

RECEIVED

APR 11 2017

IDWR / NORTH

A STUDY OF THE DOMESTIC WATER SYSTEM
OF THE
ROSS POINT WATER ASSOCIATION
IN
KOOTENAI COUNTY, IDAHO

Dated: November 15, 1978

PREPARED BY:

K. A. DURTSCHI & ASSOC. INC.
11.5132 Government Way
Coeur d'Alene, Idaho 83814

SCANNED

APR 12 2017



ROSS POINT WATER ASSOCIATION

INDEX

	Page
SECTION I - INTRODUCTION-----	1
SECTION II - EXISTING FACILITIES-----	3
A. Water Source-----	3
B. Existing Distribution System-----	5
C. Existing Storage-----	7
SECTION III - POPULATION STATISTICS-----	8
A. Past-----	8
B. Present-----	8
C. Future Population Estimate-----	8
SECTION IV - SCHEDULE OF CURRENT WATER RATES-----	11
SECTION V - FUTURE WATER REQUIREMENTS-----	12
SECTION VI - PROPOSED IMPROVEMENTS-----	14
A. Water Source-----	14
B. Storage Reservoir-----	15
C. Distribution System-----	16
1. Work by Contractor-----	16
2. Work by Ross Point Water Association-----	17
SECTION VII - PRELIMINARY ENGINEERING COST ESTIMATES-----	19
FOR PROPOSED IMPROVEMENTS	
A. Project Costs-----	19
B. Financing-----	21
C. Repayment Calculations-----	23

SECTION VIII - CONCLUSIONS & RECOMMENDATIONS-----	Page 26
A. Conclusions-----	26
B. Recommendations-----	28

ATTACHMENTS

1. 24" x 36" Plan Sheet Titled "Proposed Improvements for
Ross Point Water Association"
2. 24" x 36" Plan Sheet titled "Proposed Master Plan No.
2 for Ross Point Water Association"

SECTION I

INTRODUCTION

The following is a written report of the results of an extensive study made of the domestic water system owned and operated by the Ross Point Water Association. The area served lays adjacent to and generally north and east of the city of Post Falls and along the north side of Interstate Highway 90 in the North Idaho Panhandle.

A "Master Plan" for the Water Association was prepared by K. A. Durtschi & Associates in 1972-1973 and a portion of this plan was constructed in 1973 and 1974. The 1973-1974 construction amounted to the installation of a basic grid of mainlines and a new well. The remaining water lines in the Master Plan were to be installed by developers as the land is subdivided. Since the 1973-1974 construction, there have been a substantial number of housing subdivisions built, several large mobile home parks built, and also many land subdivisions made of the 1-10 acre size. Consequently, some of the remaining pipelines on the Master Plan have been installed.

There are currently approximately 1,000 equivalent services in the Association, which is 700 more than there were in 1973. The growth of this area has been explosive and there is every reason to believe this trend will continue within the foreseeable future.

SCANNED

APR 12 2017

A situation has developed this year resulting in the refusal of the State Department of Health and Welfare to approve further connections or extensions to this water system at this time. This action was taken by the Health and Welfare Department because of reported low pressures in some parts of the system.

We have attempted in this study to take the existing system as it exists today and analyze it under current usage requirements to attempt to pinpoint low pressure areas and their causes. Future growth has again been estimated and then applied to a revised Master Plan to provide the Ross Point Water Association a new plan to even more closely attempt to meet the expansion this system is experiencing.

SECTION II
EXISTING FACILITIES

A. WATER SOURCE

The existing water source for the Ross Point Water system consists of two wells. One is an old dug well originally constructed in the early 1920's. Since that time the well has been cased with concrete down to water level and a steel casing placed below the water level. In 1975 the following additional work was done on the well:

- (1) The two existing pumps in the well were replaced with one 75 h.p. vertical shaft turbine pump which is currently pumping 630 g.p.m.
- (2) The existing steel casing had slipped down away from the concrete casing and left a one or two foot gap at the bottom of the concrete casing. So a new 18" casing was installed 46' below water level at which point a 25' long 18" diameter stainless steel No. 150 slot screen was installed.

This pump and well seem to be doing an adequate job at the present time and they appear to be in a good state of repair. This well is located in the southeastern corner of the Association's area and just north of Interstate 90. See the Plan sheet (Exhibit 1) attached to the end of this Report.

A. WATER SOURCE (Cont'd)

The second well, constructed as part of the 1973-1974 construction, is a 14" cased and screened well with a 60 h.p. vertical shaft turbine pump capable of pumping 500 g.p.m. This well was test pumped at the time of its construction to 1,200 g.p.m. with a 3' drawdown. This well is located in the west central area of the Association on Syringa Avenue between 12th and 16th Streets. See Plan for location.

The pump operation is controlled by overhead wires, leased from the Telephone Company, connected to probes in the storage tank, which is located generally to the east of the old well and on a hillside. The new well is used on a first priority basis with the old well used as a backup.

The two wells are apparently able to supply enough water for the system under the present connection load. It is considered likely, however, that additional water will be required in the very near future to keep up with the anticipated demands. The most practical means of increasing quantity of water supply is to replace the pump in the newer well to increase flow to 1,000 g.p.m.

B. EXISTING DISTRIBUTION SYSTEM

The existing distribution system consists of a basic grid of asphalt cement and PVC pipelines many of which were installed in 1973 and 1974 according to a Master Plan that was developed at that time by K. A. Durtschi & Associates. This basic grid replaced old pipelines that were part of the original water system. However, many of the pipelines from the original system still remain in use today. These lines are, basically, old and under sized and are to be replaced by new lines according to the Master Plan.

It is the intention of the Ross Point Water Association that as much as possible of the remaining pipeline in the Master Plan is to be installed by developers as the land inside the Association's area is sub-divided. Many feet of new lines have already been laid on this basis since the 1973-74 construction and the Master Plan has been followed in almost all cases.

There is one problem that has occurred, however, because of this method of installing new lines. A pipeline was laid to a new subdivision from the existing distribution lines, but the end of the line was not tied into the old existing line. So the new line, while serving the subdivision, is actually a dead-end line with absolutely no contribution to the water system as a whole.

B. EXISTING DISTRIBUTION SYSTEM (Cont'd)

In several locations the condition exists where a large new line is paralleling a small older line. The older line has remained in use because services are still attached to it. This situation is a potential problem, depending on the size of the smaller line, the number of services on the smaller line, and the distance between the points where the two lines are tied together.

We feel there is work that needs to be done in these two areas; the end of one 8" line laid by a subdivider needs to be tied into the system, and as many of the services as possible need to be moved from the old lines to the new lines where it is feasible. Since the Association now has a backhoe, some of this work can be done by their maintenanceman. This work will be explained in detail later in this Report.

The individual service lines are mostly 3/4" with meters for each service. There are larger services and meters serving the larger commercial trailer courts, the multi-family units and other commercial users.

At the present there are approximately 21 fire hydrants in the Association's area. Four of these hydrants are on main roads with the remaining 17 in individual subdivisions. There are, also, many fire hydrant tees that were installed in the new mainline during the 1973-74 construction so hydrants could be easily installed in the future. These tees are shown on the Plan Sheet (Exhibit 1) at the end of this Report.

SCANNED

APR 12 2017

C. EXISTING STORAGE

The existing storage reservoir is a relatively new 100,000 gallon steel tank constructed by the Highway Department around 1969 when Interstate 90 was constructed through the old tank site. The tank is located generally on the southeast corner of the Association's system, on a hillside, with sufficient elevation, when the tank is full, to provide 55 to 68 p.s.i. static pressure throughout the area served.

The present storage is not considered adequate under the existing summer demand on the system. During the hotter days this summer both pumps had to be used almost continuously during the afternoon and evening to meet the demand. And even then, the level of water in the tank could not be kept high enough to provide adequate pressure. For this reason, a new storage reservoir is now needed to provide adequate water for peak demand periods.

SECTION IIIPOPULATION STATISTICSA. PAST

From the 1972 Preliminary Report, there were approximately 300 water connections at that time. These consisted of 227 actual metered services including four mobile home parks that were each served by one commercial meter. There were no large housing subdivisions in the Association's area.

B. PRESENT

At the present time there are approximately 1,000 individual water users with approximately 520 actual metered services. This includes at least 10 housing subdivisions and seven mobile home parks. This reflects the tremendous growth in this area in the last six years. Commercial development has not been significant with currently eight commercial services ranging from stores and restaurants to a plastic pipe manufacturing company.

C. FUTURE POPULATION ESTIMATE

The population growth, which has taken place in the last six years, will continue according to present indications, although there is one situation which is currently complicating further development. The Ross Point Water Association's area is located directly over the Rathdrum aquifer which is the main source of domestic water for not only the Ross Point system, but the cities of Post Falls, Coeur d'Alene, Spokane, Rathdrum

SCANNED
APR 12 2017

C. FUTURE POPULATION ESTIMATE (Cont'd)

and all of the land in between. Concerned citizens and various government agencies have questioned the use of septic tanks and drainfields above the aquifer. Studies have been made and more are being made to attempt to determine the extent of pollution of the aquifer. This concern for the quality of water in the aquifer will almost certainly result in sewerage the area some time in the future. In the meantime the Health Department has placed a moratorium on further development over the aquifer pending solution of the possible pollution problems.

It seems to us unreasonable to attempt to estimate population growth beyond the next five to ten years. The question of aquifer water quality and the future possibility of the Ross Point Water Association area being annexed to the city of Post Falls, could materially affect the future growth and domestic water needs in the area. For this reason, we have chosen a ten-year design period for this study.

For the purpose of this study, it is assumed that the present population will double with the next ten years. Thus, the design demand will be based on 2,000 water users.

The Post Falls Irrigation system provides sprinkling and irrigation water for nearly everyone in the area except those in subdivisions and mobile home parks. The wooden mains for

SCANNED

APR 12 2017

C. FUTURE POPULATION ESTIMATE (Cont'd)

the irrigation system are generally in poor condition and have been in a state of poor repair for many years. We have assumed, however, that the irrigation system will remain in use at approximately its present level for the ten year design period of this study.

SECTION IV

SCHEDULE OF CURRENT WATER RATES

0 to 10,000 gallons per month-----	\$5.50/month flat rate
10,001 to 20,000 per month-----	.30 per 1,000 gal.
Over 20,000 gallons per month-----	.15 per 1,000 gal.

New connection charges are \$500.00 for either residential or commercial services. This includes the labor and material costs of installing the meter.

The policy on meters which serve more than one household, such as trailer courts and multi-family residences, is to charge one service fee on the meter with all the water charged as above, and to charge \$2.75 per month for each actual user.

SECTION V

FUTURE WATER REQUIREMENTS

At best, the estimating of future water requirements on a domestic system is based on assumptions and projections which are educated guesses based on past experience and the trends which have been established and accepted as standards.

For design purposes the following assumptions are made:

1. Assume design population of 2,000 equivalent services.
2. Assuming separate irrigation system for bulk of the exterior watering and assuming a high occurrence of trailer courts and multiple unit dwellings, it is estimated that the maximum average water demand on the entire system will not exceed 1,000 g.p.d. per service.
3. At 2,000 services and 1,000 g.p.d. maximum daily demand, the estimated maximum water use at design loading = $2000 \times 1000 = 2,000,000$ g.p.d.
4. Minimum storage required:
 - (a) One-fourth of maximum daily demand =
 $2,000,000/4 = 500,000$ gal.
 - (b) Maximum daily demand + fire requirements -
daily capacity of pumps = $2,000,000 + (2,500$
 $\text{g.p.m.} \times 60 \times 5) - 1620 \text{ g.p.m.} \times 60 \times 24 =$
 $2,000,000 + 750,000 - 2,332,800 = 417,200$ gal.

FUTURE WATER REQUIREMENTS (Cont'd)

5. 2,000,000 g.p.d. requires pumping capacity @ 24
hr per day = $2,000,000/1440 = 1389$ g.p.d. say
1400 g.p.m.

6. Estimated pumping requirements = 1400 g.p.m.
present pumping capacity 1130 g.p.m.
added capacity required 270 g.p.m.

Suggest that the existing 500 g.p.m. pump be re-
placed with a 1,000 g.p.m. pump.

7. Estimated storage capacity required 500,000 gal.
Existing storage capacity 100,000 gal.
Added storage capacity needed 400,000 gal.

Suggest additional tank 500,000 gallon be constructed.

SECTION VI
PROPOSED IMPROVEMENTS

A. WATER SOURCE

As indicated previously, the existing pumping capacity of the system is not considered adequate. The current pumping capacity of the pumps is 630 g.p.m. (old well) and 500 g.p.m. (new well) which gives a total of 1,130 g.p.m. To provide adequate water for the projected maximum daily water usage at least 1,400 g.p.m. is required. (See Sec. V for details). For this reason, we are proposing that the existing 500 g.p.m. pump in the new well be replaced by a 1,000 g.p.m. pump. While the estimated added pumping capacity required is less than the 500 g.p.m. proposed, it is considered economically wise to develop the potential of the well at this time. This pump will continue to be the number one pump with the old well being used as a backup.

This increased pumping capacity at the new well will serve two purposes: first, it will help provide the entire system with adequate water during high water demand periods when both pumps are needed, and secondly, the larger pump will supply most of the maximum instantaneous demand requirements of the western end of the system. This is important because the flat lay of the land in the western side of the area prevents us from locating economical elevated water storage in this area. This will also aid in maintaining adequate pressures in the system especially until the entire grid is completed in accordance with the Master Plan.

B. STORAGE RESERVOIR

Additional storage capacity is needed beyond the existing 100,000 gallon tank. The amount of storage required was calculated in Section V of this report. Based on fire flows, the required design storage capacity is 417,200 gallons. This amount of storage would adequately service the fire hydrants in accordance with the requirements of the National Board of Fire Underwriters. Calculating the amount of storage required based on a power outage, 500,000 gallons of storage would provide adequate water for approximately three hours during the estimated maximum daily demand.

Since we presently have 100,000 gallons of storage, an additional 400,000 gallons is required to meet both the above criteria. However, we feel that 500,000 gallons would be a more reasonable amount of additional storage.

Therefore, we are recommending that a new 500,000 gallon steel storage reservoir be constructed. The proposed location of the new tank is on top of the hill directly east of the end of 16th St. We feel this location will better service the system, rather than locating the new tank near the existing tank.

A 12" PVC pipeline will service the new storage tank from 16th St. The tank will "float" on the system, exactly the same as the existing 100,000 gallon tank. The elevation of the water in the two storage tanks will be the same.

C. DISTRIBUTION SYSTEM

1. Work by Contractor

In order to provide access to the proposed new storage tank, and to further improve the distribution of water from said tank, and to eliminate problems of low pressure within the system, the following additions to the distribution system are considered essential at this time.

New pipeline is needed in the northeast corner of the system in order to connect the new storage tank to the system. New pipe is also needed on 16th St. from the Prairie Acres Subdivision westward to the corner of 16th St. and Pines Road. Since this area is developed on both sides of 16th St., there is little chance that a developer would construct this piece of line. This installation of the line is necessary to eliminate low pressures in this area. Approximate pipeline footages are given below:

1. 400' of 6" PVC pipe from the end of the existing 6" line on 16th St. to the corner of 16th St. and Meyer Road.
2. 1,000' of 12" PVC pipe from new 500,000 gallon reservoir to the corner of 16th St. and Meyer Road.
3. 1,250' of 12" PVC pipe from the corner of 16th St. and Meyer Road to the corner of 20th St. and Meyer Road.

C. DISTRIBUTION SYSTEM (Cont'd)

4. 1,350' of 8" PVC pipe from the corner of 20th St. and Meyer Road to the corner of 24th St. (Poleline Road) and Meyer Road.
5. 5,400' of 12" PVC from the corner of 20th St. and Meyer Road to the intersection of 20th St. and Highway No. 41.
6. 800' of 8" PVC pipe from the end of the existing 8" line on 16th St. (Prairie Acres Subdivision) to the corner of 16th St. and Pines Road.

As part of the construction project, we also recommend that the 4" and 6" lines on Pines Road just north of 16th St. be tied together. These two lines were not tied together during construction although they are only 5 to 10 feet apart.

2. Work by Ross Point Water Association

In several locations within the Association's area, the condition exists where there are two pipelines down the same road, either on the same side of the road or on opposite sides of the road. One of the lines is from the original distribution system and the other line is a new large line installed either in the 1973-74 construction or since then by a developer. In some instances, the two lines are periodically tied together, while others are

2. Work by Ross Point Water Association (Cont'd)

tied together only at intersections. The old line from the original system may still supply a majority of the services which may not create a problem if this line is connected to the larger new main at frequent intervals. However, if this smaller line is supplying a majority of the services and the two lines are not connected at frequent intervals, a low pressure situation could easily exist during the high usage periods. For this reason, we recommend that the Association consider the following areas:

- (1) Horse Haven Road
- (2) Syringa between 16th St. & 24th St. (Poleline Road)
- (3) Mullan between Green Ferry and Syringa

We recommend that eventually all of the services be transferred from the old line to the larger new line, if feasible.

Since the Association has a backhoe and a very capable maintenanceman, we are not including any of this work in the proposed construction project. We feel that this work can be done as the Association desires during the summer when the maintenanceman is working full time.

This situation, while possibly resulting in isolated cases of low pressures within the system, does not necessarily reflect any deficiency in the basic distribution system.

SECTION VII
PRELIMINARY ENGINEERING COST ESTIMATES
FOR
PROPOSED IMPROVEMENTS

A. PROJECT COSTS1. Water Mains

6" Cl. 160 PVC pipeline in place	440	1.f.	@	5.50	2,200
8" Cl. 160 PVC pipeline in place	2,150	1.f.	@	7.10	15,265
12" Cl. 160 PVC pipeline in place	7,650	1.f.	@	10.40	<u>79,560</u>
Sub Total					97,025

2. Valves & fittings 5%

4,851

Sub Total

101,876

3. Fire hydrant tees - 6 @ \$200 each

1,200

4. Storage reservoir - construct complete in place, 500,000 gal. coated steel water tank incl. roof, foundation, and piping per AWWA Standards

Est.

105,000

5. New well pump - furnish and install one 125 h.p. 1000 g.p.m. deep well turbine pump including motor, pump, column, shaft, pumping head and all required changes in the controls & electrical equipment (also includes removing existing pump)

Est.

22,000

6. Salvage existing deep well pump one 60 h.p. 10" 500 g.p.m. pump for credit

(3,000)

Sub Total

227,076

SCANNED

APR 12 2017

Ross Point Water Assn

A. PRELIMINARY ENGINEERING COST ESTIMATE (Cont'd)

7.	10% Contingencies		<u>22,708</u>
	Total Est. Cost of Construction		\$249,784
8.	Legal fees - to form district and for bonding attorney	Est.	9,000
9.	Engineering & Administration	Est.	38,000
10.	Land for tank	Est.	6,000
11.	Interest during construction	Est.	<u>2,500</u>
	Total Est. Cost of Project		\$305,284

B. FINANCING

It is assumed that if the Water Association decides to proceed with the proposed construction that application for funding will be made to the Farmers Home Administration for the necessary construction funds. If this were the case, we would further assume that the existing debt to FHA would be re-financed into the loan (bond issue) to result in a single debt.

In recent years the FmHA has been requesting that water and sewer associations reform into the water and sewer district form of administration. It is their opinion that the district provides a better organization than the association for control purposes and are using the priority of loan approvals as incentive to encourage the change. In short, loans are more available to districts than to associations.

In the event that a water district is formed to replace the association, a bond election would be required. The FmHA presently will provide guarantee to purchase water improvement bonds on a 30-year issue at 5% interest. The bonds must be offered first to the public. But at the present interest rates, it is not expected that a market would be found and, therefore, the FmHA would be the purchaser assuming that they have funds available.

For the purpose of this study we are assuming that the Association will form a water district and issue a Revenue bond for construction in the amount as follows (assuming the FmHA has funds available).

Ross Point Water Assn

B. FINANCING (Cont'd)

Total Est. Construction Cost of Project	305,284	
Re-finance existing loan	<u>166,864</u>	3,708
Total amount to be financed	472,148	

1st Bond	\$143,000	Due Aug. 1	\$10,600
2nd Bond	\$364,400	Due Feb. 1, 1982	\$23,708

C. REPAYMENT CALCULATIONS

The following information is used for calculating the repayment of the loan:

- (1) The system currently has approximately 520 metered services and approximately 1,000 actual water services. Each metered service is charged a base fee of \$5.50 per month for 10,000 gallons of water. The mobile home parks and the multi-family units (served by one meter) account for the remaining 480 (1,000-520) water services. These 480 water services are charged one-half of the \$5.50 fee or \$2.75 per month. For the purpose of our calculations, we have figured the equivalent number of water services, if everyone were paying \$5.50 per month. This is calculated as follows:

$$520 + \frac{480}{2} = 760 \text{ equiv. water services each paying } \$5.50 \text{ per month.}$$

- (2) The approximate operation and maintenance cost (provided by the secretary) for the fiscal year 1977-78 were as follows:

Utilities	\$4,414
Maintenancemen	9,025
Secretary	330
Bookkeeper	3,240
Supplies	<u>12,996</u>
Total	\$30,005

(2) (Cont'd)

The wages for the maintenancemen and the cost of supplies include the time and material for installing new services as well as the time and material spent for maintenance on the system. We have used \$32,000 per year in our calculations for O&M costs.

(3) Extra charges for water used beyond the 10,000 gallon included in the flat fee is calculated as follows:

10,000 - 20,000 gallons	30¢/1,000 gallon
Over 20,000 gallons	15¢/1,000 gallons

For the Fiscal Year 1977-78 the association charged \$4,852.60 for excess water. We have used \$5,000 per year in our calculations.

- (4) The hookup fee charged by the Association for either a residential or commercial hookup is \$500.00. This includes the materials and labor for installing the meter. Since the actual labor and material costs for installing new meters have been included in the O&M costs (see (2) above) we have figured this hookup fee as strictly income to the Association. The Association had approximately 45 new services in the Fiscal Year 1977-78. However, this does not reflect the actual situation. Some of these new services required only the installation of the meter yoke and meter, since the service line and meter box had been installed previously. For this reason, we have conservatively used 30 new hookups per year for our calculations.

Repayment Calculations

Total amount to be financed (From Sec. VII)	<u>472,148</u>
Yearly payment to FmHA - 65.05 x 472.148	30,713
10% Reserve	3,072
O & M Costs	32,000
Income from water overages	(5,000)
Income from new hookups - 30/year @ \$500	<u>(15,000)</u>
Total Est. Net Yearly Expenses	45,785
Cost per customer = 45,785/760/12 = \$5.02 per month	

SECTION VIII

CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

1. The population in the Ross Point Water Association has grown very rapidly in the past few years, and subject to solution of the sewer problems, the area can be expected to continue to grow at an accelerated rate in the near future. The continuing development of the corridor between the city of Spokane and Coeur d'Alene is considered to be highly probable.
2. The two existing wells are adequate to supply the needs of the system through the design period.
3. The two existing pumps are not adequate. The 500 g.p.m. pump in the well on Syringa should be replaced with a 1,000 g.p.m. pump.
4. The existing 100,000 gallon storage capacity is not sufficient. An additional 500,000 gallon storage tank is necessary to provide adequate storage for the system.
5. Approximately 10,200 feet of 6", 8" and 12" pipe is necessary to be installed by the Association to connect the new storage tank to the system and eliminate possible low pressure areas.
6. A revised Master Plan showing the above proposed improvements is included at the end of this Report.

SCANNED
APR 12 2017

A. CONCLUSIONS (Cont'd)

7. The above described improvements can be constructed without any increase in the current water rates or hookup fees.

B. RECOMMENDATIONS (Cont'd)

Based on these conclusions the following recommendations are presented for consideration by the Association:

- (1) The Board of Directors pass a resolution adopting the revised Master Plan attached herewith to replace the original Master Plan dated November 1, 1972, and revised September 9, 1975, as a part of their planning for the Water Association.
- (2) Board of Directors should approach Farmers Home Administration regarding funding for the proposed work. If they have funds available, consideration of the change to a water district should be taken up and the necessary legal action should be taken if it is decided to go the district route.
- (3) The existing association boundaries should not be expanded so that orderly growth of the system can continue.
- (4) Upon approval of tentative funding and authorization of the people, final plans and specifications should be prepared and a contract let for the construction of a new 500,000 gallon steel storage reservoir, a new 1,000 g.p.m. pump in the well on Syringa and approximately 10,200 feet of 6", 8" and 12" pipe.

B. RECOMMENDATIONS (Cont'd)

- (5) We also recommend to the Board of Directors that any new lines installed in the future by developers be approved and field inspected by our office. This will ensure that the new lines contribute to the overall efficiency of the system and it will also ensure that the lines are installed in accordance with accepted standards.

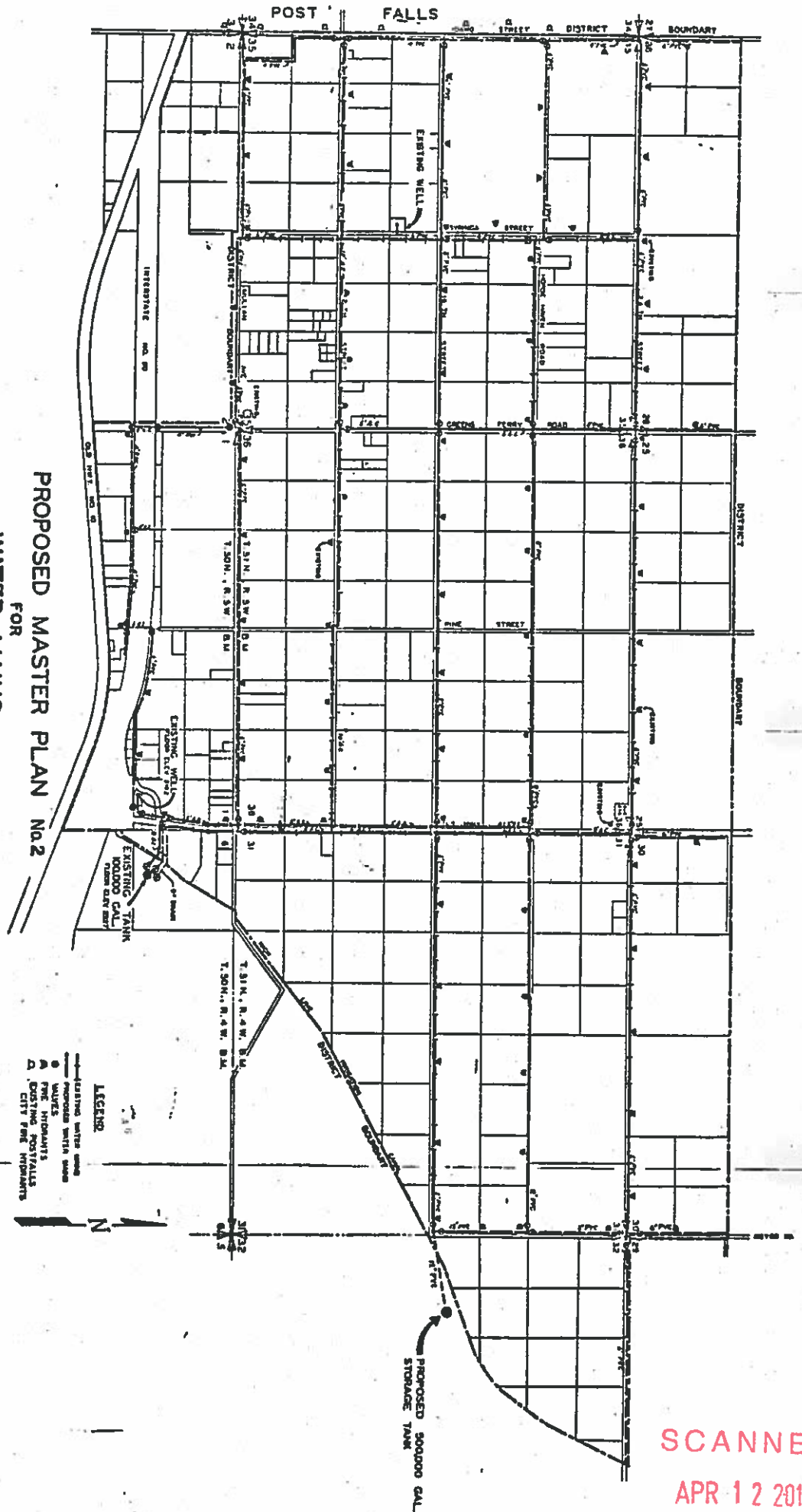
This report is presented to the Association with appreciation for the help of the President, maintenanceman and the secretary for their assistance and for the opportunity to be of service. If we can be of help in the future, we are ready and willing to assist you.

Very truly yours,

K. A. DURTSCHI & ASSOCIATES INC.

RICHARD C. R. PRICE, P. E.

PROPOSED MASTER PLAN No.2 FOR WATER MAINS ROSS POINT WATER ASSOCIATION



SCANNED
APR 12 2017

APPROVED	FOR ROSS POINT
DESIGNED	WATER ASSOCIATION
DRAWN	K.A. DURTSCHIL
CHECKED	R. ASSOCIATES
ENGINEERING-SURVEYING	
COLOR & ALUM. BIND	