

February 12, 1993  
kwm311

INTRODUCED BY BRIAN DERDOWSKI

PROPOSED NO. 93-220

ORDINANCE NO. **10804**

AN ORDINANCE approving the Noble Woods Water System Abbreviated Comprehensive Plan.

PREAMBLE:

K.C.C. 13.24 requires approval of comprehensive plans for water purveyors as a prerequisite to the granting of right-of-way franchises, approval of right-of-way construction permits, and for operation in unincorporated King County.

On January 27, 1993 the King County Utilities Technical Review Committee met to consider the plan and finding it consistent with K.C.C. 13.24 recommended approval.

The Noble Woods Water System is categorically exempt from issuing a determination in accordance with the State Environmental Policy Act.

BE IT ORDAINED BY THE COUNCIL OF KING COUNTY:

SECTION 1. The Noble Woods Water System Abbreviated Comprehensive Plan, attached as Exhibit A, is hereby approved with no conditions.

INTRODUCED AND READ for the first time this 5<sup>th</sup> day of

April, 1993

PASSED this 3<sup>rd</sup> day of May, 1993

KING COUNTY COUNCIL  
KING COUNTY, WASHINGTON

Audrey Singer  
Chair

ATTEST:

Janet Mason  
Deputy Clerk of the Council

APPROVED this 14<sup>th</sup> day of MAY, 1993

Jim Hill  
King County Executive

Attachment:

A. Noble Woods Water System Abbreviated Comprehensive Plan dated February 1993.

NOBLE WOODS WATER SYSTEM

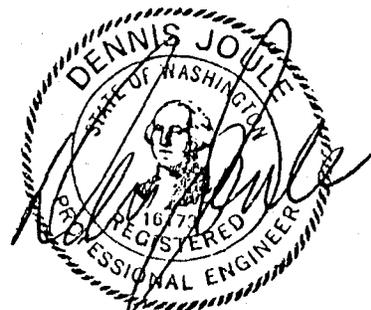
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ABBREVIATED COMPREHENSIVE PLAN

FEBRUARY 1993

Prepared by: Jack R. Brooks

Reviewed By: Dennis Joule, P.E.



I. DESCRIPTION

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A. OWNERSHIP AND MANAGEMENT

1. LEGAL OWNERSHIP

Ownership of the water system supplying the Noble Woods properties is by a privately owned non-profit company known as the "Noble Woods Water System." (See Water Use Agreement)

B. HISTORY

In accordance with the Water Use Agreement, this water system is being developed to satisfy the commitment made by the original owner of the properties shown on the service area map to provide water service to 32 lots legally created in 1969 under zoning laws in effect at that time. Since power was not available until recently, water system development was not pursued. A well site was chosen on an adjacent parcel that appeared to be over an excellent aquifer. The well was drilled and pump tested at 60 gallons per minute. At this point, system development was started.

C. OBJECTIVE

To develop a new Class A water system to serve established properties in Southeast King County which meets the requirements of King County under existing laws. NO KING COUNTY FRANCHISE IS REQUIRED AS ALL PARTS OF THE SYSTEM ARE LOCATED ON PRIVATE PROPERTY. The water line does, however, cross under a King County road for which a Right-of Way Permit was obtained.

D. LAND USE AND ZONING

The area of the Noble Woods Water System is located in the Snoqualmie Valley Community Planning Area. This system is consistent with the requirements of the Snoqualmie Valley Community Plan for water systems in the Forest Resource Zone. Zoning is "F" which is Forest with 80 acre minimum parcel size.

E. SERVICE AREA AND MAP

1. SERVICE AREA

The service area consists of 32 parcels of land on 128 acres adjacent to and North of the Seattle City Watershed in the South half of Section 36, Township 23 North, Range 7 East and the South half of Section 31, Township 23 North, Range 8 East, in King County, Washington. The following maps show the location of the properties with respect to sections as well as the

individual properties being served.

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#### F. FACILITIES

The system facilities include a well drilled to 117 feet, tested at 60 GPM, 5 HP submersible well pump, 1" source meter, 6025 feet 3" dia sch 40 pvc pipe, 2310 feet 2" dia sch 40 pvc pipe, 3 9200 gallon polyethylene reservoirs, 3 3" Iowa cast iron gate valves, 10 2" bronze gate valves, 32 5/8"x 3/4" meter idlers, 64 3/4" bronze straight meter couplings, miscellaneous valves, plus various electrical and electronic control devices. The following map illustrates the layout of the system as well as showing the existance of only one pressure zone.

#### G. FUTURE SERVICE AREA

The service area of this water system consists of those properties and only those properties listed in the water use agreement and shown on the system plan (map.) No future expansion beyond these properties is being considered. (Existing F zoning, 80 acre minimum, prohibits further development.)

#### H. SERVICE AREA POLICIES

The system has 35 single family residential connections for which water rights have been applied.

The service area consists of those properties and only those properties listed in the water use agreement as shown on the system drawing. No future expansion beyond these properties is possible because of the 80 acre minimum lot size (F Zoning), i.e., new properties cannot be created that require water service from a public water system. Service to a property may be discontinued for non-payment of assessment as stated in the water use agreement or by mutual agreement. User service may be temporarily disrupted for system maintenance, inspection or repair. The users that will be affected by scheduled maintenance should be notified at least 24 hours in advance of the disruption of service. For a small number of users, personal contact may be made. For several users, or where a user cannot be reached by personal contact, a written notice shall be hand delivered to the front door.

## II. BASIC PLANNING DATA

The water system is planned for a maximum of 35 connections with no future expansion beyond the planned service area.

At buildout (maximum population), 35 residential connections of 2.5 persons per connection is anticipated. Normal per person water usage of 75 gallons per person per day is expected, with peak usage being 6 AM to 7 AM and 5 PM to 6:30 PM weekdays. Additionally, lawn irrigation is expected to be most during the month of August, with expected irrigation usage of 250 gallons per day per residence. Total peak daily system demand therefore is anticipated to be 15,313 gallons. (August week day.) Annual production is expected to total 102,000 gallons.

Existing land use regulations for this area include F zoning which limits development to 80 acre minimum lot size. We do not expect this zoning to be changed therefore limiting development in this area to that which currently exists.

## III. SYSTEM ANALYSIS

## A. DESIGN CRITERIA

In all, we are requesting certification for 32 parcels as shown on the system layout. In addition, 3 extra shares are being issued to the property owner of the well site for future development of his property. THESE THREE SHARES ARE NOT INCLUDED IN THE CALCULATIONS. Future expansion to include these additional shares will be the responsibility of the owner of the shares.

A well, protected by a 100 foot radius covenant, was drilled on parcel number 362307-9018 that tested at 60 GPM. After comparing the storage requirements against production, a pump rate of 25 GPM via a 5 HP submersible pump was used and storage facilities selected appropriate for that production. Per Table 1 on page 6 of the Sizing Guidelines, 32 residential connections requires an MID of 77 gallons per minute. Standby Storage per the Guidelines shall be 600 gallons per day per connection or 19,200 gallons (32 x 600 = 19200). Equalizing Storage = (MID-Q)(150) = (77- 25)(150) = 7800 gallons. Total storage then is Standby Storage (19,200 Gal) + Equalizing Storage (7800 Gal) = 27,000 gallons. Three 9200 gallon poly storage tanks (total storage = 27,600 gallons) are located on an easement on an adjacent parcel (included in the parcels to be served) at an elevation 374 feet above the well head.

Water is delivered to each property as shown on the drawing at the pressure listed on the drawing. The hydraulic analysis was based on the maximum instantaneous demand according to the Sizing Guidelines for Public Water Supplies and tracks the line losses and elevation changes according to the drawing. The Hazen-Williams formula was used to calculate friction losses. Fire flow is not required and therefore is not a consideration in the development of this water system.

Water treatment is not required on this system as the water chemical analysis showed no chemicals present above the Maximum Contamination Level (MCL) and the history of bacteriological testing has consistently been satisfactory. The source (well) is protected by a 100 foot covenanted radius.

The Water Rights Permit was applied for by the owner of the well site property on August 2, 1991. The Water Right Application (No. G1-26283) was approved by Dep't of Ecology December 18, 1992.

#### C. WATER QUALITY ANALYSIS

Bacteriological samples have been tested periodically since the well was drilled and have been consistently satisfactory.

The full chemical test of the water taken after the well was drilled was found to be below all MCL's listed.

The Volatile Organic Chemical test conducted on the water was found to be satisfactory.

The Radionuclide test conducted on the water was found to be satisfactory.

#### D. DISINFECTION

In the event future disinfection is required, the following equipment and systems will be installed:

##### Area 1: Well Site

The sodium hypochlorite will be injected in the well discharge line using an NSF approved LMI chemical metering pump. The metering pump will be electrically interlocked with the well pump and manually adjustable to provide proper chlorine dosage.

##### Area 2: Storage Tanks

Supplemental chlorine in the form of sodium hypochlorite will be added to the storage tank discharge line of

the water system using an NSF approved LMI chemical metering pump. The dosage rate of the sodium hypochlorite will be flow proportional by means of an inline pulsing flow meter. This meter will signal the metering pump to increase or decrease the amount of sodium hypochlorite depending upon water demand.

Routine testing will be performed to insure that the minimum levels of chlorination are maintained in the system.

#### IV. IMPROVEMENT PROGRAM

No improvement program is considered necessary as the design of the water system accounts for all current and future system connections.

#### V. FINANCIAL PROGRAM

System operating parameters are fixed and therefore operating costs are expected to increase only with inflation and as additional connections are added to buildout. Cost improvements are not are not likely.

System expenses are provided for by annual shareholder fees as established by the association per the water use agreement. Emergency repair expenses that exceed current resources shall be by assessment of the shareholders.

The annual assessment for water rates is currently \$100 per shareholder per year. The water use agreement provides for this fee to be adjusted by a majority vote of the shareholders according to the expense requirements of the system operation or other factors as deemed appropriate. Fee increases will be addressed by the association as necessary.

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A 5 year operating budget (balance sheet) follows:

EXPENSES:	Year 1	Year 2	Year 3	Year 4	Year 5
Office	\$50.00	\$60.00	\$100.00	\$100.00	\$100.00
Maintenance & Insp.	500.00	600.00	700.00	750.00	800.00
Electricity	300.00	350.00	400.00	450.00	500.00
Water Analysis Fees	400.00	450.00	450.00	450.00	500.00
Insurance	150.00	200.00	200.00	200.00	200.00
REVENUE:					
Water Rates	\$3000.00	\$3000.00	\$3600.00	\$3600.00	\$3600.00
Bank Interest	100.00	100.00	100.00	100.00	100.00

## VI. WATER CONSERVATION PLAN

Water conservation will be encouraged by all shareholders. Low flush toilets, shower restrictors, low water use washing machines will be recommended to all residences.

Water conservation pamphlets available from the Washington State Dep't of Health, King County Health Dep't, as well as other sources will be distributed to all residences on this water system.

We expect the annual water usage projection of 102,000 gallons reflects the above water conservation measures.

## VII. OPERATION AND MAINTENANCE PROGRAM

Daily operational management will be performed by the purveyor who is appointed by the shareholders of the Noble Woods Water System.

Currently, that individual is: Mr. T.L. Cannon  
9026 38th Ave. S.W.  
Seattle, Wa. 98126  
(206)938-3165 (24 Hr)

Initially, financial management will be performed by:  
Mr. Del Lechelt  
2121 168th Ave. N.E.  
Bellevue, Wa. 98008  
(206)747-0272 (24 Hr)

Since the Noble Woods Water System will service less than 100 connections, no State of Washington technical certification is required of the system operators.

Routine operation procedures include preventative maintenance and inspection, water quality monitoring, water level measuring, as well as record keeping.

Bacteriological samples will be collected by the system operator. The sampling procedure will comply with the Coliform Monitoring Plan.

Until residential construction within the properties develops to a level that numerous sample locations become available, the operator will collect routine samples from one of the following three sites (alternated quarterly):

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- a) ..[ to be completed at a later date]
- b) ..
- c) ..

Also, until sites become available, follow-up samples will need to be collected on the basis of four consecutive days or four on a single day rather than on the basis of "Repeat sites" as defined in the Coliform Monitoring Plan.

The routine sample will be collected from a residential tap of the house two to five houses in distance from the previously noted end points. As homes are constructed, the sample collection location will change to reflect the development of the community.

The bacteriological sample will be stored in a cooler and transferred the same day to the representative of laboratory conducting the analysis.

Arrangements have been made with the following lab for bacteriological analysis:

AM Test, 14603 N.E. 87th St, Redmond 98052 (206)885-1664

D. EMERGENCY PROCEDURES

In the event of an emergency, there is no adjacent water system with which to intertie to provide emergency water when the Noble Woods Water System is shut down.

Response to all emergencies may be initiated by calling either the manager or the system operator. The emergency (24 hour) numbers are:

- |                            |          |
|----------------------------|----------|
| Mr. Del Lechelt (manager)  | 747-0272 |
| Mr. T.L. Cannon (operator) | 938-3165 |

All system repairs will be done by the system operator (contractor). The system operator (contractor) has the equipment and parts to accomplish any foreseeable repair

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work required of the system.

With conservation, water storage is adequate to supply the 32 users for more than 5 days during which time any foreseeable repair could be accomplished.

With respect to water quality issues, if a complaint indicates system contamination and/or the results of water quality analysis shows that any MCL is exceeded, the system operator and/or manager shall follow the procedures set forth in WAC 246-290-320.

Corrective action may include the following, depending on the nature of the complaint or water quality problem:

- ...Door-to-door or telephone notification of users.
- ...County and State Department of Health notification.
- ...Public notification as set forth in WAC 246-290-330 and Coliform Monitoring Plan.
- ...Source, storage and system sampling and inspection.
- ...System flushing and disinfection (including reservoirs and well).
- ...Request for outside technical assistance.

The following agencies and personnel should be contacted within 48 hours should water quality analysis show that any MCL has been exceeded or if there is concern that the system may have been contaminated from outside sources:

Mr. Stephen Deem, Regional Engineer  
N.W. Drinking Water Operations  
State of Washington Department of Health  
217 Pine Street, Suite 220  
Seattle, WA 98101-1549  
Telephone (206) 464-7963

Mr. Steven Kopplemann  
Seattle-King County  
Department of Public Health  
Alder Square Service Center  
1404 Central Ave. So., Suite 101  
Kent, WA. 98032  
Telephone (206) 296-4708

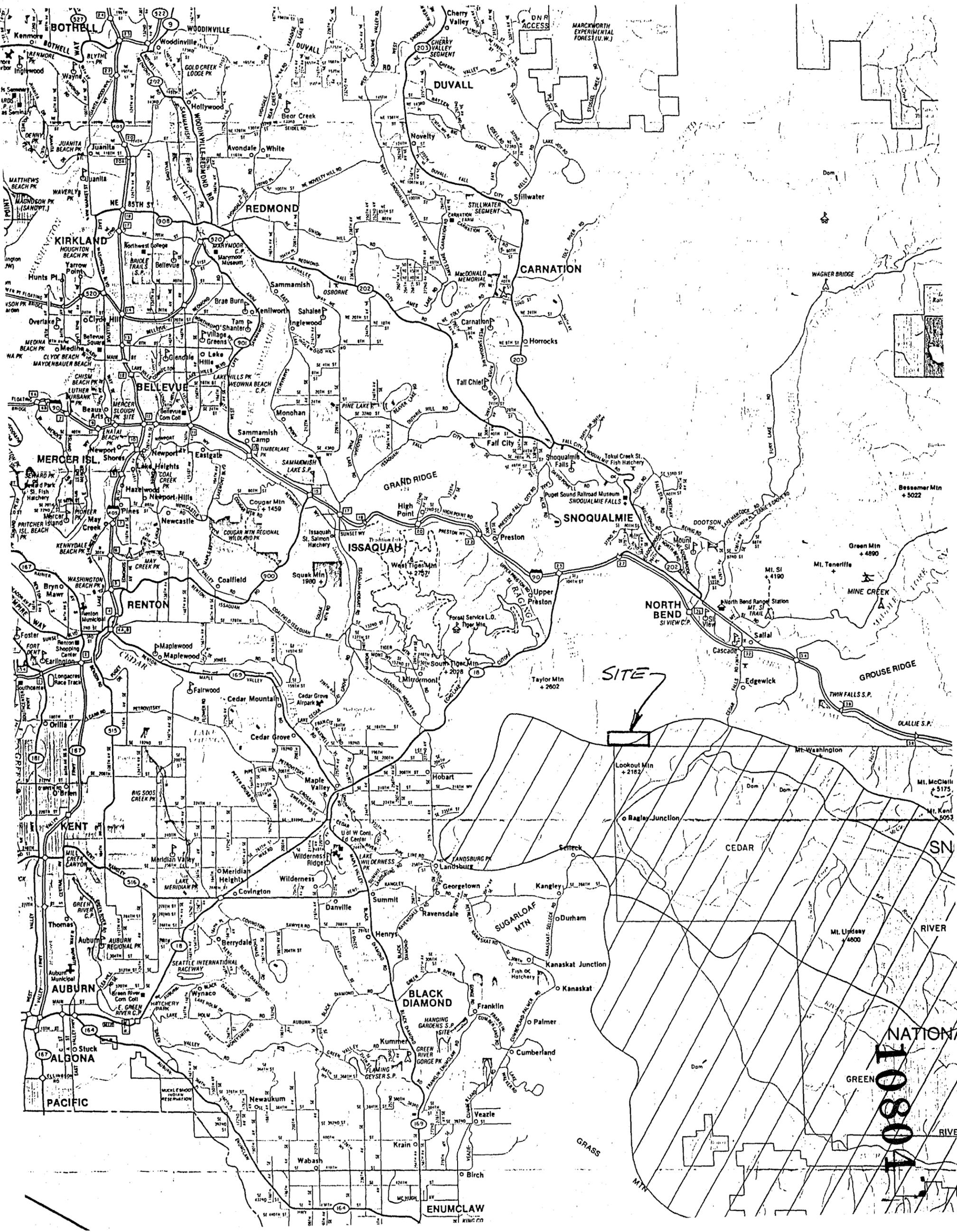
Public notification should comply with WAC 246-290-330.

The facilities of this water system are not considered to be vulnerable to damage by outside sources (vandalism.) The well head is very well protected within the well head enclosure. The storage facilities (tanks) are isolated on private property protected by fencing and a locked gate.

#### VIII. RELATIONSHIP WITH OTHER PLANS

There are no adjacent water systems with which to compare compatability. The nearest system is Sallal which is 2-1/2 miles to the East to their nearest boundary.

The Noble Woods Water System is not located in a Coordinated Water System Planning Area or a Groundwater Management Area, but is consistant with small water supplies within the Snoqualmie Valley Community Plan.



SITE

NATIONAL  
10804  
GREEN RIVER

10804

1830  
STORAGE  
TANK SITE  
EL. 1860

NOBLE WOODS OF HALMAR  
COMMUNITY WATER SYSTEM

**BROOKS**  
& ASSOCIATES  
CONSULTANTS

23347 S.E. MAY VLY. RD., ISSAQUAH, WA 98290 360-592-5702



DATE  
11-15-91

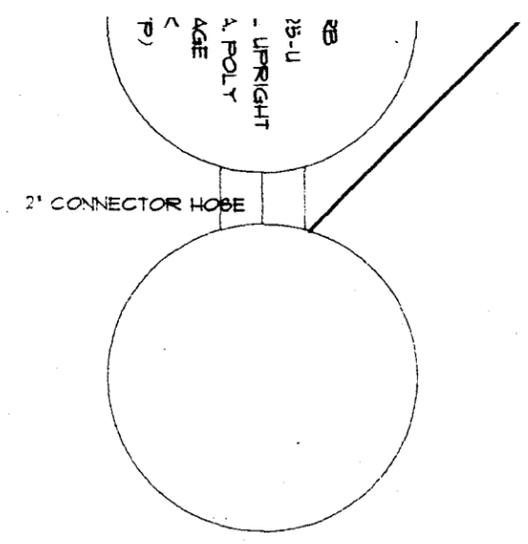
DRAWN  
JB

CHECKED

DWG. NO.  
D-8801

SHT. 1

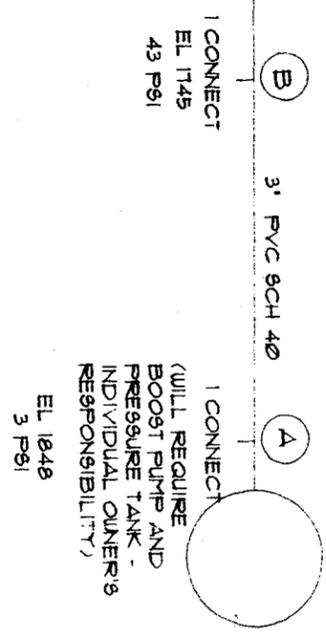
OF 1



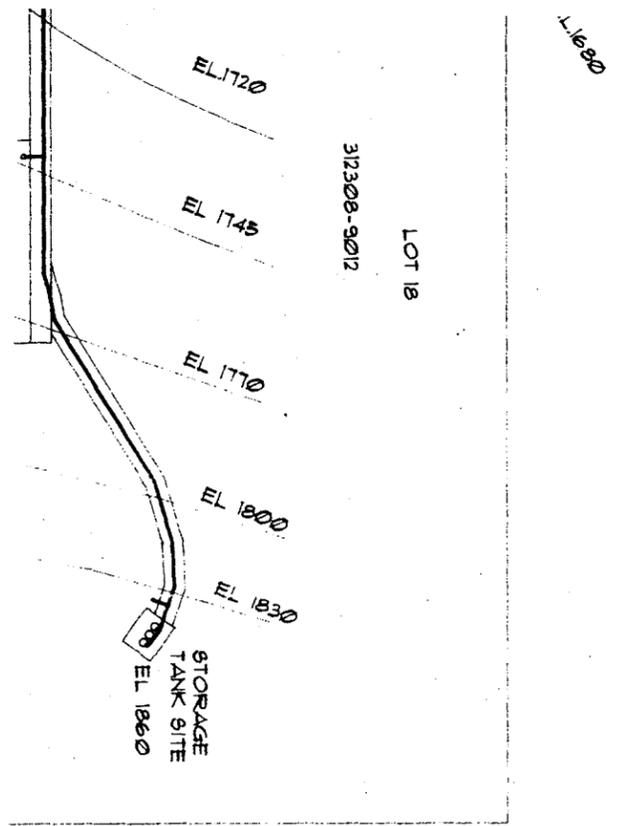
ARRANGEMENT - NO SCALE

LEVEL CONTROL:  
 SJ FLOAT SWITCH  
 BUSU JUNIOR SUPER SINGLE

STORAGE (EL 1854 - MID)



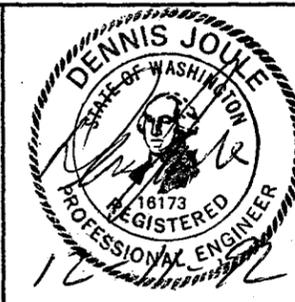
(WILL REQUIRE  
 BOOST PUMP AND  
 PRESSURE TANK -  
 INDIVIDUAL OWNER'S  
 RESPONSIBILITY)



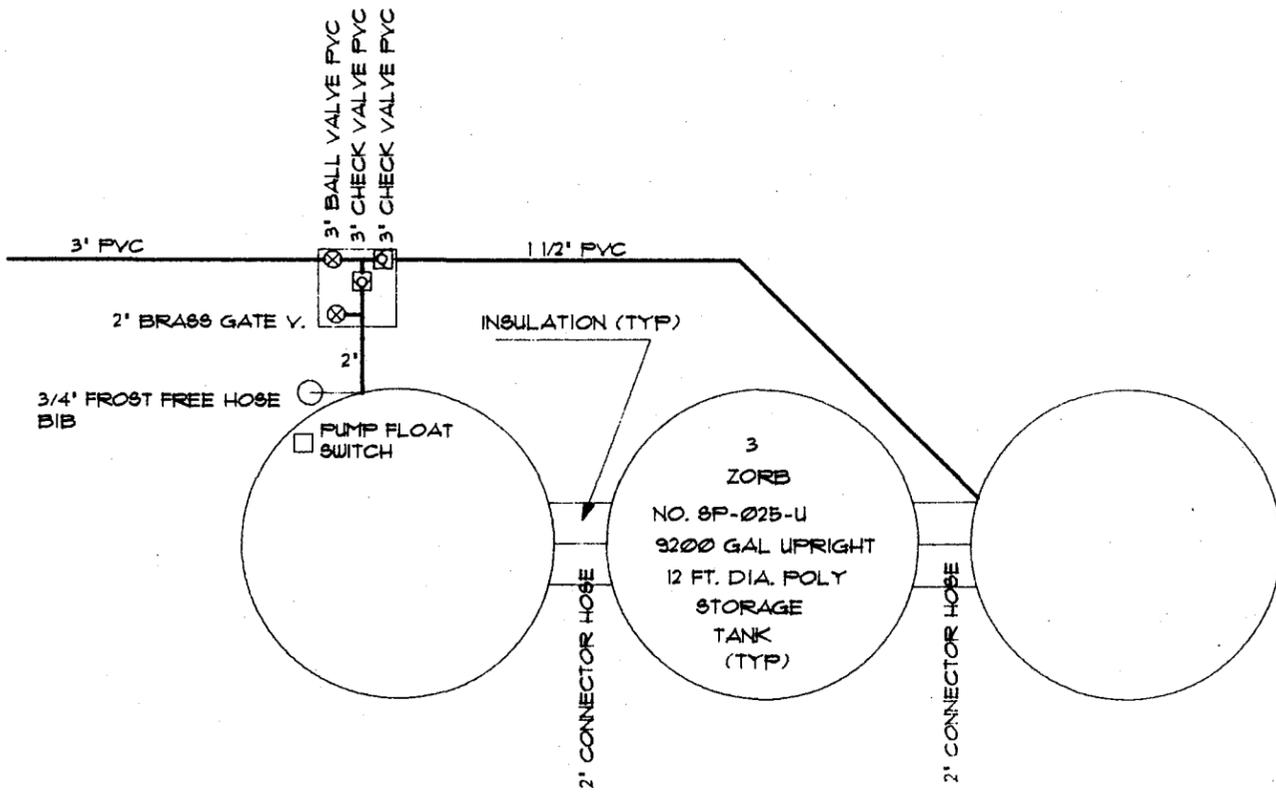
WOODS OF HALMAR  
 CITY WATER SYSTEM

**BROOKS**  
 & Associates  
 Consultants

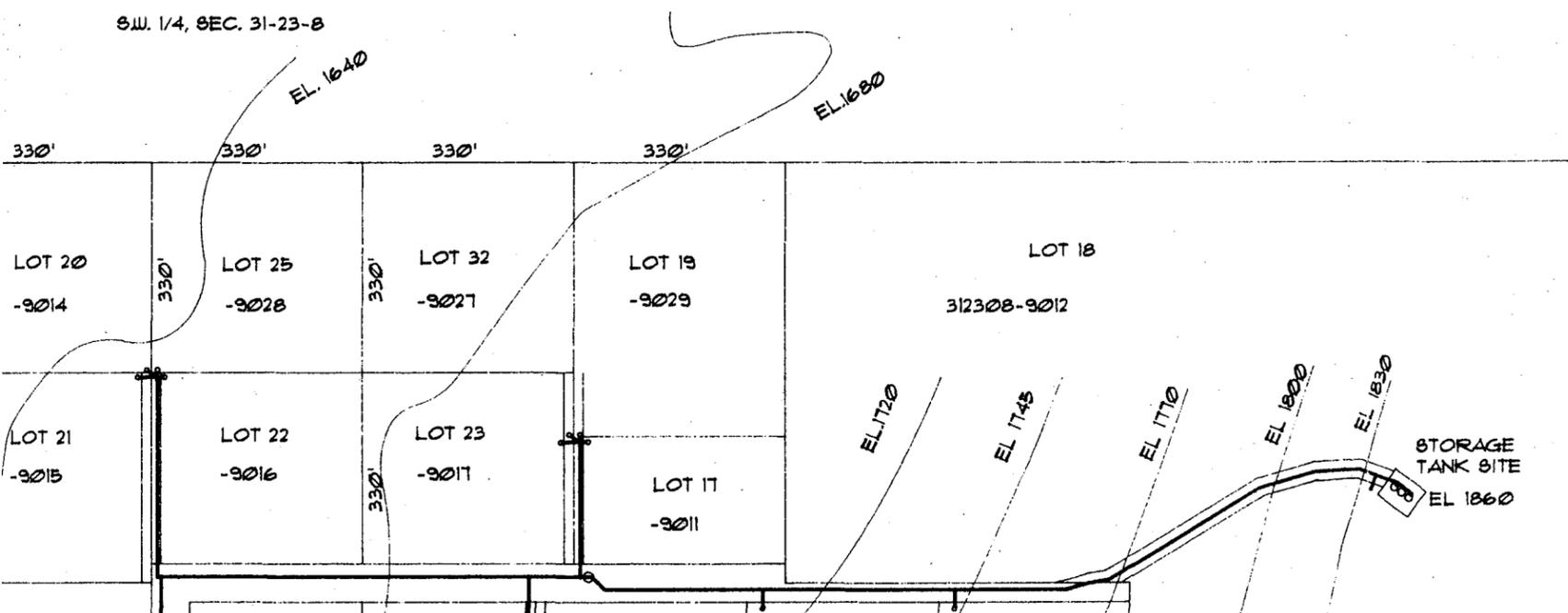
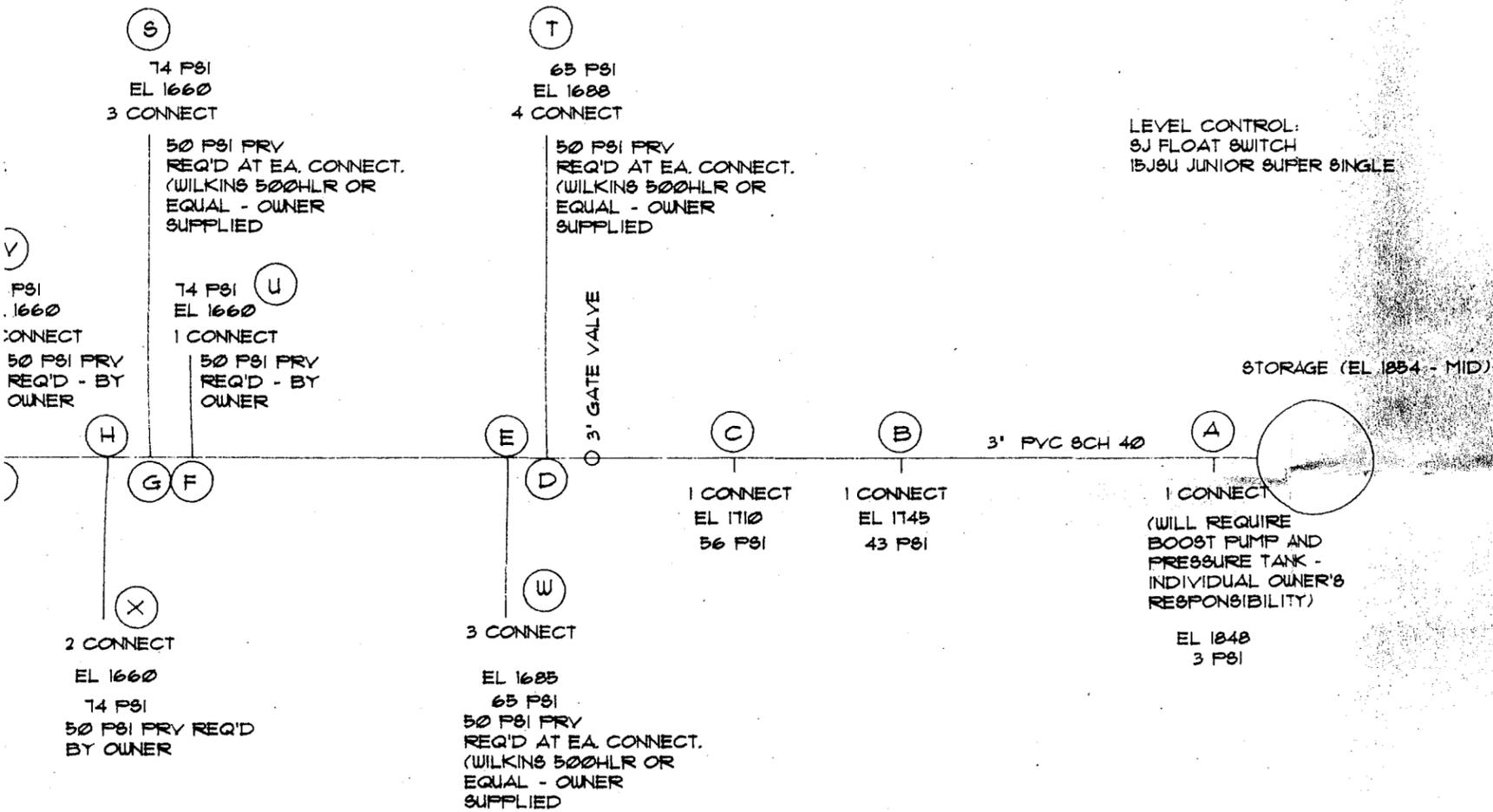
23347 S.E. MAY VLY. RD., ISSAQUAH, WA. 98027 (206) 392-5702



REVISIONS		DATE
NO.	DESCRIPTION	
1	ADDED METER IDLER DETAIL	9-23-92



STORAGE TANK ARRANGEMENT - NO SCALE



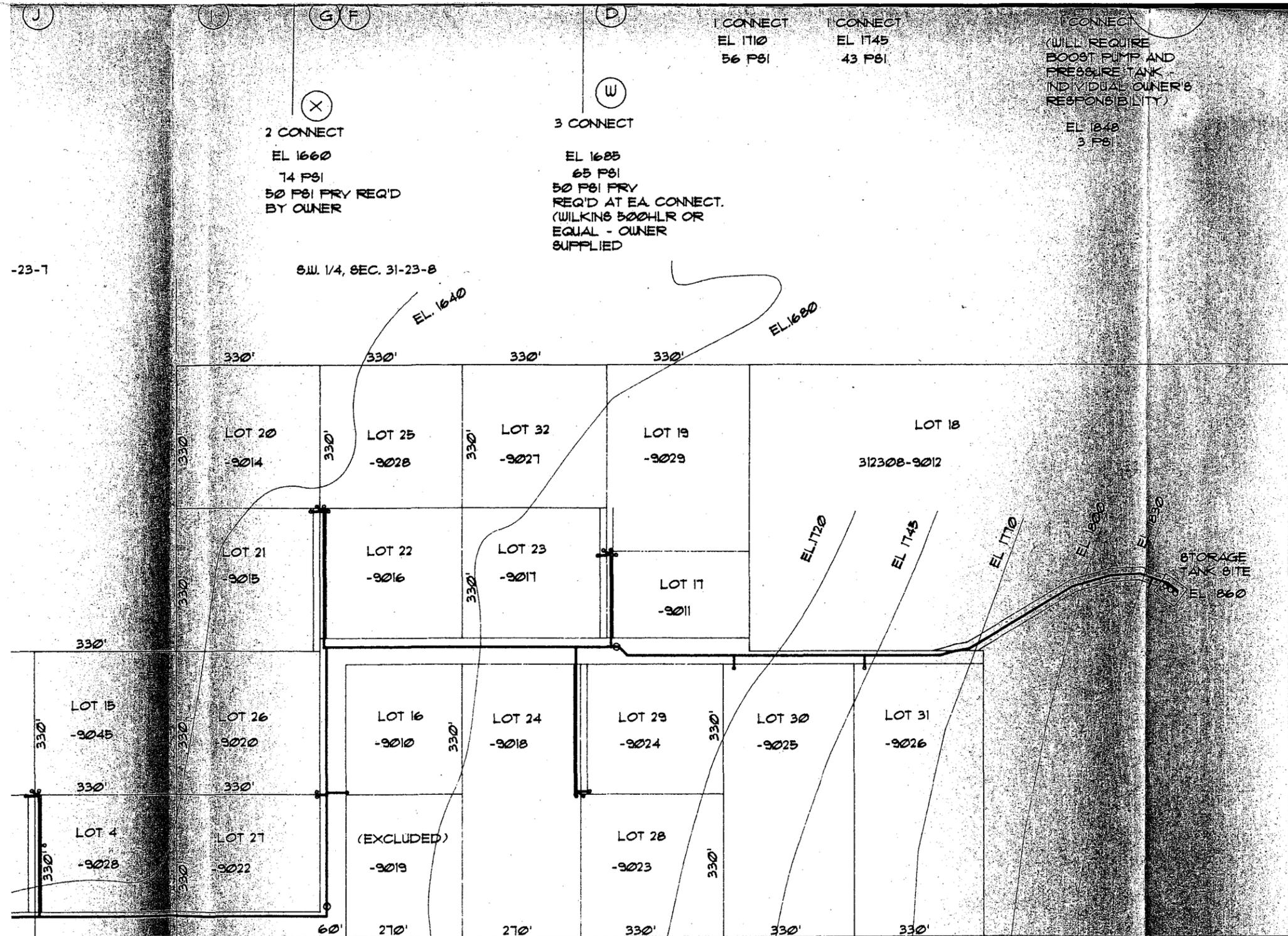




BA  
8801

NOBLE WOODS OF HALMAR  
COMMUNITY WATER SYSTEM

DATE  
11-15-91  
DRAWN  
JB  
CHECKED  
DWG. NO.  
D-8801  
SHT.  
1  
OF 1



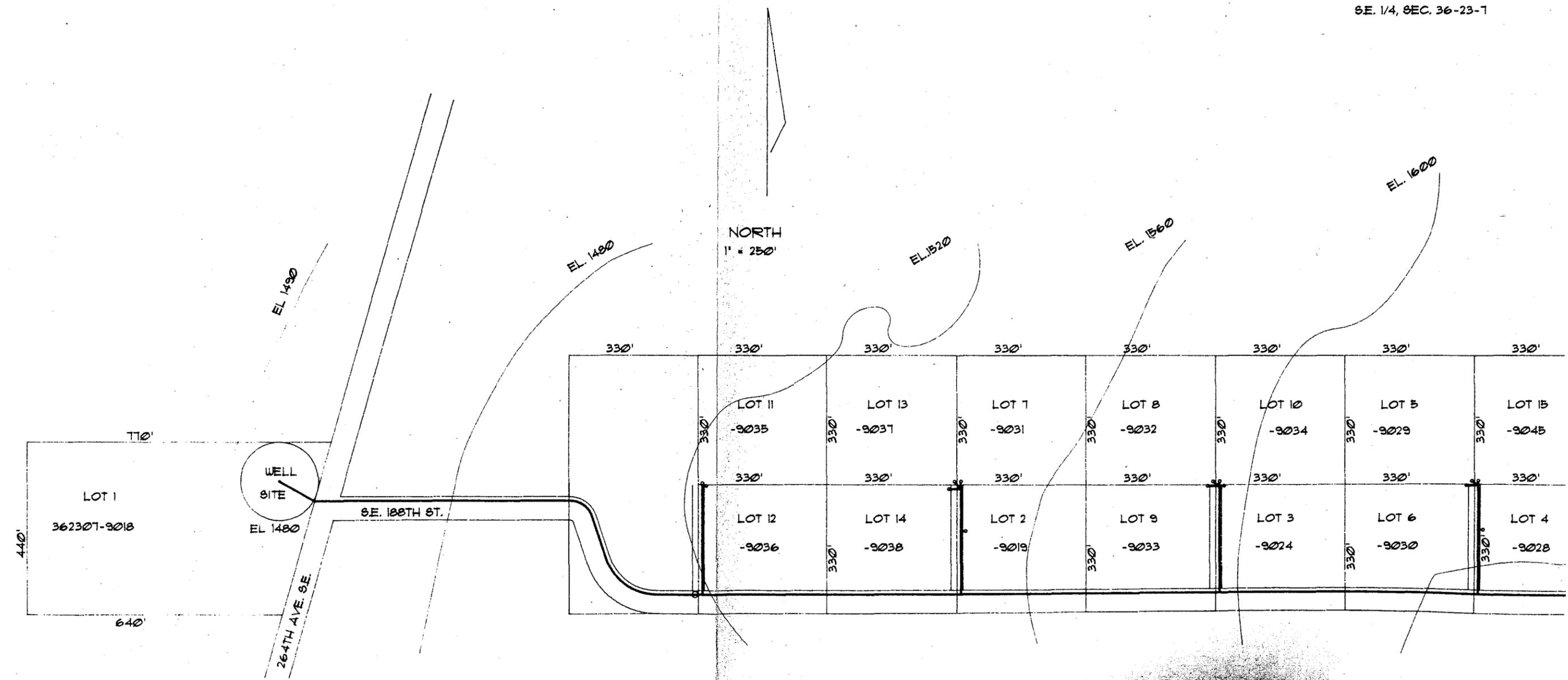
NOTE: PIPE BEDDING SHALL BE CLASS B PER APWA SEC. 9-30.7 (1)

CONVECT  
EL 1480  
148 PSI  
50 PSI FRY REQ'D  
WILKINS 500HLR OR  
EQUAL - BY OWNER

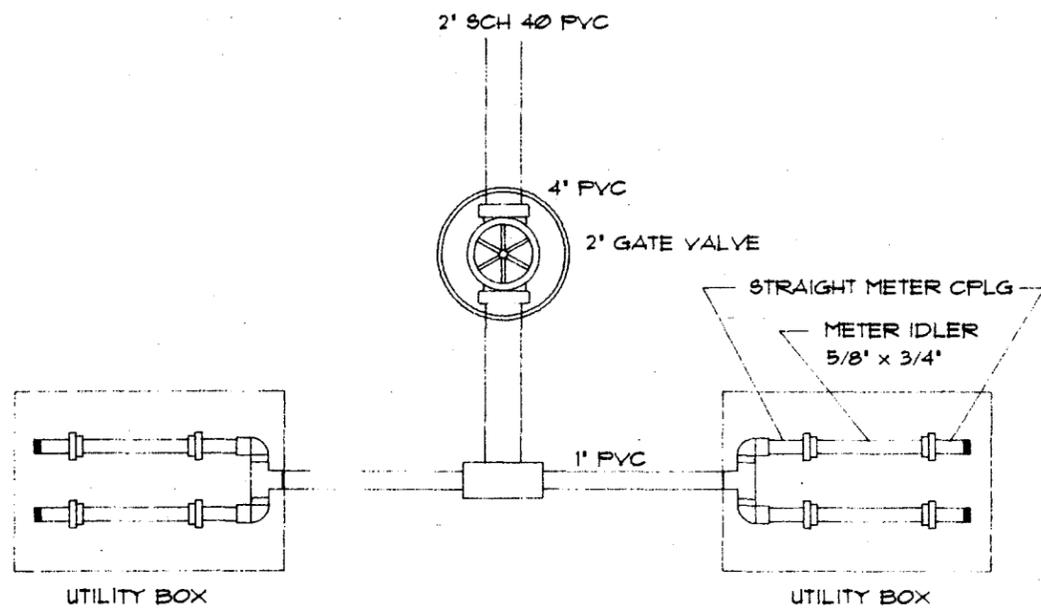
3" PVC SCH 40

SYSTEM SCHEMATIC - NO SCALE

S.E. 1/4, SEC. 36-23-7



SYSTEM LAYOUT



NOTE: EXACT LOCATION AND ELEVATION OF HOMESITES IS UNKNOWN AT THIS TIME. THEREFORE, FINAL WATER PRESSURE SHOULD BE CHECKED AT EACH RESIDENCE BY THE PLUMBING CONTRACTOR. PRV VALVES SHOULD BE INSTALLED AS APPROPRIATE.

TYPICAL CONNECTION - NO SCALE

5 HP F 4 W  
4F35A505 PUMP  
BW 5200 HIGH SENS. CONTROL  
100 AMP FUR PANEL  
110 VAC OUTLET  
MERCOID DS1231-153, R3,  
OVERPRESSURE CONTROL

○  
131 PSI  
EL 1520  
2 CONNECT  
GATE VALVE

2" PVC SCH 40 (TYP)  
50 PSI PRV  
REQ'D AT EA. CONNECT.  
(WILKINS 500HLR OR  
EQUAL - OWNER  
SUPPLIED

○  
120 PSI  
EL 1545  
4 CONNECT

50 PSI PRV  
REQ'D AT EA. CONNECT.  
(WILKINS 500HLR OR  
EQUAL - OWNER  
SUPPLIED

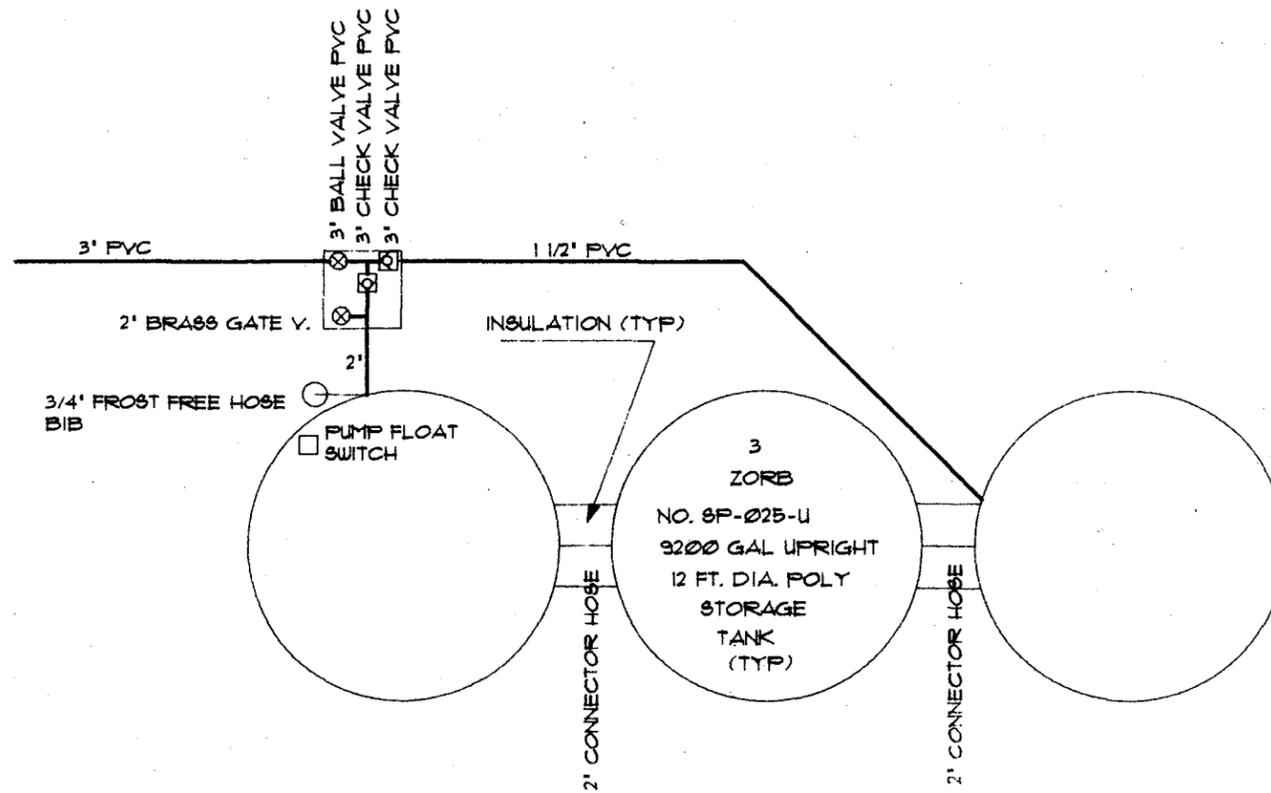
○  
103 PSI  
EL 1585  
4 CONNECT

50 PSI PRV  
REQ'D AT EA. CONNECT.  
(WILKINS 500HLR OR  
EQUAL - OWNER  
SUPPLIED

○  
87 PSI  
EL 1625  
4 CONNECT

50 PSI PRV  
REQ'D AT EA. CONNECT.  
(WILKINS 500HLR OR  
EQUAL - OWNER  
SUPPLIED

GATE VALVE



STORAGE TANK ARRANGEMENT - NO SCALE

EA CONNECT.  
500HLR OR  
OWNER

ATE VALVE

74 PSI  
EL 1660  
1 CONNECT  
50 PSI PRV  
REQ'D - BY

74 PSI  
EL 1660  
3 CONNECT

50 PSI PRV  
REQ'D AT EA. CONNECT.  
(WILKINS 500HLR OR  
EQUAL - OWNER  
SUPPLIED

74 PSI  
EL 1660  
1 CONNECT  
50 PSI PRV  
REQ'D - BY

65 PSI  
EL 1688  
4 CONNECT

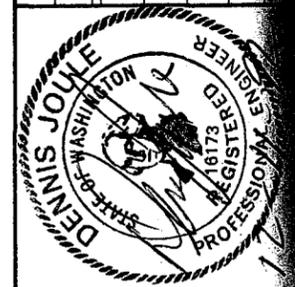
50 PSI PRV  
REQ'D AT EA. CONNECT.  
(WILKINS 500HLR OR  
EQUAL - OWNER  
SUPPLIED

ATE VALVE

LEVEL CONTROL:  
8J FLOAT SWITCH  
15J9U JUNIOR SUPER SINGLE

STORAGE (EL 1854 - MID)

NO.	REVISIONS DESCRIPTION	DATE
1	ADDED METER IDLER DETAIL	9-23-92



**DOOKS**  
**Associates**  
**Consultants**

ISSAQUAH, WA. 98027 (206) 392-5702