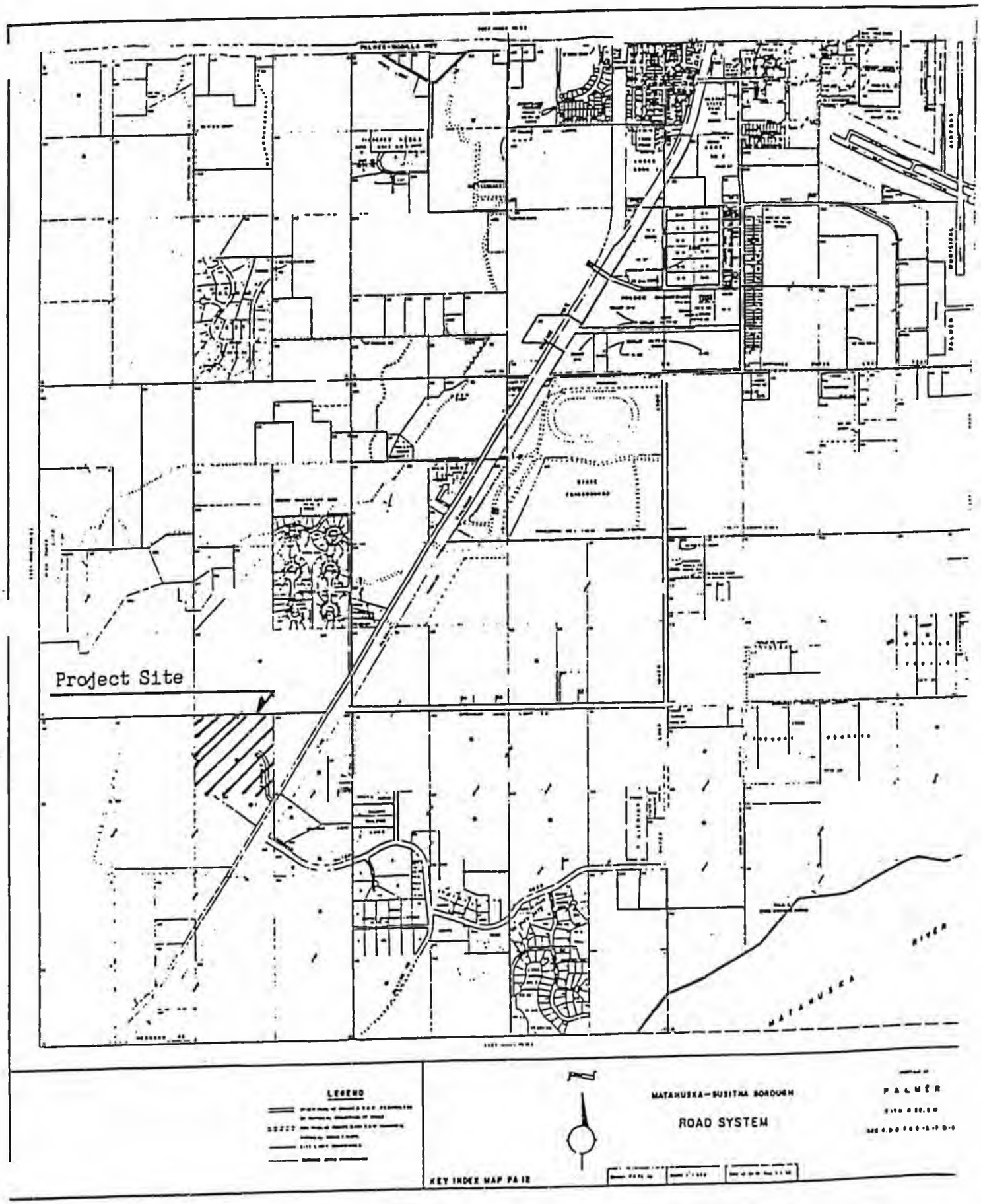
FOR

CRIMSONVIEW SUBDIVISION

WATER SUPPLY SYSTEM

PROJECT NUMBER 184261

September 10, 1984



ATTACHMENT A
Project Location Map

CRIMSONVIEW SUBDIVISION
Project Number 184261
May 23, 1984

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
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OWNER Hugh Adams
ADDRESS SRA Box 6168, Palmer, Ak. 99645
WELL – SITE Crimson View
LOT Tract A
BLOCK
DATE 7-30-84

DEPTH OF WELL 100
STATIC LEVEL 40
GALS. PER MIN. APROX. 100
SCREENED 20'-100 slot
PERFORATED 60'-80'
SIZE OF CASING 6 ED

KIND OF FORMATION:

FROM	0 Ft.	to	2 Ft.	Top Soil	FROM	Ft.	to Ft.
FROM	2 Ft.	to	45 Ft.	Sand, Gravel	FROM	Ft.	to Ft.
FROM	45 Ft.	to	60 Ft.	moist sand Gravel	FROM	Ft.	to Ft.
FROM	60 Ft.	to	100 Ft.	Gravel, water	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 [signature]

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

Anchorage

WATERWELL - TEST PUMP REPORT

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

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 "ATERWELL - 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

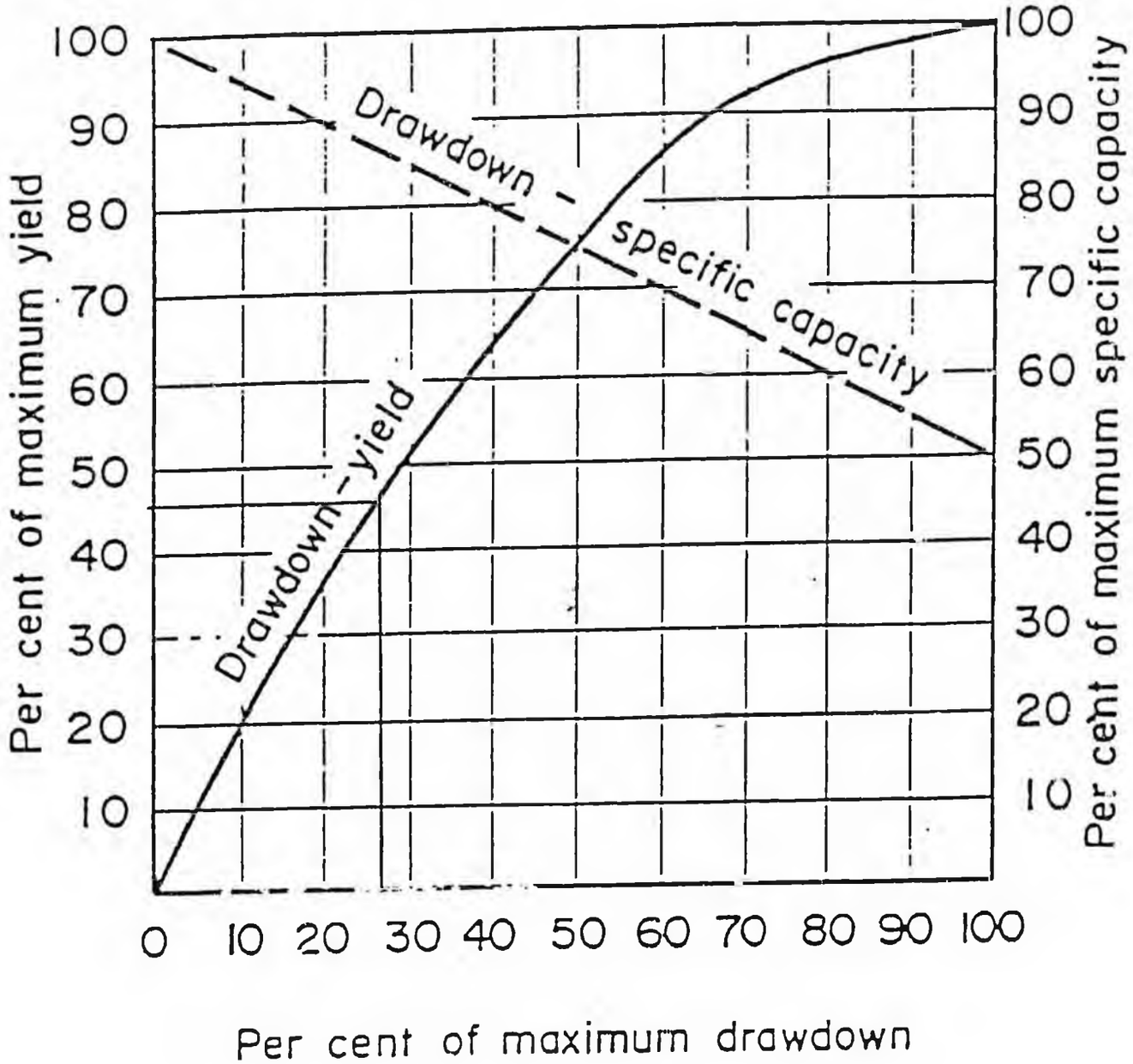
REMARKS Perforated 60 - 80

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

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.
	2:01			47	End Test
	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
I.D. NO.

ANCHORAGE WELL & PUMP 243-0700
Water System Name Phone No.

6401 THWAINA DR
Mailing Address

ANCHORAGE, AK 99502
City State Zip Code

SAMPLE DATE: 08 (Mo.) 12 (Day) 84 (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
1	CRIMSON VIEW SUBD.	12:30 PM	[illegible]
2	GLENN HWY		
3	PALMER		
4			
5			

TO BE COMPLETED BY LABORATORY

Analysis shows this Water SAMPLE to b

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

Date Received 8/13/84

Time Received 0800

Analytical Method:

- ☐ Fermentation Tube
- ☒ Membrane Filter

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

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

08-1220 (b) Rev. 1983

BACTERIOLOGICAL WATER ANALYSIS RECORD

READ INSTRUCTIONS

BEFORE

COLLECTING SAMPLE

Membrane Filter: Direct Count _____ Coliform/100ml

Verification: LTB _____ BGB _____

Final Membrane Filter Results 0 Coliform/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. [ ][ ][ ][ ][ ][ ]

Public Water System Name: Anchorage Well & Pump

Address: 6901 Tanaina Drive

City: Anchorage, Alaska State: 99502 Zip Code

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

SAMPLE DESCRIPTION:

Collected By: J. Ridgway

Sample Location: Crimson View Subdivision

Source Type ☐ Surface Water ☐ Ground Water

Sample Date: 08 (Mo.) 12 (Day), 84 (Year)

☐ Routine Sample ☐ Untreated Water

☐ Special Purpose Sample ☐ Treated Water

TO BE COMPLETED BY CERTIFIED LABORATORY

CHEMICAL & GEOLOGICAL LABORATORIES OF ALASKA, INC.
Laboratory Name

Sample No. Station No.

5633 "B" STREET
Address

6209
Laboratory Analysis No.

ANCHORAGE, ALASKA 99502
City State Zip Code

DB August 13, 198
Received by Date

INORGANICS

	Limit	Mg/l
☐ Arsenic	(0.05)	< 0.001
☐ Barium	(1.)	0.05
☐ Cadmium	(0.010)	< 0.002
☐ Chromium	(0.05)	< 0.01
☐ Fluoride	(2.4)	< 0.10
☐ Lead	(0.05)	< 0.01
☐ Mercury	(0.002)	0.0003
☐ Nitrate - Nitrogen	(10.)	0.52
☐ Selenium	(0.01)	< 0.001
☒ Silver	(0.05)	< 0.01
☐ Turbidity	(1 NTU)	1.2
☐ _____		
☐ _____		
☐ _____		
☐ _____		
☐ _____		

ND Indicates Not Detected

8-21-84
Date Analysis Completed

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ORGANICS

	Limit	Mg/l
☐ Endrin	(0.0002)	
☐ Lindane	(0.004)	
☐ Methoxychlor	(0.1)	
☐ Toxaphene	(0.005)	
☐ 2, 4-D	(0.1)	
☐ 2,4,5 - TP Silvex	(0.01)	
☐ _____		
☐ _____		

RADIOACTIVITY

	Limit	pCi/l
☐ Gross Alpha	(15)	
☐ Radium 226 & 228	(5)	
☐ Gross Beta	(50)	
☐ Strontium - 90	(8)	
☐ Tritium	(20,000)	
☐ _____		
☐ _____		

Stephen C. Edde
Signature of Laboratory Supervisor

8-21-84
Date reported

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

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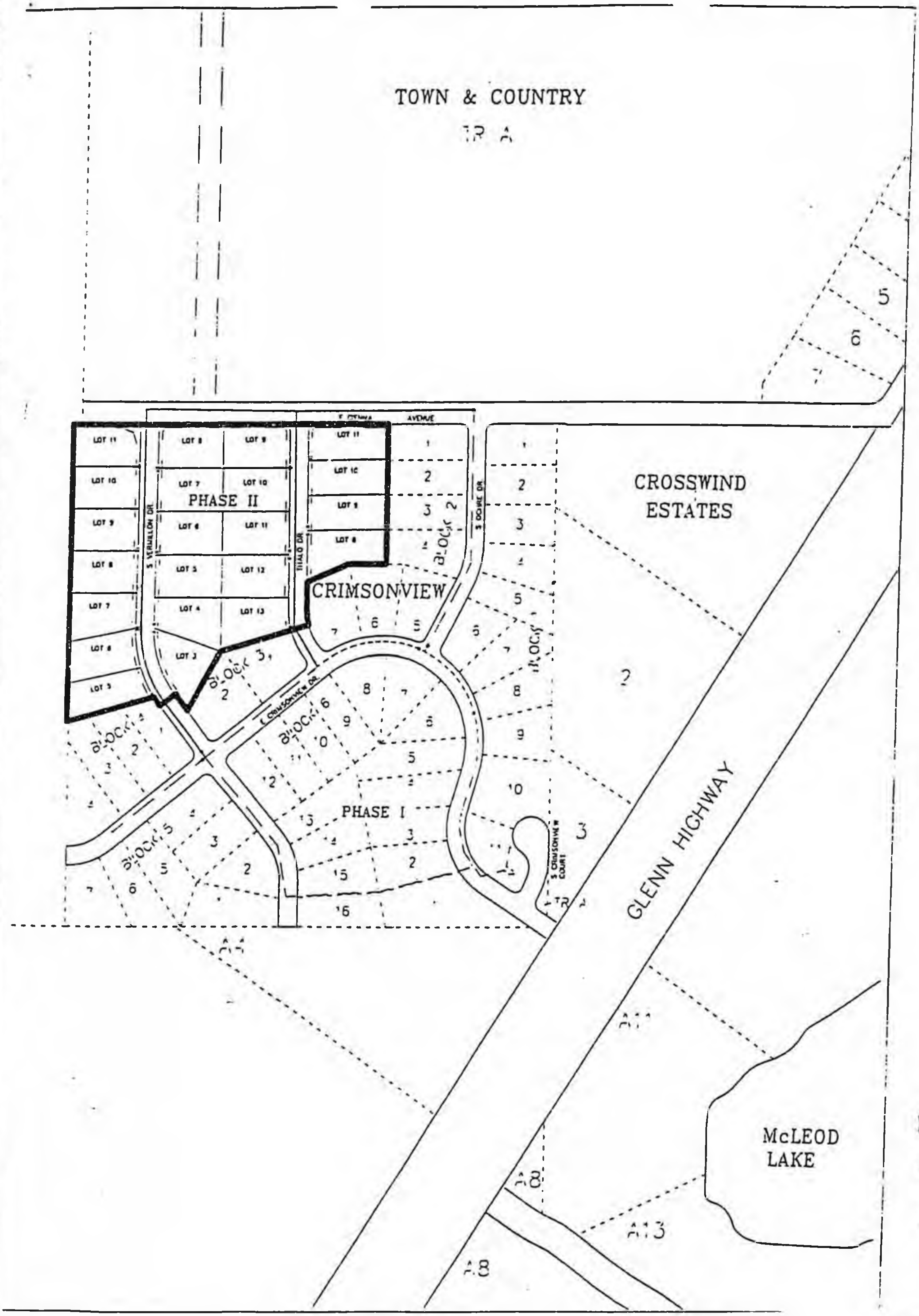
Page 1

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.

CONTENTS



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WATER SYSTEM DESIGN

Crimsonview Subdivision, Phase II
within NW$^1/_4$ NE$^1/_4$ 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 o" 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 desireable 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.

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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 independenly 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 attemp 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 system, 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 x 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 x $250 = $120

additionally

(d)	distribution main is being extended
(d)(2)	amount added is 3000 LF
	fee is $100 + 2 x $75 = $250

TOTAL PLAN REVIEW FEE IS $120 + $250 = **$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		Field Offices	
Anchorage	349-7755	Bethel	543-3215
Kenai	262-5210	Kodiak	486-6760
Mat-Su	376-5038	Valdez	835-4698
Western	349-7755	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.

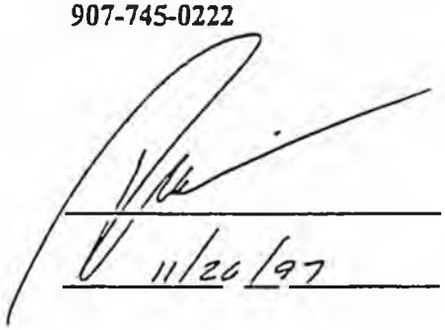
Please note that the discharge of the water to pressure test and the disinfect the distribution system may need to be permitted through this department to minimize water quality concerns.

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: 11/20/97

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	0.7
Key East	0.65
Section	18
Township North	17
Range East	2
Range West	
Latitude	61° 33' 50"
Longitude	149° 9' 31"

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 ased 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	d 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

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COMPUTE PUMPING HEAD

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

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SELECT PRESSURE TANKS

based on ADEC "Suggested Practice"

$$E = 0.95 \times (1 - (P_b / P_a))$$
$$V_t = 15 \times Qp / (N \times E)$$

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; pipes assumed in series	pipe type	c	nom. dia. inches	d inches	q gpm	L feet	velocity ft / sec	headloss 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 [illegible] ADDRESS [illegible]

ENGINEER ALASKA WELL ENGINEERING

WELL LOCATION _____

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

CASING SIZE 6 SCREEN DIAMETER 5 3/5 SCREEN SLOT [illegible]

REMARKS FERE 60-50 25 CONNECTED SITES

PUMP INTAKE DEPTH 72 PUMP SIZE 7½ 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	—	Ø	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	14.8	165	49'	20 PSI
7/8/97	24 00	14.8	165	49'	20 PSI
7/8/97	0015	14.8	165	49'	20 PSI
7/8/97	0030	14.9	165	49'	——
7/8/97	0045	14.9	165	49'	——
7/8/97	0100	14.9	165	49'	——
7/8/97	0115	14.9	166	49'	——
7/8/97	0130	14 9	166	49'	——
		14.4	15	—	RECOVERY
		14.4	30	—	——
		14.4	45	47'	——
7/8/97	0131	—	0	—	END TEST

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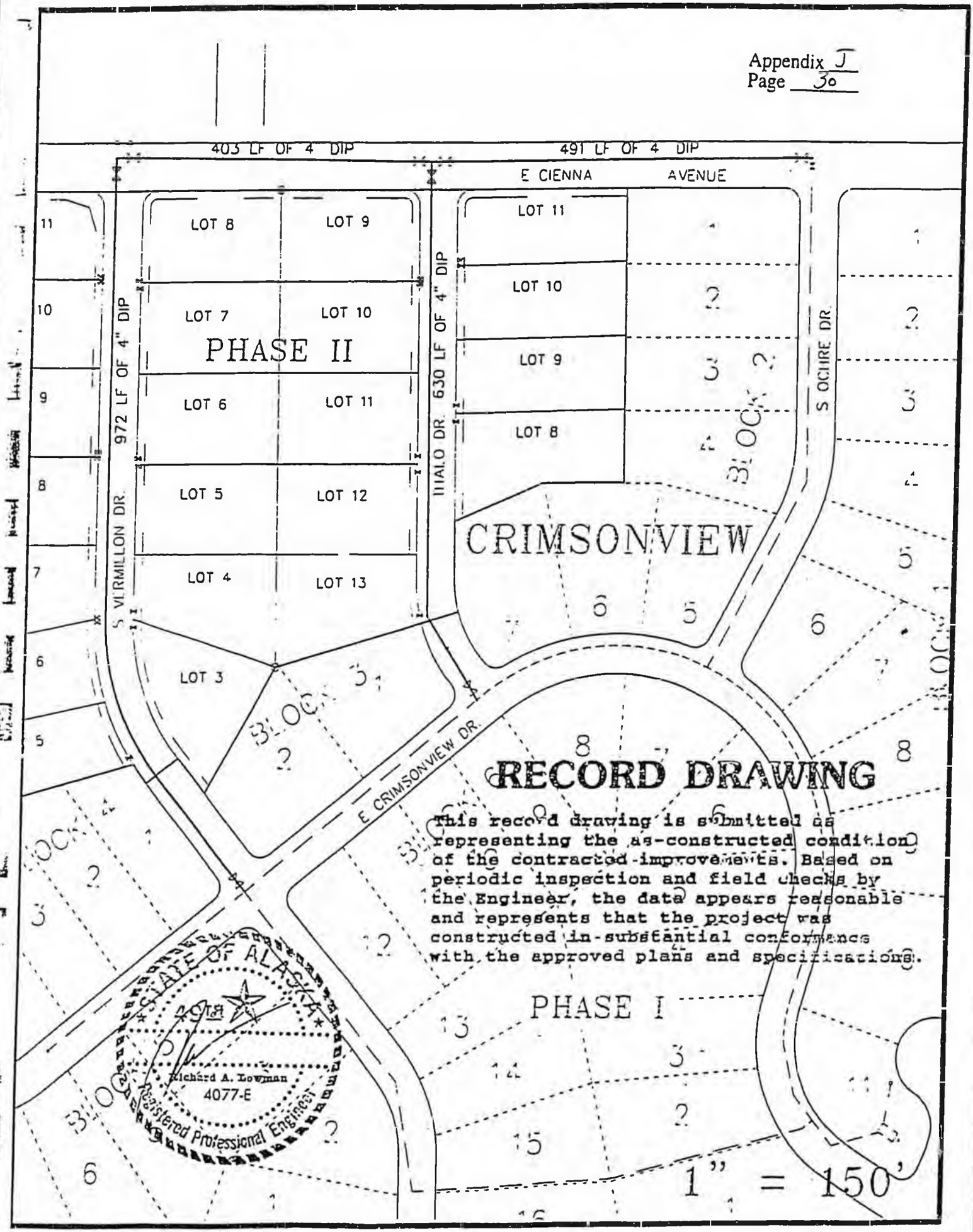


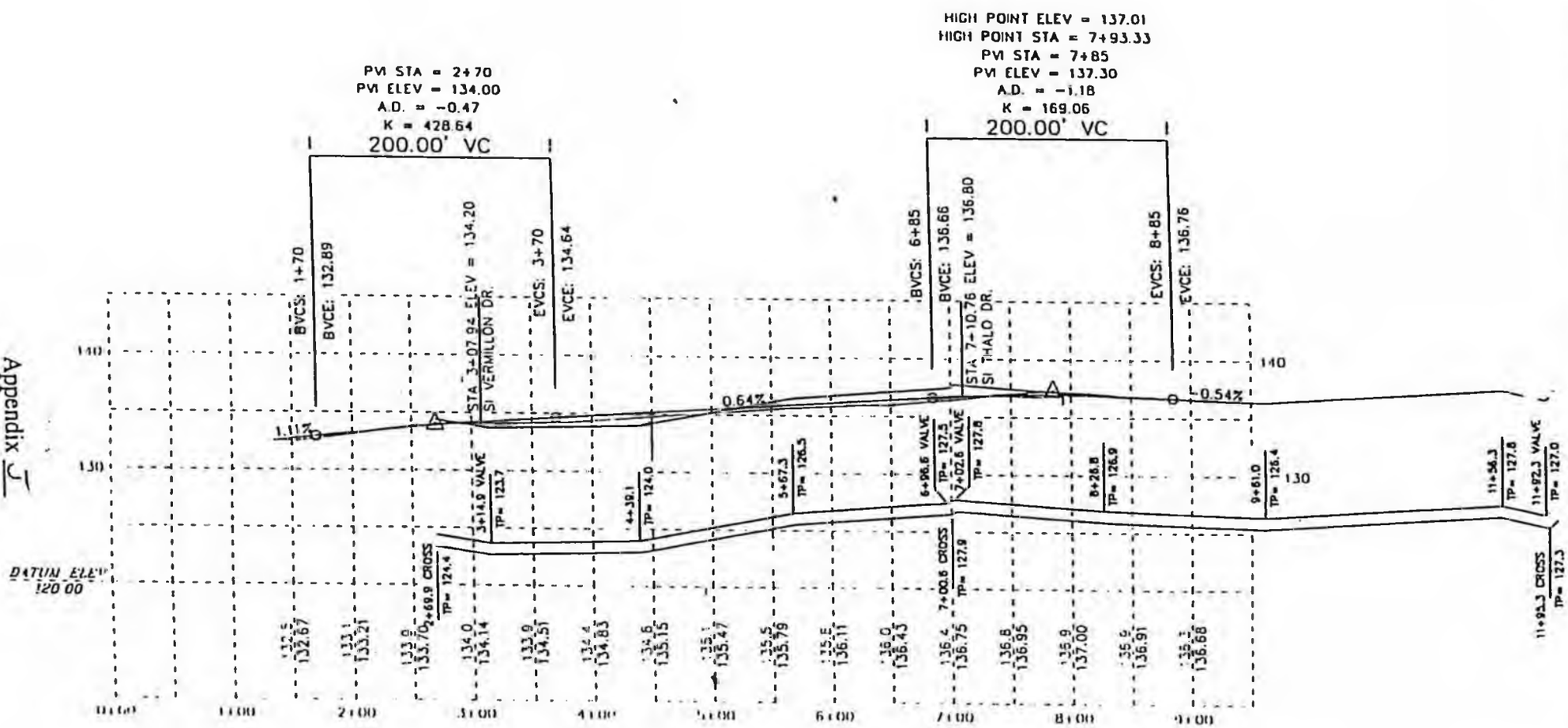
RECORD DRAWING

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.

STATE OF ALASKA
49TH
Richard A. Lowman
4077-E
Registered Professional Engineer

1" = 100' HOR.
1" = 10' VERT.

CIENNA AVE.



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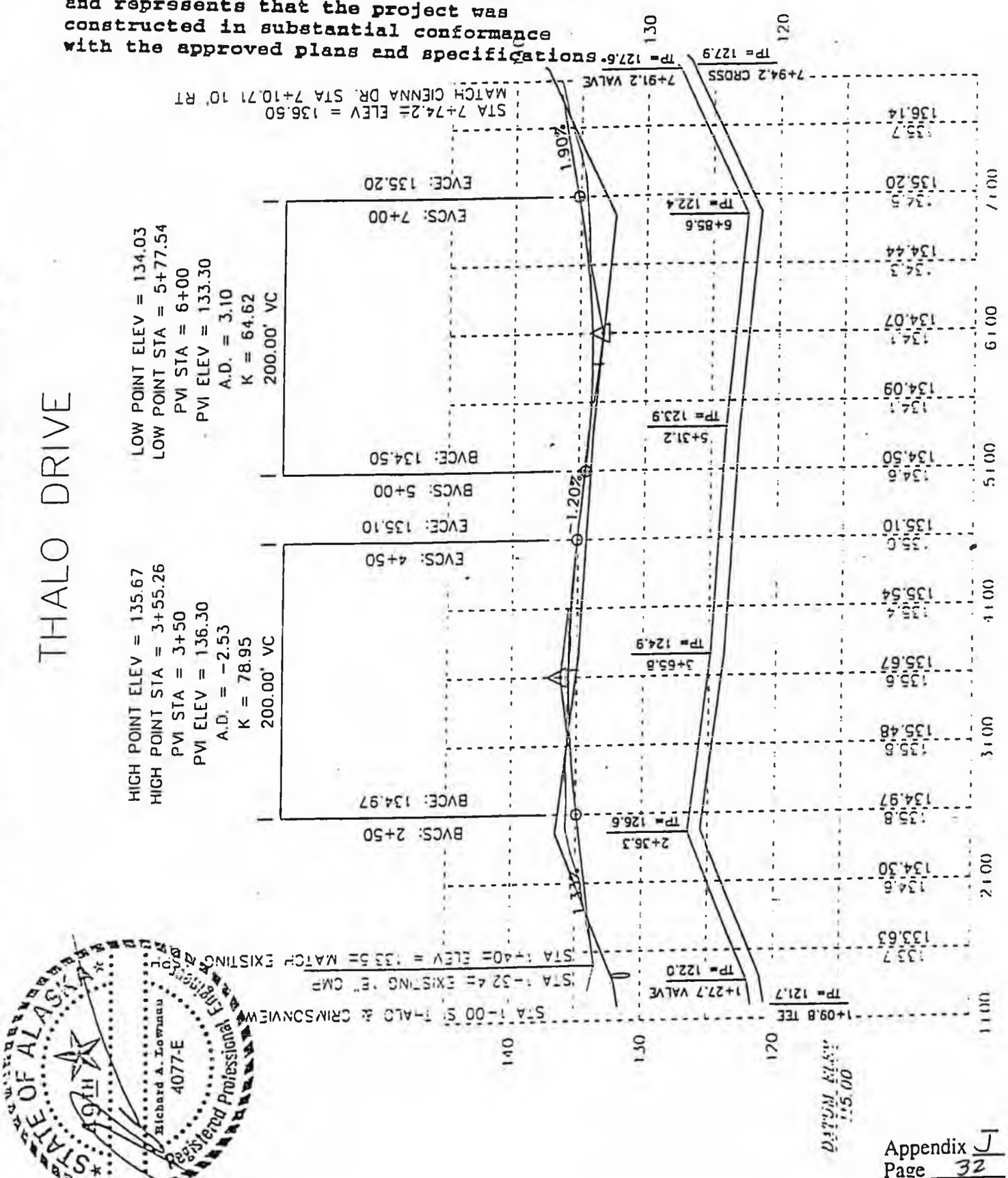
RECORD DRAWING

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.

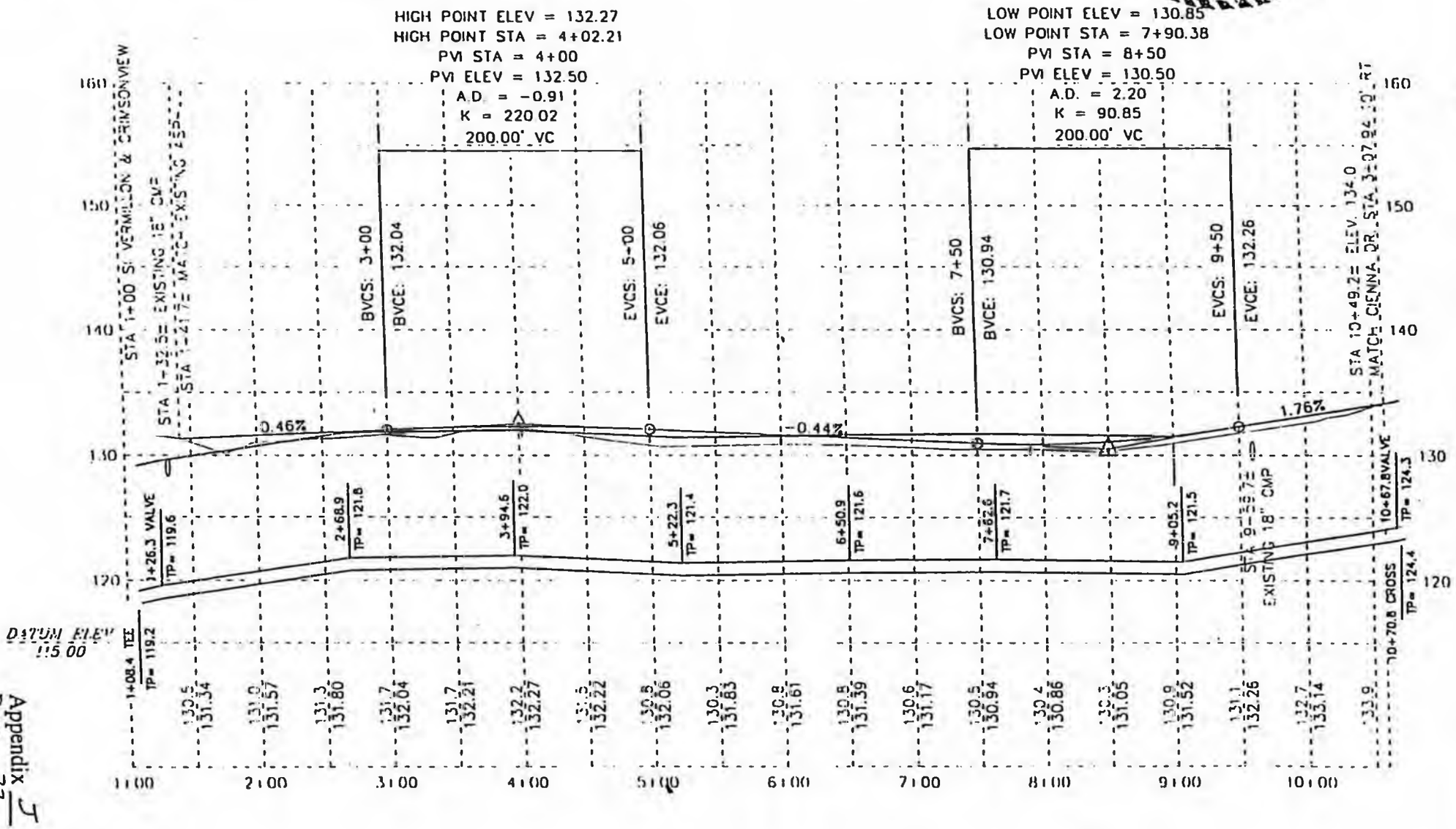


RECORD DRAWING

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

STATE OF ALASKA
49TH
Richard A. Lowman
4077-E
Registered Professional Engineer



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

September 6, 1985

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

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

Dear Mr. Gilfillan:

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.

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 Niemi/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

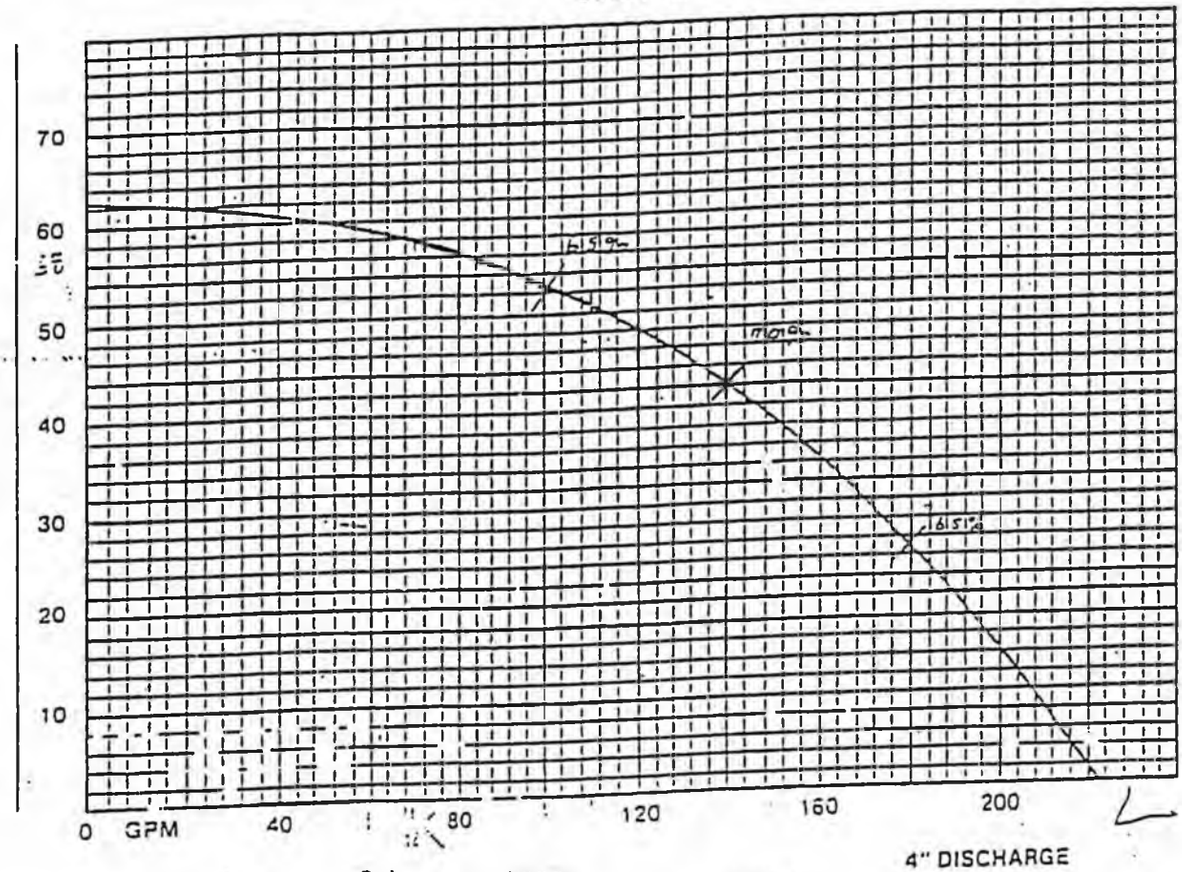
Robert Tapley
Pump Specialist

RT/ngs

6N130

PUMPS INC.

ONE STAGE PUMP PERFORMANCE
3450 RPM



MODEL	NO. OF STAGES	HP REQUIRED	LENGTH	SHIP WT.	PART NUMBER
6 N130-2	2	5	22.13"	70	47607-7
6 N130-4	4	7½	28.25"	99	47608-5
6 N130-5	5	10	32.13"	113	47609-3
6 N130-8	8	15	43.75"	156	47510-1
6 N130-10	10	20	51.13"	184	47511-9
6 N130-13	13	25	62.25"	227	47612-7
6 N130-16	16	30	73.38"	270	47613-5
6 N130-21	21	40	91.88"	341	47614-3

BARTLESVILLE, OKLAHOMA
STANDARD PUMPS Inc.

APRIL 1, 1983

WELL LOG

Wheaton Water Wells, Inc.

Box 871218 · Wasilla, Alaska 99687 · 376-2041

OWNER Hugh Adams
ADDRESS SRA, Box 6468, Palmer, Ak. 99645
WELL – SITE Crimson View
LOT Tract A
BLOCK
DATE 7-30-84

DEPTH OF WELL 100
STATIC LEVEL 40
GALS. PER MIN. APROX. 100
SCREENED 20'-100 slot
PERFORATED 60'-80'
SIZE OF CASING 6" ED

KIND OF FORMATION:

FROM	0 Ft.	to	2 Ft.	Top Soil	FROM	Ft.	to Ft.
FROM	2 Ft.	to	45 Ft.	Sand/Gravel	FROM	Ft.	to Ft.
FROM	45 Ft.	to	60 Ft.	moist sand Gravel	FROM	Ft.	to Ft.
FROM	60 Ft.	to	100 Ft.	Gravel, water	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

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

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	

Anchorage

ERWELL - TEST PUMP RE T

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

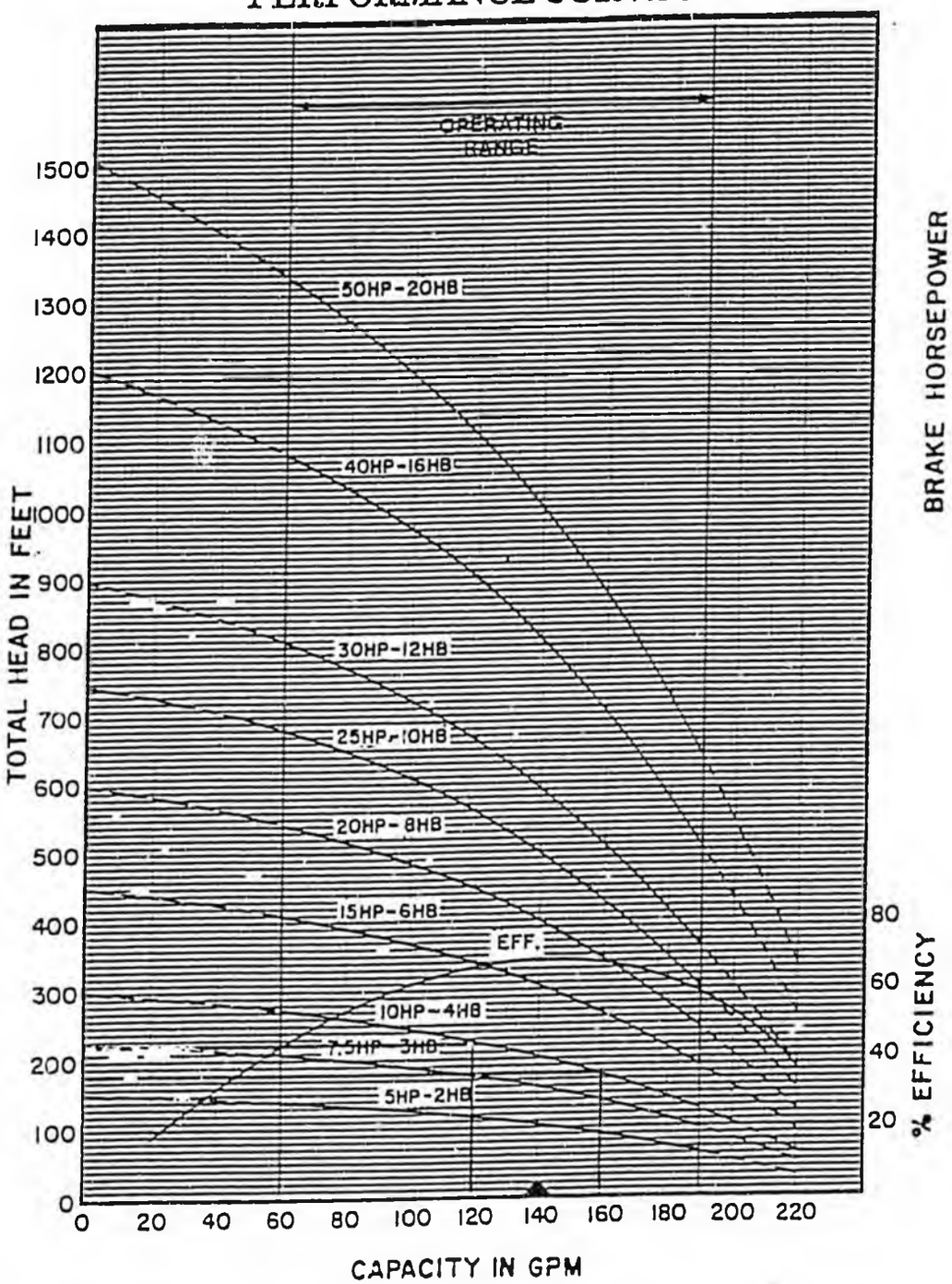
STATIC WATER LEVEL 47 AVG DISCHARGE GMP MAX DRAW DC

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

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				

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.

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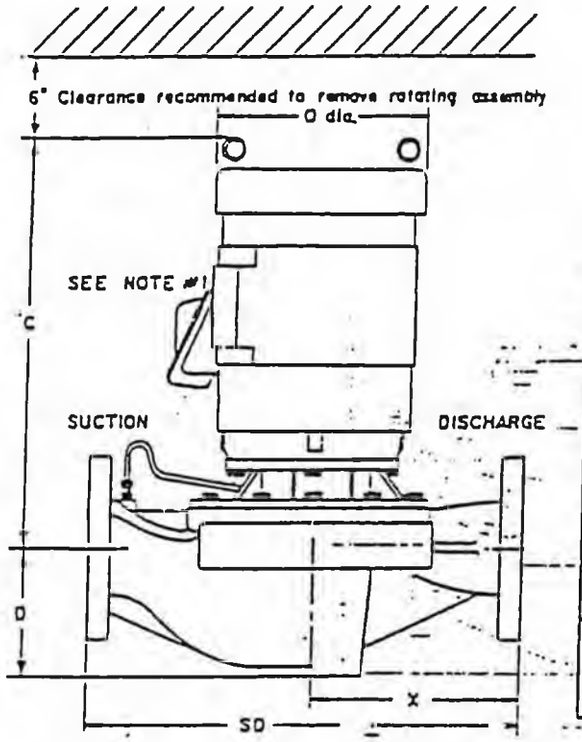
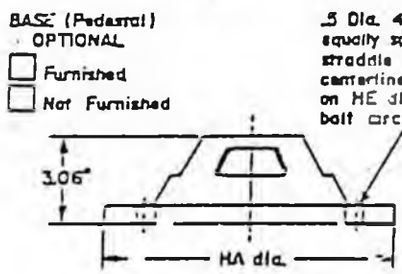
INLINE PUMPS
TYPE PV

Peerless Pump
An Indian Head Company
Indianapolis, IN 46204

OUTLINE DIMENSIONS
SINGLE PHASE UNITS





ALL DIMENSIONS ARE IN INCHES

APPROX. TOTAL UNIT WT. LBS.

PUMP SIZE	ANSI 125 LB. FLANGES SUCT. & DISCH.	BARE PUMP DIMENSIONS D	SD	X	HA	HE	APPROX. PUMP WT. LBS.
2X2X6A	2	4.88	13.50	6.50	9	7.88	63
2.5X2.5X6AC8	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

NOTE 1: CONDUIT 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 OPEN DRIP PROOF 1750	3500	MOTOR FRAME	UNIT DIMENSIONS C MAX	O MAX	APPROX. MOTOR WT. LBS. ODP
.50	1.5	143JMV	15.75	8.50	35
.75	-	143JMV			35
1	-	143JMV			35
1.5	2	145JMV	16.75		45
2	3	182JMV	20.50	10.50	75
3	5	184JMV	21.25		87
5	7.5	213JMV	23.25	12.12	127
7.5	10	215JMV	24.25		160
10	-	215JMV	24.25		170

CUSTOMER_____ JOB NAME_____
P.O.NO._____ ITEM NO._____
S.O.NO._____ SERIAL NO._____
MOTOR MFR._____ ENCL._____ 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

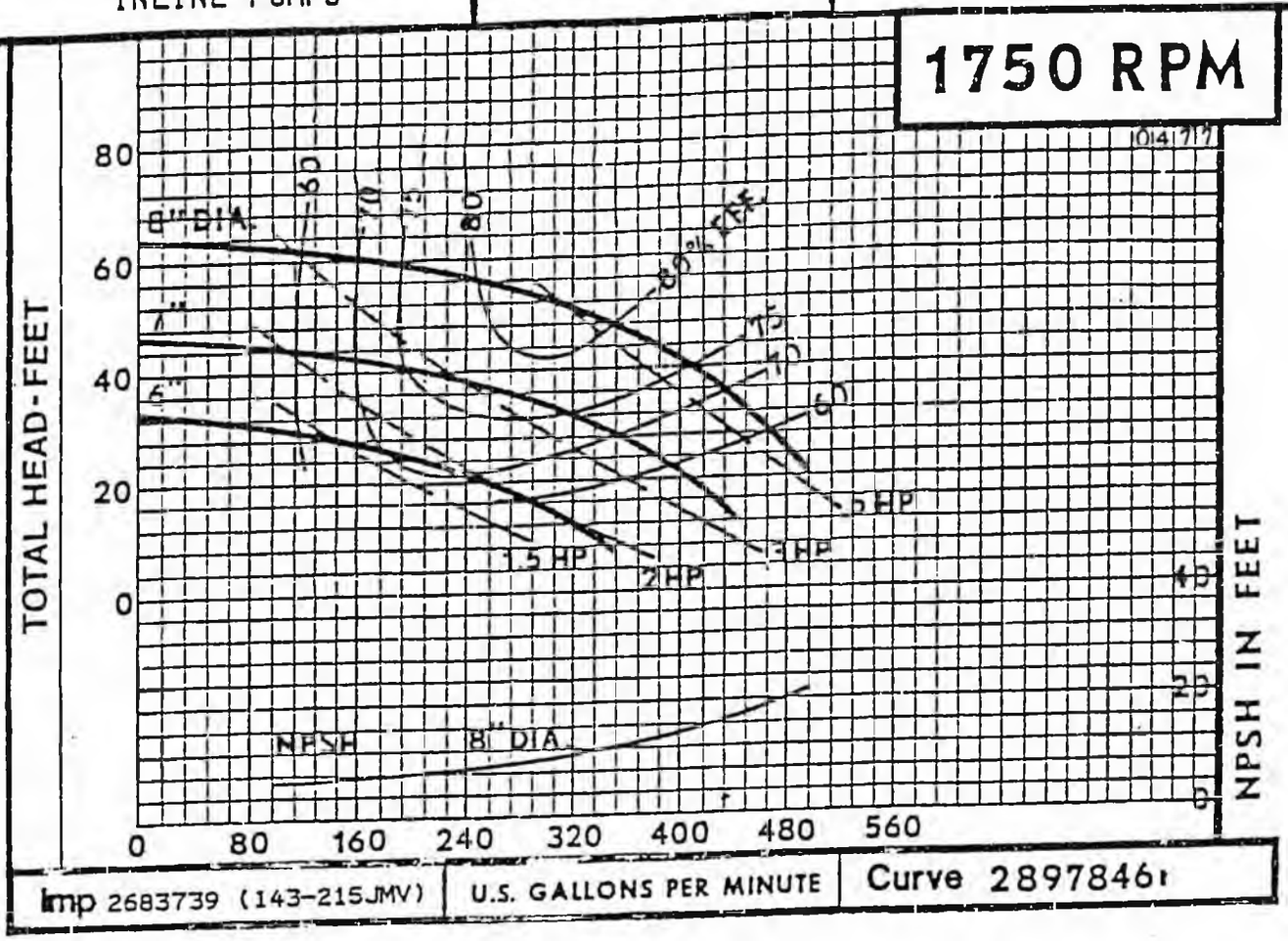
DT 2998341
REV 7-77

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 2897846

RECEIVED DEC 0 1 1997

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CUSTOMER _____ JOB NAME _____

P O NO _____ ITEM NO _____ S O NO _____ SERIAL NO _____

PUMP TYPE & SIZE _____ H P _____ RPM _____ G P M _____ TOTAL HD 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 pubic 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

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.

Donald Mellish 11-5-97

Signature of Owner or Representative *Date*

DONALD MELLISH REPRESENTATIVE OF ROBERT Mellish

Name and Official Title

2200 CLIFF COURT ANCHORAGE AK. 99517

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.

HB 190

2/2/00 SUD

1-LS0576\N
Bannister
2/1/00

CS FOR HOUSE BILL NO. 190(JUD)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-FIRST LEGISLATURE - SECOND SESSION

BY THE HOUSE JUDICIARY COMMITTEE

Offered:
Referred:

Sponsor(s): HOUSE LABOR AND COMMERCE COMMITTEE

A BILL

FOR AN ACT ENTITLED

"An Act relating to viatical settlement transactions; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 21.36 is amended by adding a new section to read:

Sec. 21.36.055. Violation of viatical settlement provisions prohibited. A person may not violate the viatical settlement transaction provisions of AS 21.89.110 or regulations adopted under AS 21.89.110.

*** Sec. 2.** AS 21.89 is amended by adding a new section to read:

Sec. 21.89.110. Viatical settlement transactions. (a) The director shall regulate the transaction of viatical settlement contracts for the protection of viators, insureds, and insurers. The authority of the director under this subsection extends to the regulation of transactions between a viator and a viatical settlement provider and between a viator and a person acting as an agent in viaticating a life insurance policy, while the authority of the commissioner extends to the regulation of viatical settlement

investments as provided under AS 45.55.905(c).

(b) A viatical settlement provider, representative, or broker must apply for a license with the director, submit information required by the director, and pay the required fee established under AS 21.06.250 with the application for licensure. A person may not act as or represent to be a viatical settlement provider, representative, or broker relative to a subject resident, located, or to be performed in this state unless licensed under this section.

(c) Viatical settlement contract forms, viator and insured disclosure statements, and viatical settlement advertising materials must be filed by the viatical settlement provider, representative, or broker with the director and must be approved by the director.

(d) The director may examine a licensed viatical settlement provider, representative, or broker, or an applicant for a viatical settlement provider, representative, or broker license. The cost of the examination shall be paid by the person examined under AS 21.06.160.

(e) Except as may be required in the course of conduct of the division's responsibilities, a viatical settlement provider, representative, or broker may not disclose to another person the ~~name~~ identity of the viator or insured of an insurance policy that is the subject of a viatical settlement contract. The viator may waive this prohibition against disclosure if the waiver is in writing and is signed by the viator.

(f) The director may adopt regulations to implement this section, including standards for

(1) viatical settlement provider, representative, and broker reporting requirements and records retention;

(2) viator and insured privacy protection;

(3) viatical settlement contract provisions, advertising materials, and filing requirements;

(4) payments to viators or insureds, including evaluating the reasonableness of payments under a viatical settlement contract;

(5) licensing requirements, including license qualification, disqualification, and renewal;

(6) financial accountability of viatical settlement providers;

(7) the relationship and responsibilities of insurers, viators, insureds, and viatical settlement providers, representatives, and brokers in the transaction of a viatical settlement contract;

(8) viator, insured, and insurer protection, including full and fair disclosure setting out the manner and content of required disclosures and filing requirements; and

(9) assessment of fees to cover the cost of regulating viatical settlement contracts, providers, representatives, and brokers.

(g) A violation of this section or a regulation adopted under this section is an unfair trade practice and subject to penalty under AS 21.36.

(h) In this section,

(1) "transaction" means, with respect to viatical settlement contracts,

(A) solicitation and inducement;

(B) preliminary negotiations;

(C) effectuation of a viatical settlement contract;

(D) transaction of matters subsequent to the effectuation of the viatical settlement contract and arising out of it;

(2) "viatical settlement broker"

(A) means a person that, on behalf of a viator or insured and for a fee, commission, or other valuable consideration, offers or attempts to negotiate viatical settlement contracts between a viator or insured and one or more viatical settlement providers;

(B) does not include a person acting as an attorney or accountant retained to represent a viator or insured and compensated by or at the direction of the viator or insured;

(3) "viatical settlement contract"

(A) means a written agreement between a viator or insured and a viatical settlement provider for the sale, assignment, transfer, devise, or bequest to the viatical settlement provider by the viator or insured of all or a portion of the death benefit or ownership of a life insurance policy for

consideration that is less than the expected death benefit of the life insurance policy;

(B) includes a contract for a loan or other financial transaction secured primarily by an individual or group life insurance policy;

(C) does not include

(i) a loan by a life insurance company under the terms of a life insurance contract;

(ii) a loan secured by the cash value of a policy;

(iii) the assignment of a life insurance policy as collateral for a loan to a bank, saving bank, savings and loan association, credit union, or other licensed lending institution;

(iv) the exercise by the viator or insured of an accelerated benefits provision under the terms of the life insurance contract; or

(v) the sale, assignment, transfer, devise, or bequest of a life insurance policy for less than the expected death benefit by a viator or insured to a friend or family member if the friend or family member does not enter into more than one agreement in a calendar year;

(4) "viatical settlement provider" means a person, other than a viator or insured, that enters into a viatical settlement contract, including a person that

(A) obtains financing for the purchase, acquisition, transfer, or other assignment of one or more viatical settlement contracts, viaticated policies, or interests in viatical settlement contracts or viaticated policies; or

(B) sells, assigns, transfers, pledges, hypothecates, or disposes of one or more viatical settlement contracts, viaticated policies, or interests in viatical settlement contracts or viaticated policies;

(5) "viatical settlement representative"

(A) means a person that is an authorized agent of a viatical settlement provider or broker and that acts or aids in any manner in the transaction of a viatical settlement contract;

(B) does not include

(i) a person acting as an attorney or an accountant, or a person exercising a power of attorney granted by a viator or insured; or

(ii) a person retained to represent a viator or insured and compensated by or at the direction of the viator or insured;

(6) "viaticated policy" means a life insurance policy that has been acquired by a viatical settlement provider under a viatical settlement contract;

(7) "viator" means the owner of a life insurance policy insuring the life of an individual who enters or seeks to enter into a viatical settlement contract.

* **Sec. 3.** AS 45.55 is amended by adding a new section to read:

Sec. 45.55.155. Viatical settlement interests. (a) Before the sale of a viatical settlement interest, an issuer shall provide a prospective buyer with information that is sufficient to make an informed investment decision. The issuer shall also provide the information to the administrator upon request if the issuer is not otherwise required to file the information with the administrator. In this subsection, "information that is sufficient to make an informed investment decision" includes [the issuer's ~~most recent audited income and expense statement and balance sheet, a statement of risks~~] and a disclosure of any significant ~~negative~~ factor(s) that may affect the outcome of the investment.

(b) Except as may be required in the course of conduct of the responsibilities of the Department of Community and Economic Development, an issuer of a viatical settlement interest may not disclose to another person the ~~name~~ deaths of the viator or insured of the insurance policy that is the subject of the viatical settlement interest. The viator may waive this prohibition against disclosure if the waiver is in writing and signed by the viator.

* **Sec. 4.** AS 45.55.905 is amended by adding a new subsection to read:

(c) The administrator shall regulate transactions between a viatical settlement provider or person acting as an agent of a viatical settlement provider and a subsequent investor, while the authority of the director of the division of insurance extends to the regulation of viatical settlement contracts under AS 21.89.110.

* **Sec. 5.** AS 45.55.990(32) is amended to read:

(32) "security" means a note; stock; treasury stock; bond; debenture; evidence of indebtedness; certificate of interest or participation in any profit-sharing agreement; limited liability company interest under AS 10.50, notwithstanding the limitations of AS 45.08.103(c); collateral-trust certificate; preorganization certificate or subscription; transferable share; investment contract; voting-trust certificate; certificate of deposit for a security; **viatical settlement interest;** certificate of interest or participation in an oil, gas, or mining title or lease or in payments out of production under the title or lease or in any sale of or indenture or bond or contract for the conveyance of land or any interest in land; an option on a contract for the future delivery of agricultural or mineral commodities or any other commodity offered or sold to the public and not regulated by the Commodity Futures Trading Commission; however, the contract or option is not subject to the provisions of AS 45.55.070 if it is sold or purchased on the floor of a bona fide exchange or board of trade and offered or sold to the public by a broker-dealer or agent registered under this chapter; investment of money or money's worth including goods furnished or services performed in the risk capital of a venture with the expectation of some benefit to the investor where the investor has no direct control over the investment or policy decision of the venture; or, in general, any interest or instrument commonly known as a "security," or any certificate of interest or participation in, temporary or interim certificate for, receipt for, guarantee of, or warrant or right to subscribe to or purchase, any of the foregoing; "security" does not include an insurance or endowment policy or annuity contract under which an insurance company promises to pay a fixed or variable sum of money either in a lump sum or periodically for life or for some other specified period;

* **Sec. 6.** AS 45.55.990 is amended by adding new paragraphs to read:

(37) "viatical settlement interest"

(A) means the entire interest or any fractional interest in a life insurance policy or in the death benefit under a life insurance policy that is the subject of a viatical settlement contract;

(B) does not include the initial purchase from the viator by a