

phone 761-3889

CITY OF NEWBERG

CITY OF NEWBERG
CITY RECORDER INDEX NO. 1076

414 EAST FIRST STREET

TELEPHONE 538-9421

NEWBERG, OREGON 97132

CONTRACT DOCUMENTS
FOR
THE CONSTRUCTION
OF

SPRINGBROOK STREET
WATER LINE
1973

ADVERTISEMENT FOR BIDS

Sealed proposals for the construction of Springbrook Street Water Line, addressed to the Honorable Mayor and City Council, City Hall, City of Newberg, Oregon will be received at the office of the City Finance Officer, until 7:30 PM, PST, February 5, 1973, and then will be publicly opened and read.

Proposals will be received on the water line consisting of the installation of approximately 1600 lineal feet of 12-inch Cast Iron water line and fittings. The City of Newberg shall supply all materials.

Plans and specifications may be examined at the Office of the City Engineer, City Hall, Newberg, Oregon. A copy of said documents may be obtained at the Engineer's office at City Hall, Newberg, Oregon upon a deposit of Twenty Five Dollars (\$25.00) for each document. The full amount of the deposit will be refunded if said documents are returned in good condition within ten (10) days after bid opening.

Bidders must be prequalified in compliance with applicable parts of Chapter 279 of Oregon Revised Statutes. Prequalification forms, completely filled out, shall be mailed to the City Engineer, City Hall, Newberg, Oregon, at least ten (10) days prior to the Bidding date.

No bid will be received or considered by the public body or any officer of the public body unless the bid contains a statement by the Bidder as a part of his bid that the provisions required by ORS 279.350 shall be included in his contract.

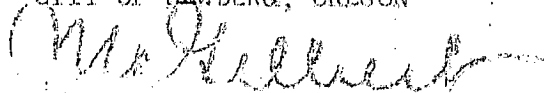
Each proposal must be submitted on the prescribed form and accompanied by a certified check or bid bond payable to the City of Newberg, Oregon, in an amount not less than ten percent (10%) of the amount bid.

The successful bidder will be required to furnish a performance and payment bond for faithful performance of the contract in the full amount of the contract price.

The right is reserved to reject any or all proposals, to waive informalities, to postpone the award of the contract for a period not to exceed thirty (30) days, and to accept that proposal which is to the best interest of the City of Newberg.

Dated this 2nd day of January, 1973.

CITY OF NEWBERG, OREGON



M. C. GILBERT
FINANCE OFFICER

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PROPOSAL

To: Honorable Mayor and City Council
City Hall
Newberg, Oregon

The undersigned, hereinafter called the Bidder, declares that the only persons or parties interested in this Proposal are those named herein; that this Proposal is, in all respects, fair and without fraud; that it is made without collusion with any official of the Owner; and that the Proposal is made without any connection or collusion with any person making another proposal on this Contract.

The Bidder further declares that he has carefully examined the Contract Documents for the construction of the project; that he has personally inspected the site; that he has satisfied himself as to the quantities involved, including materials and equipment, and conditions of work involved, including the fact that the description of the quantities of work and materials, as included herein, is brief and is intended only to indicate the general nature of the work and to identify the said quantities with the detailed requirements of the Contract Documents; and that this Proposal is made according to the provisions and under the terms of the Contract Documents, which Documents are hereby made a part of this Proposal. The Bidder further declares that the provisions required by ORS 279.350 relating to prevailing wage rates shall be included in his Contract.

The Bidder further agrees that he has utilized all data which he believes pertinent from the Engineer, Owner, and other sources in arriving at his conclusions.

The Bidder agrees that if this Proposal is accepted, he will, within fifteen (15) calendar days after notification of acceptance, execute the Contract with the Owner in the form of Contract annexed hereto; and will, at the time of execution of the Contract, deliver to the Owner the Performance and Payment Bond required herein; and will, to the extent of his Proposal, furnish all machinery, tools, apparatus, and other means of construction and do the work and furnish all the materials necessary to complete the work in the manner, in the time, and according to the methods as specified in the Contract Documents and required by the Engineer thereunder.

The Bidder further agrees to begin work within ten (10) calendar days after the date of the execution of the Contract and to complete the construction, in all respects, of each schedule for which his Proposal is accepted, within 30 (Thirty) calendar days after the date of the execution of the Contract by the Owner.

In the event the Bidder is awarded the Contract and shall fail to complete the work within the time limit or extended time limit agreed upon, as more particularly set forth in the Contract Documents, liquidated damages shall be paid to the Owner at the rate of \$30.00 (Thirty Dollars) per day until the work shall have been finished as provided by the Contract Documents. Sundays and legal holidays shall be excluded in determining days in default.

The Bidder further proposes to accept as full payment for the work proposed herein the amounts computed under the provisions of the Contract Documents and based on the following lump sum or unit price amounts, it being expressly understood that the unit prices are independent of the exact quantities involved. The Bidder agrees that the lump sum prices and the unit prices represent a true measure of the labor and materials required to perform the work, including all allowances for overhead and profit for each type and unit of work called for in these Contract Documents.

The amounts shall be shown in both words and figures. In case of a discrepancy, the amount shown in words shall govern.

~~The form of "Compliance Statement" appended hereto shall be executed by the Bidder and submitted as part of this Proposal. Bids received without the signed "Compliance Statement" will be considered as informal.~~

It is agreed that if the Bidder is awarded the Contract for the work herein proposed and shall fail or refuse to execute the Contract and furnish the specified Performance and Payment Bond within seven (7) calendar days after receipt of notification of acceptance of his Proposal, then, in that event, the bid security deposited herewith according to the conditions of the Advertisement for Bids and Information for Bidders shall be retained by the Owner as liquidated damages; and it is agreed that the said sum is a fair measure of the amount of damage the Owner will sustain in case the Bidder shall fail or refuse to enter into the Contract for the said work and to furnish the Performance and Payment Bond as specified in the Contract Documents. Bid security in the form of a certified check shall be subject to the same requirements as a bid bond.

If the Bidder is awarded a construction Contract on this Proposal, the Surety who will provide the Performance and Payment Bond will be _____

ARGONAUT INSURANCE CO. whose address is
_____, MEMLO PARK, CALIFORNIA
Street City State

The name of the Bidder who is submitting this Proposal is _____

FRANK T. MATTHEWS, INC. doing business at
P.O. Box 66096
5203 S.E. 108th Ave., PORTLAND, OREGON
Street City State

which is the address to which all communications concerned with this Proposal and with the Contract shall be sent.

The names of the principal officers of the corporation submitting this Proposal, or of the partnership, or of all persons interested in this Proposal as principals are as follows:

<u>FRANK T. MATTHEWS</u>	<u>PRESIDENT</u>
<u>VERNA E. MATTHEWS</u>	<u>SECRETARY</u>
_____	_____

(If Sole Proprietor or Partnership)

In witness hereto the undersigned has set his (its) hand this 6th
day of FEBRUARY, 19 43.

Frank J. Matthews
Signature of Bidder

PRE
Title

(If Corporation)

In witness whereof the undersigned corporation has caused this instrument
to be executed and its seal affixed by its duly authorized officers this
6th day of FEBRUARY, 19 43.

FRANK J. MATTHEWS, INC.
Name of Corporation

By: Frank J. Matthews

PRESIDENT
Title

Attest: Verna E. Matthews

Secretary

(See "Compliance Statement" on next page)

12" WATER LINETHE CITY OF NEWBERG WILL SUPPLY PIPE, CASING, FITTINGS AND ROCK BACKFILL

<u>Item</u>	<u>Quantity</u>		<u>Unit Price or Lump Sum Figures</u>	<u>Unit Price or Lump Sum in Writing</u>	<u>Total Amt. Quan. X Unit Price or Lump Sum</u>
<u>TRENCH EXCAVATION & BACKFILL</u>					
Class "A"	869	lin ft	<u>1.00</u>	<u>ONE AND 00/100 DOLLARS</u>	<u>869.00</u>
Class "B"	162	lin ft	<u>~~3.50~~ 2.50</u>	<u>TWO FIVE AND 50/100 DOLLARS</u>	<u>405.00</u>
Class "A ₁ "	529	lin ft	<u>1.50</u>	<u>ONE AND 50/100 DOLLARS</u>	<u>793.50</u>
<u>COMPACTION OF TRENCH BACKFILL</u>					
Mech Compactor	1560	lin ft	<u>0.30</u>	<u>NO AND 30/100 DOLLARS</u>	<u>468.00</u>
<u>PIPE (INSTALLATION ONLY)</u>					
12" ASTM C 22 Push-On Type Cast Iron Pipe In Place	1650	lin ft	<u>1.20</u>	<u>ONE AND 20/100 DOLLARS</u>	<u>1,980.00</u>
<u>BORING AND CASING</u>					
	90	lin ft	<u>50.00</u>	<u>FIFTY AND 00/100 DOLLARS</u>	<u>4,500.00</u>
<u>FIRE HYDRANT ASSEMBLY (INSTALLATION ONLY)</u>					
	3	each	<u>100.00</u>	<u>ONE HUNDRED AND 00/100 DOLLARS</u>	<u>300.00</u>
<u>FITTINGS (INSTALLATION ONLY)</u>					
12" Butterfly Valve and Valve Box	2	each	<u>50.00</u>	<u>FIFTY AND 00/100 DOLLARS</u>	<u>100.00</u>
12" X 4 M. J. Tee	1	each	<u>40.00</u>	<u>FOURTY AND 00/100 DOLLARS</u>	<u>40.00</u>

12" WATER LINETHE CITY OF NEWBERG WILL SUPPLY PIPE, CASING, FITTINGS AND ROCK BACKFILL

<u>Item</u>	<u>Quantity</u>		<u>Unit Price or Lump Sum Figures</u>	<u>Unit Price or Lump Sum in Writing</u>	<u>Total Amt. Quan. X Unit Price or Lump Sum</u>
12" Test Plug	<u>1</u>	each	<u>30.00</u>	<u>THIRTY AND 00/100 DOLLARS</u>	<u>30.00</u>
Install Detail #1	<u>1</u>	each	<u>350.00</u>	<u>THREE HUNDRED FIFTY AND 00/100 DOLLARS</u>	<u>350.00</u>
<u>SUPPLY ASPHALT & PATCH PAVING</u>					
	<u>10</u>	tons	<u>35.00</u>	<u>THIRTY FIVE AND 00/100 DOLLARS</u>	<u>350.00</u>

10" WATER LINETHE CITY OF NEWBERG WILL SUPPLY PIPE, FITTINGS AND ROCK BACKFILL -- NO CASING

<u>Item</u>	<u>Quantity</u>	<u>Unit Price or Lump Sum Figures</u>	<u>Unit Price or Lump Sum in Writing</u>	<u>Total Amt. Quan. X Unit Price or Lump Sum</u>
<u>TRENCH EXCAVATION AND BACKFILL</u>				
Class "A"	450 lin ft	1.50	ONE AND 50/100 DOLLARS	675.00
Class "B"	300 lin ft	3.50 2.50	TWO THREE AND 50/100 DOLLARS	4,050.00 750.00
<u>COMPACTION OF TRENCH BACKFILL</u>				
Mech Compactor	750 lin ft	0.30	NO AND 30/100 DOLLARS	225.00
<u>PIPE (INSTALLATION ONLY)</u>				
10" ASTM C 22 Push-On Type Cast Iron Pipe In Place	650 lin ft	1.15	ONE AND 15/100 DOLLARS	747.50
6" ASTM C 22 Push-On Type Cast Iron Pipe In Place	100 lin ft	1.00	ONE AND 00/100 DOLLARS	100.00
<u>FITTINGS (INSTALLATION ONLY)</u>				
Connect to Existing Water Line	3 each	250.00 250.00	TWO HUNDERS FIFTY AND 00/100 DOLLARS	750.00

OK

TOTAL AMOUNT OF BID \$ 13,433.00

The City of Newberg shall supply Pipe, Casing, Fittings and Rock Backfill

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that _____
_____ hereinafter called the Principal, and
_____, a corporation duly organized under
the laws of the State of _____, having its principal place
of business at _____, in the State
of _____, and authorized to do business
in the State of Oregon, as Surety, are held and firmly bound unto the _____
_____ hereinafter called the Obligee in the penal
sum of _____ Dollars (\$ _____),
for the payment of which, well and truly to be made, we bind ourselves, our
heirs, executors, administrators, successors and assigns, jointly and severally,
firmly by these presents.

The condition of this Bond is such that, whereas, the Principal herein is
herewith submitting his or its Bid Proposal for _____
_____ said bid Proposal, by reference thereto, being hereby made a part hereof.

NOW, THEREFORE, if the said Bid Proposal submitted by the said Principal
be accepted, and the Contract be awarded to said Principal, and if the said
Principal shall execute the proposed Contract and shall furnish the Perform-
ance Bond as required by the Bidding and Contract Documents within the time
fixed by said Documents, then this obligation shall be void, if the Principal
shall fail to execute the proposed Contract and furnish the Performance Bond,
the Surety hereby agrees to pay to the Obligee the penal sum os liquidated
damages.

Signed and sealed this _____ day of _____, 19 ____.

Principal

By _____

Countersigned:

Surety

Resident Agent

By: _____

Attorney-in-fact

(A certified copy of the Agent's power-of-attorney must be attached hereto.)

PERFORMANCE AND PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____

as Principal, and _____

a corporation, duly authorized to do a general surety business in Oregon, as Surety, are jointly and severally held and bound unto _____

the Obligee herein, in the sum of _____

_____ (Dollars) (\$ _____), for the payment of which we jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns, firmly by these presents:

THE CONDITION OF THIS BOND IS SUCH THAT

WHEREAS, _____

Contractor

the Principal herein, on the _____ day of _____, 19 _____, entered into a Contract with the Obligee, which Contract Documents consist of the Advertisement for Bids, the Proposal, the Contract, the Performance and Payment Bond, the Information for Bidders, the Special Provisions, the General Conditions, the Specifications, and the Plans, all as hereto attached and made a part hereof, whereby said Principal undertakes to do all labor, furnish all plant and equipment, and furnish all material, in accordance with all the terms and conditions set forth in said Contract Documents; and to promptly make payment for all labor, services, material, and sums due the State Industrial Accident Commission, or equivalent, the Collector of Internal Revenue, and the Treasurer of the State of Oregon; and to save harmless the Obligee from any claim for damages or injury to property or persons arising by reason of said work, as set out more fully in said Contract Documents; and to do and perform all things in said Contract Documents required, in the time and manner and under the terms and conditions therein set forth; and in conformity with all laws, State and national, applicable thereto.

Now, therefore, if said Principal herein shall promptly pay all persons furnishing labor, services, and material, and Industrial Accident Insurance or equivalent, and Social Security and Unemployment Compensation, to him and to his subcontractor, or to their assigns, on or about said work; and shall, commencing with the date hereof and continuing for one (1) year after the complete performance of the Contract and the final acceptance of the work in

the Contract, save harmless the Obligees, its officers and agents, from all claims therefor, or from any claim for damages or injury to property or persons arising by reason of said work; and shall, in the time and manner, and under the terms and conditions prescribed, well and faithfully do, perform, and furnish all matters and things as by them in said Contract undertaken, and as by law, State and National, prescribed, then this obligation shall be void; but otherwise it shall remain in full force and effect.

PROVIDED, HOWEVER, that this Bond is subject to the following further conditions.

(a) All materialmen, and all persons who shall supply such laborers, mechanics, or subcontractors with material, supplies, or provisions for carrying on such work, shall have a direct right of action against the Principal and Surety on this Bond, second only to the right of the Obligee under this Bond, which right of action shall be asserted in proceedings instituted in the appropriate court of the State of Oregon, and insofar as permitted by the laws of Oregon, such right of action shall be asserted in a proceeding instituted in the name of the Obligee to the use and benefit of the person, firm, or corporation instituting such action and of all other persons, firms, or corporations having claims hereunder, and any other person, firm, or corporation having a claim hereunder shall have the right to be made a party to such proceeding (but not later than one (1) year after the complete performance of said Contract and final acceptance of the work in the Contract) and to have such claim adjudicated in such action and judgment rendered thereon.

(b) In no event shall the Surety be liable for a greater sum than the penalty of this Bond.

(c) The said Surety, for the value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the Specifications accompanying the same shall in any way affect its obligations on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

(d) The Principal herein shall faithfully and truly observe and comply with the terms of the Contract and shall well and truly perform all matters and things by him undertaken to be performed under said Contract upon the terms proposed therein and shall promptly make payments to all persons supplying labor or material for any prosecution of the work provided for in such Contract and shall not permit any lien or claim to be filed or prosecution against the obligees, on account of any labor or material furnished, and shall promptly pay all contributions or amount due the State Industrial Accident Commission or equivalent and all contributions or amounts due the State Employment Compensation Trust Fund incurred in the performance of said Contract, and shall also pay all sums of money withheld from the employees and payable to the State Tax Commission pursuant to ORS 316.711 and shall promptly, as due,

CONTRACT FOR CONSTRUCTION

THIS CONTRACT, made and entered into this 9TH day of FEBRUARY, 19 43, by and between the City of Newberg, Oregon, a municipal corporation, hereinafter called the "Owner", and Frank J. Matthews Inc. of Portland, Oregon hereinafter called the "Contractor."

WITNESSETH:

Said Contractor, in consideration of the sum of be paid him by the said Owner and of the covenants and agreements herein contained, hereby agrees at his own proper cost and expense to do all the work and furnish all the materials, tools, labor, and all appliances, machinery, and appurtenances for the construction of SPRINGBROOK WATER LINE 1943 FEBRUARY 9, 19 43, all in full compliance with the Contract Documents referred to herein.

The "Advertisement for Bids", the signed copy of the "Proposal" made by the Contractor on the 6TH day of FEBRUARY, 19 43, the fully executed "Performance and Payment Bond", the "Information for Bidders", the "Special Provisions", the "General Conditions", the "Specifications", and the "Plans", which consist of 4 sheets entitled "City of Newberg,

dated JANUARY 2, 1943, are hereby referred to and by reference made a part of this Contract as fully and completely as if the same were fully set forth herein and are mutually cooperative therewith.

In consideration of the faithful performance of the work herein embraced, as set forth in these Contract Documents, and in accordance with the direction of the Engineer and to his satisfaction to the extent provided in the Contract Documents, the Owner agrees to pay to the Contractor the amount bid as adjusted in accordance with the Proposal as determined by the Contract Documents, or as otherwise herein provided, and based on the said Proposal made by the Contractor, and to make such payments in the manner and at the times provided in the Contract Documents.

The Contractor agrees to complete the work within the time specified herein and to accept as full payment hereunder the amounts computed as determined by the Contract Documents and based on the said Proposal.

The Contractor agrees to indemnify and save harmless the Owner from any and all defects appearing or developing in the materials furnished and the workmanship performed under this Contract for a period of one (1) year after the date of acceptance of the work in the Contract by the Owner.

The provisions required by ORS 279.350 relating to prevailing wage rates are made a part of this Contract as completely as if the same were fully set forth herein.

It is agreed that the time limit for the completion of the Contract, based on the Proposal, shall be the 16th day of MARCH, 1973. In the event that the Contractor shall fail to complete the work within the time limit or the extended time limit agreed upon, as more particularly set forth in the Contract Documents, liquidated damages shall be paid at the rate of THIRTY DOLLARS (\$30.00) per day. Sundays and legal holidays shall be excluded in determining days in default.

IN WITNESS WHEREOF, We, the parties hereto, each herewith subscribe the same this 9th day of FEBRUARY, 1973.

CITY OF NEWBERG, OREGON

By: *Jack [Signature]*

Title: MAYOR

By: *Mc [Signature]*

Title: FINANCE OFFICER

FRANK T. MATTHEWS, INC.
Contractor

By: *Frank T. Matthews*

Title: PRESIDENT

Approved as to form:

City Attorney

SPECIAL CONDITIONS

SECTION 1. MATERIAL LOCATION

Pipe and fittings for this project shall be stockpiled between Stations 11+00 and 12+00 on Springbrook Road.

SECTION 2. BORING & CASING

2-1 Workmanship

The boring operation shall be done in compliance with all safety regulations that apply to such operations. The boring pit shall be properly protected and marked so as to insure no traffic or personnel accident or injury.

The ends of the casing shall be sealed with concrete to prevent rock from infiltrating the casing.

Vertical alignment shall not vary more than 0.5% from that established by the Engineer. Horizontal alignment shall not vary more than 1.0% from that established by the Engineer.

The Contractor shall be required to "pothole" the 6-5/8" gas line in Highway 99W to determine exact depth.

2-2 Material

Casing shall be supplied by the Owner. It shall consist of 90 feet of $\frac{1}{4}$ " wall steel pipe 20 inches in diameter. The boring pit shall be backfilled with excavated material, if suitable, to a height of 8 inches plus the asphalt thickness below finish grade. Then 8 inches of $\frac{3}{4}$ " minus rock shall be applied, followed by asphalt. Material shall be placed in 6" lifts and each lift shall be compacted. Cast Iron pipe shall be supplied by the Owner. Asphalt shall be supplied by Others.

2-3 Payment

Payment shall be made on a lump sum basis in the Proposal under the item "Highway Crossing-Lump Sum". Payment shall be for all work necessary to successfully install the crossing. It shall not include the cost of installing the Cast Iron pipe which will be included under the item "Install 12" Cast Iron Pipe - Lineal Feet". In the event that the boring pit falls along the line of the trench excavation and backfill, that portion of the trench excavation and backfill shall be disallowed under that pay item.

SPECIAL PROVISIONS

SECTION 3. COMPACTION

All backfill shall be placed in the ditch in 6 inch lifts and compacted with a handheld mechanical compactor so as to achieve compaction to 95% maximum density.

SECTION 4. FIRE HYDRANT ASSEMBLIES

Fire Hydrant Assemblies shall consist of all work involved in the construction of the Hydrant, Gate Valve, Pipe and Tee from main. The drain pit, excavation and backfill and thrust blocking shall also be bid under this item. Pipe and fittings shall be 6 inch flanged joint unless otherwise noted on the plans.

4-1 Materials and Workmanship

Materials and workmanship shall be in accordance with Section 61 and Sections 72 through 76.

4-2 Payment

Payment shall be on a unit price basis covered in the Proposal under "Fire Hydrant Assembly per each" and shall be considered full payment for assembly, ditching, backfilling and testing but shall not cover the cost of materials.

SECTION 5. TESTING

Testing shall be in accordance with AWWA C 600 and the test pressure shall be 150 PSI. No payment for pipe in place will be made until the pipe has successfully passed a leakage test.

SECTION 6. CHLORINATION

The Contractor shall chlorinate and take samples in accordance with AWWA C 601 and submit samples directly to the State Board of Health with results to be sent to the City of Newberg.

SECTION 7. PAVING

7-1 Prime Coat

After 3/4 minus rock has been compacted, apply an asphalt prime coat, specified above, at 0.25 to 0.40 gallons per square yard to the surface of the leveling course and to the edges of the existing pavement.

7-2 Asphalt Concrete

After the prime coat has set, but before it loses its adhering properties, place the hot plant-mix asphalt concrete on the prepared subgrade over the trench to a depth of not less than 4 inches or the depth of the adjacent pavement. Spread and level

SPECIAL PROVISIONS

SECTION 7. PAVING

the asphalt concrete with hand tools, or by use of a mechanical spreader, depending upon the area to be paved. Bring the asphalt concrete to the proper grade and compact by rolling or the use of hand tampers where rolling is impossible.

Roll with power rollers capable of providing compression of 350 pounds per linear inch. Begin the rolling at the edges of the patch overlapping the existing surface at least $\frac{1}{2}$ the width of the roller and progress toward the center of the resurfaced area. Overlap each preceding track by at least $\frac{1}{2}$ the width of the roller and make sufficient passes over the entire area to produce the desired result, as determined by the Engineer.

The finished surface of the new paving shall be flush with the existing surface and shall conform to the grade and crown of the adjacent pavement.

7-3 Surface Smoothness

The surface smoothness of the replaced pavement shall be such that when a straightedge is laid across the patched area between the edges of the old surfacing and the surface of the new pavement, the new pavement shall not deviate from the straightedge more than $\frac{1}{4}$ inch.

7-4 Weather Conditions

Resurfacing will be permitted only during dry weather and while the trench conditions are satisfactory for pavement replacement. Exceptions will be permitted only in special cases and only with prior written approval of the Engineer.

7-5 Payment

Payment for the work under this section shall be based on the appropriate unit prices stated in the Contractor's Proposal. Payment shall constitute full compensation for furnishing all labor, materials and equipment to complete the work as specified under this section.

DIVISION I - GENERAL PROVISIONS

Section 1 - Definitions and Terms

Terms used or referred to herein are defined as follows:

1.01 BIDDER

Any individual, firm, partnership, corporation or combination thereof, acting directly or through a duly authorized representative, submitting a proposal on the work contemplated.

1.02 CHANGE ORDER

A written instruction to the Contractor, signed by the Engineer, prescribing any change in the work.

1.03 CONTRACTING AGENCY

The agency which has contracted for the performance of the work or for whom the work is being performed.

1.04 CONTRACT

The written agreement covering performance of the work including the formal contract, advertisement for bids, instructions to bidders, proposal with required affidavit, specifications, bond and plans.

1.05 CONTRACTOR

The individual, partnership, corporation, or other entity entering into a contract with the Contracting Agency to perform the contemplated work. In the case of work being done under a permit issued by the Contracting Agency, the Permittee shall be construed to be the Contractor.

1.06 ENGINEER

The Engineer of the Contracting Agency, acting either directly or through his authorized representatives, and designated by the Contracting Agency to supervise the work during its execution.

1.07 HOUSE CONNECTION SEWER

Any sewer pipe line lying within an easement, public street or right of way which connects, or is proposed to connect a house sewer or any lot or part of a lot with a public sewer.

1.08 HOUSE SEWER

Any sewer pipe line which connects, or is proposed to connect, any building to a house connection sewer.

1.09 INSPECTOR

An authorized representative of the Engineer of the Contracting Agency, limited to the particular duties entrusted by the Engineer.

1.10 LABORATORY

A materials testing laboratory operated by a public agency or if approved by the Engineer, any private, commercial testing laboratory.

1.11 LINEAL FOOT

Horizontal measurement as determined by engineers' station.

1.12 MAJOR ITEM

Any item or work and/or materials having an original contract value in excess of \$500.00 or which exceeds ten (10) percent of the amount of the original contract, whichever is greater.

1.13 NOTICE TO PROCEED

A written notice to the Contractor from the Contracting Agency, designating the date by which the Contractor shall begin prosecution of the work.

1.14 PERSON

Any individual, firm, association, partnership, corporation, trust or joint venture.

1.15 PLANS

The plans, profiles, cross sections and drawings, or reproductions thereof, approved by the Engineer, which show the details of the work to be done.

1.16 PROPOSAL

The offer of the bidder when submitted on the proposal form, properly signed and guaranteed.

1.17 PROPOSAL GUARANTY

Certified check or bidder's surety bond executed by a bonafide surety company, accompanying the proposal as a guarantee that the bidder will enter into a contract with the Board for the performance of the work.

1.18 REFERENCE SPECIFICATIONS

Bulletins, standards, rules, methods or analysis or test, codes and specifications of other agencies, engineering societies, or industrial associations referred to in these specifications. All such references specified herein, refer to the latest edition thereof, including any amendments thereto which are in effect and published at the time of advertising for bids or issuing the permit for the project.

1.19 ROADWAY

That portion of the right of way or easement intended for use by vehicular traffic.

1.20 SANITARY SEWER

A sewer that carries liquid and water-carried wastes together with minor quantities of storm, surface and groundwaters that are not admitted intentionally.

1.21 SEALER OF WEIGHTS AND MEASURES

The Sealer of Weights and Measures of the State of Oregon, as defined by ORS 618.080 and ORS 618.090.

1.22 SEWER

A pipe or conduit that carries wastewater or drainage water.

1.23 SPECIAL PROVISIONS

Specific clauses setting forth conditions or requirements peculiar to the work which modify or supplement that standard specifications.

1.24 SPECIFICATIONS

This term includes the standard specifications and specifications included herein by reference, any special or project specifications and specifications included therein by reference, specifications on the plans referred to and specifications contained or referred to in supplemental agreements between the Contractor and the Contracting Agency.

1.25 STANDARD DRAWINGS

Drawings of structures or devices referred to on the plans or in specifications by title and/or an index number.

1.26 STATE

The State of Oregon.

1.27 STORM SEWER

A sewer that carries storm water and surface water, street wash and other wash waters, or drainage, but excludes domestic wastewater and industrial wastes. Also called storm drain.

1.28 STREET

Any road, highway, parkway, freeway, alley, walk or way.

1.29 SURETY

The bondsman, party or parties who may guarantee the fulfillment of the contract by bond.

1.30 UTILITY

Tracks, overhead or underground wires, pipe lines, conduits, ducts or structures owned, operated or maintained in or across a public right of way or private easement.

1.31 WORK

That which is proposed to be constructed or done under the contract.

1.32 ABBREVIATIONS AND SYMBOLS

A.A.S.H.O. (AASHO), American Association of State Highway Officials; A.G.C. (AGC), Associated General Contractors of America; A.P.W.A. (APWA), American Public Works Association; A.S.T.M. (ASTM), American Society for Testing Materials; A.W.W.A. (AWWA), American Water Works Association; O.R.S. (ORS), Oregon Revised Statutes.

Section 2 - Proposal Requirements And Conditions

2.01 INTERPRETATION OF PLANS AND SPECIFICATIONS

The Engineer will interpret the meaning of any part of the plans and specifications about which any misunderstanding may arise, and his decision will be final.

Should the Contractor become aware of any error or discrepancy in or between the plans and specifications, he shall refer the matter to the Engineer for adjustment before proceeding further with the work. Should the Contractor proceed with the work without referring the matter, he does so on his own responsibility.

2.02 FIELD CONDITIONS

Logs of test holes, ground water levels, and any accompanying soil reports as furnished by the Contracting Agency are furnished for general information only. The field conditions so set forth shall not constitute a representation or warranty, expressed or implied, that such conditions are actually existent. Bidders shall make their own investigations and form their own estimates of the site conditions. The Contracting Agency will not be liable for any loss sustained by the Contractor as a result of any variance between conditions as set forth in the soil reports or shown by the logs of test holes and the actual conditions revealed during the progress of the work or otherwise.

2.03 CONTRACT DOCUMENTS

The Contract Documents under which it is proposed to execute this work consist of the material bound herewith. These Contract Documents are intended to be mutually cooperative and to provide all details reasonably required for the execution of the proposed work. Any person contemplating the submission of a Proposal and being in doubt as to the meaning or intent of said Contract Documents should request of the Engineer, in writing, an interpretation thereof. Any interpretation or change in said Contract Documents will be made only in writing, and a copy of such interpretation or change will be mailed or delivered to each person receiving a set of the Documents. The Contracting Agency will not be responsible for any other explanation or interpretations of said Documents.

2.04 TYPE OF PROPOSAL

The Proposal for the work contemplated is to be submitted on the form prescribed in the Proposal.

2.05 PREPARATION OF PROPOSALS

All blank spaces in the Proposal form must be filled in, in ink, in both words and figures where required. No changes shall be made in the phraseology of the forms or in the items mentioned herein. Written amounts shall govern in cases of discrepancy between the amounts stated in writing and the amounts stated in figures. In the case of error in extending unit prices in the proposal, the correct extension of the unit prices shall govern.

Any proposal shall be deemed informal which contains omissions, erasures, alterations or additions of any kind, or items uncalled for, or in which any of the items are obviously unbalanced, or which in any manner shall fail to conform to the conditions of the published Advertisement for Bids.

The Bidder shall sign his Proposal in the blank space provided therefor. Proposals made by corporations or partnerships shall contain names and addresses of the principal officers or partners. If the Proposal is made by a corporation, it must be acknowledged by one of the prescribed officers thereof; if made by a partnership, by one of the partners.

2.06 SUBMISSION OF PROPOSALS

All proposals must be submitted at the time and place and in the manner prescribed in the Advertisement for Bids. Proposals must be made on the prescribed Proposal forms and submitted with the Contract Documents.

2.07 WITHDRAWAL OF PROPOSAL

Any proposal may be withdrawn prior to the scheduled time for the opening of proposals either by telegraph or written request, or in person. No proposal may be withdrawn after the time scheduled for opening of proposals unless the time specified in Section 3.01 has elapsed.

2.08 BID SECURITY

Proposals must be accompanied by a certified check drawn on a bank in good standing, or a bid bond issued by a surety company authorized to issue such bonds in the State of Oregon, in an amount or not less than ten percent (10%) of the total amount of the Proposal submitted. This check or bid bond shall be given as a guarantee that, if awarded the Contract, the successful Bidder will execute the attached Contract and furnish a properly executed Performance Bond in the full amount of the Contract price within the time specified.

The Contracting Agency reserves the right to retain the bid security of the three lowest bidders until the successful Bidder has signed and delivered the Contract and furnished a one hundred percent (100%) Performance Bond. Upon failure of the successful Bidder to sign and deliver said Contract and Performance Bond within the specified time, the next lowest bid may be accepted at the Owner's discretion whereupon the above instructions and requirements will apply to the said second Bidder.

2.09 CONDITIONS OF WORK

Each bidder must inform himself of the conditions relating to the regular execution of the work, and it is assumed that he will respect the site and make himself thoroughly familiar with all the Contract Documents. Failure to do so will not relieve the successful Bidder of his obligation to enter into a Contract and complete the contemplated work in strict accordance with the Contract Documents.

Each Bidder must inform himself of all laws and statutes, both Federal and State, relative to the regular execution of the work, the employment of labor, protection of public health, the protection of private property, right-of-way, and access to the work, fire protection regulations, and similar requirements.

2.10 PREQUALIFICATION OF BIDDERS

Bidders must be prequalified in conformance with ORS 279.008, acts amendatory thereto, and the regulations of the Contracting Agency at least 10 days prior to the bid opening date in order for the prospective Bidder to retain his right to appeal should he be disqualified by public officer representing the Contracting Agency. If the prequalification form is submitted less than five (5) days prior to the bid opening date, the right of appeal is lost.

Prequalification forms shall not be submitted with the bid.

Section 31 - Award and Execution of Contract

3.01 AWARD OF CONTRACT

After the proposals for the contemplated work have been opened and read as provided in these specifications, the respective totals thereof will be checked and compared by the Contracting Agency; and the results thereupon will be considered public information.

Unless otherwise stated in the Special Provisions or in the Advertisement for Bids the contract will be awarded within the thirty (30) days after the opening of proposals to the lowest bidder meeting the qualifications required by law, including but not limited to the law relating to prequalification of bidders, and the requirements stated in the advertisement for bids, the instructions to bidders, and/or the specifications, and whose proposal complies with all the prescribed requirements unless all proposals are rejected. The Contracting Agency reserves the right to reject any and all proposals and no proposal shall be considered as being binding upon the Contracting Agency until the execution of the contract; and failure of the awardee to properly execute the awarded contract and furnish acceptable bonds and insurance as provided herein, shall be just and sufficient cause for the annulment of the award and the forfeiture of his proposal guaranty.

3.02 EXECUTION OF CONTRACT

The contract shall be signed by the successful bidder and returned, together with the contract bonds and required insurance documents within 10 calendar days after the award of the contract unless otherwise stated in the Special Provisions or in the Advertisement for Bids, and after receipt of same by the Contracting Agency the proposal guarantees will be returned to all bidders. The Contractor shall carry all insurance which may be required by Federal and State laws by local ordinances, and by these specifications. The attention of the Contractor is called to the fact that, when the United States Government participates in all or any portion of the cost of the work, the Federal laws authorizing such participation and the rules and regulations made pursuant to such laws must be observed by the Contractor. The work shall be subject to the inspection and approval of the authorized representatives of such Federal agencies as are created for the administration of these laws.

3.03 CONTRACT BONDS

Prior to the execution of the contract, the Contractor shall file with the Contracting Agency a Performance Bond in the amount and for the purposes noted below, duly executed by a responsible corporate surety authorized to issue such bonds in the State of Oregon, which bond must in all respects comply with ORS 279.502 to ORS 279.540, inclusive, and be satisfactory and acceptable to the Contracting Agency and he shall pay all premiums and costs thereof and incidental thereto to keep such bond in full force until one year after acceptance of the work in writing by the Contracting Agency.

The bond must be signed by both the Contractor and surety and shall be in the sum of not less than 100% of the contract price to assure the claims of material men supplying materials to him, and of mechanics and laborers employed by him on the work required under these specifications.

Provided the Contractor shall faithfully and truly observe and comply with the terms, conditions and provisions of the contract, in all respects, and shall well and truly and fully do and perform all matters and things by him undertaken to be performed under said contract, upon the terms set forth therein, and within the time prescribed therein, or as extended as provided in the applicable Standard Specifications, and shall indemnify and save harmless the Contracting Agency, its officers, employees, and agents, against any direct or indirect damages of every kind and description that shall be suffered or claimed to be suffered in connection with or arising out of the performance of the said contract by the said Contractor or his subcontractors; and shall make payment promptly, as due, to all subcontractors and to all persons supplying to the Contractor or his subcontractors equipment, supplies, labor or materials for the prosecution of the work, or any part thereof, provided for in said contract, and shall pay all contributions or amounts due the State Industrial

Accident Fund and the State Unemployment Compensation Trust Fund from such Contractor or subcontractors incurred in the performance of said contract, and pay all sums of money withheld from the Contractor's employees and payable to the State Tax Commission; and shall pay all other just debts, dues and demands incurred in the performance of the said contract and shall pay the Contracting Agency such damages as may accrue under said contract and shall in all respects perform said contract according to law, then this obligation is to be void, otherwise to remain in full force and effect.

Nonpayment of the bond premium will not invalidate this bond nor shall the Contracting Agency be obligated for the payment thereof.

Should any surety or sureties upon said bonds or any of them become insufficient, said Contractor shall renew said bond or bonds with good and sufficient sureties within ten (10) days after receiving notice from the Contracting Agency that the surety or sureties are insufficient.

3.04 PROTECTIVE LIABILITY INSURANCE REQUIREMENTS

The contractor shall furnish to the Contracting Agency in triplicate, a policy or certificate of protective liability insurance in which the Contracting Agency shall be named insured or be named in such insurance as an additional insured with the Contractor. In compliance with this provision, the Contractor may file with the Contracting Agency a satisfactory "blanket coverage" policy or certificate of insurance. The policy shall insure the Contracting Agency, its officers, employees and agents against all claims arising out of or in connection with the work to be performed and shall remain in full force and effective until the work is accepted by the Contracting Agency. The policy shall provide the following minimum limits.

Bodily Injury..... \$100,000 each person
 \$300,000 each occurrence

Property Damage..... \$50,000 each accident

Such policy shall provide coverage at least as broad as that provided in the Standard Form approved by the National Bureau of Casualty Underwriters together with such endorsements as are required to cover the risks involved. In addition the Contractor shall furnish evidence of a commitment by the insurance company to notify the Contracting Agency of the expiration or cancellation of the insurance policies.

The cost of this insurance shall be understood to be included in the prices bid for the various items of work and no additional compensation will be made therefor.

3.05 CONTRACTING AGENCY'S IMMUNITY FROM LIABILITY

The Contractor shall save, keep and hold harmless, the Contracting Agency and all officers and agents thereof from all damages, costs or expenses in law or equity that may at any time arise or be set up because of damages to property or of personal injury received by reason of or in the course of performing said work, which may be occasioned by any negligent act or omission to act which amounts to negligence upon the part of the Contractor or any of said Contractor's employees, or any subcontractor performing any or the work contemplated by the contract.

The Contracting Agency shall not be liable or responsible for any accident loss or damage happening to the works referred to in the contract prior to the completion and acceptance thereof.

3.06 INDUSTRIAL ACCIDENT INSURANCE

The Contractor shall secure, maintain in full force and effect and bear the cost of complete Industrial Accident Insurance in accordance with the requirements of the Workmen's Compensation Laws of the State of Oregon for all persons employed on the work, for the duration of the contract and shall furnish to the Contracting Agency, prior to the execution of the contract a Certificate of Insurance which meets the requirements of said Workmen's Compensation Laws. The Contracting Agency, its officers, employees, or agents will not be responsible for any claims or suits in law or equity occasioned by the failure of the Contractor to comply with the provisions of this paragraph.

Section 4 - Scope of Work

4.01 INTENT OF CONTRACT

The intent of the contract is to prescribe a complete work or improvement which the Contractor undertakes to do, in full compliance with the provisions and requirements of the contract. The Contractor for all or any part shall furnish all labor, materials, tools, equipment, transportation, necessary supplies and incidentals required to make each and every item complete as contemplated by the contract. Any deviation from these requirements must be stipulated in the special provisions.

4.02 PLANS, SPECIFICATIONS AND WORK

The plans, together with specifications and other contract documents will govern the work to be done. Anything mentioned in the specifications and not shown on the plans and detailed drawings, or shown on the plans and detailed drawings and not mentioned in the specifications, shall be of like effect as though shown or mentioned in both.

Specifications and plans referred to in any of the contract documents shall be considered as being included in the document in which such reference is made. A reference to a particular specification or standard drawing in a contract document shall

exclude any earlier or later modification thereof. When a particular standard or specification is referred to, such reference shall be to the standard or specification including officially adopted revisions or amendments thereto which is in force at the time of advertising for bids.

In case of conflict, the order of precedence of the following documents in controlling the work shall be:

- (1) Permits from outside agencies required by law
- (2) Special Provisions
- (3) Plans
- (4) Standard Drawings
- (5) Standard Specifications

Change Orders, supplemental agreements and approved revisions to plans and specifications will take precedence over contract documents listed above.

4.03 PLANS AND SHOP DRAWINGS

The plans furnished and included with the specifications will show such details as may be necessary to comprehensively indicate the work that is proposed and the results that are intended to be accomplished. Any additional working drawings, detail plans, or shop drawings that may be required in connection with the prosecution or construction of any part of such work shall be supplied by and at the expense of the Contractor as they will not be accepted by the Engineer from suppliers or others.

When shop drawings are required in the various sections of the specifications or are requested by the Engineer, they shall be prepared in accordance with modern engineering practice. Unless otherwise specified, shop drawings shall be submitted in quadruplicate to the office of the Engineer for approval or correction not less than 30 days before approved drawings will be required. One set will be returned to Contractor marked "approved" or "approved as corrected". If changes are required, four copies of corrected shop drawings shall be delivered to the Engineer.

Shop drawings shall be of sufficient size and scale to clearly show all details.

No materials shall be furnished or work done on items requiring shop drawings prior to approval. Approval or shop drawings shall not relieve the Contractor from responsibility for deviations from the contract documents unless the deviation was specifically called to the attention of the Engineer, nor from responsibility for errors or omissions of any sort in the shop drawings.

The Contractor shall keep a copy of the plans and specifications at the job site and access thereto shall at all times be accorded the Engineer.

4.04 CHANGES AT THE CONTRACTOR'S REQUEST

Provision has been made in the specifications for certain specific changes in methods of construction which may be made at the Contractor's request and upon approval of the Engineer. Changes in the drawings and specifications, other than those specified herein, which do not materially affect the work, and which are not detrimental to the work or to the interests of the Contracting Agency as determined by the Engineer, may be granted to facilitate the work of the Contractor when such changes are requested in writing and submitted to the Engineer for approval. In the event such changes are granted, the changes shall be made without additional cost to the Contracting Agency, and the Contracting Agency reserves the right to receive an equitable adjustment in the contract price or contract time as a consideration for authorizing any such change.

4.05 ALTERATION OF QUANTITIES AND EXTRA WORK

The Contracting Agency reserves the right to make such increase or decrease in the quantity of any item of work or material to be performed or furnished under such contract, or to order the performance of such additional or extra work of a class not contemplated by the proposal, as may be considered expedient or advantageous and essential to the satisfactory completion of the proposed work and the full accomplishment of the intended purpose thereof, without thereby affecting the validity of the contract or contract bonds, and without giving notice to the surety on any such bond, unless the total bid price is increased more than 25%. In such cases the Contractor will be required to perform or furnish additional quantities or extra items of work or materials, or to decrease the amount of work or materials to be performed or furnished under the contract or to omit portions thereof, and to furnish and provide the necessary labor and equipment to do so, when and as the Engineer may so order in writing within the limitations herein or by law provided. In the event that any such increase or decrease in the quantity of work or materials to be performed or furnished is so ordered, the amount to be paid the Contractor under his contract shall be correspondingly increased or decreased as the case may be, in proportion to the increased or decreased quantities or work or materials performed or furnished under such order.

4.06 ALTERATION OF QUANTITIES

In the event that the Contractor is directed by the Engineer to increase, decrease or omit portions of the work, and the total pay quantity for any item of work varies from the original contract quantity by 25 percent or less, payment will be made for the quantity of work performed at the contract unit price therefor.

If the total pay quantity for any item of work required under the contract varies from the original contract quantity by more than 25 percent, the compensation to the Contractor will be determined as follows:

If a change is made which, together with any previous changes in quantity, increases the quantity of any major item or decreases the quantity of any item more than 25 percent of the original contract quantity, the payment for the work in excess of the 25 percent increase over the original contract amount of that item will be determined by negotiation; at the option of the Engineer, payment for such excess will be made on the basis of "Extra Work" as hereinafter provided. Credit for decreases in the quantity of any item may be determined by negotiation but in no event shall the amount of credit exceed the contract unit prices for the omitted items.

4.07 EXTRA WORK

Any new and unforeseen work will be classes as "Extra Work" when determined by the Engineer that said work is not covered by any of the contract items for which there is a bid price, or by a combination of such items.

Changes in the work involving either additional costs or credits for unforeseen additions or omissions in the work shall be made only subsequent to execution of a Change Order by the Engineer or by Supplemental Agreement issued by the Contracting Agency.

Payment for extra work on a lump sum or Unit Price basis required to be performed in accordance with the provisions of this section will be established by mutual agreement between the Contractor and the Engineer within the legal limits provided by State laws or local ordinances. When no mutual agreement can be reached, payment will be made on a force account basis as hereinafter prescribed.

When the extra work is to be performed on a force account basis, the Contractor shall keep full and complete records of the cost of such work and shall permit the Engineer to have access thereto as may be necessary to assist in the determination of the compensation payable for such work. An itemized statement of such extra work shall be submitted to the Engineer for approval prior to submitting invoice for payment. The Contractor will be paid for labor, materials and equipment rental as hereinafter prescribed.

Only materials incorporated in the work will be paid for.

To the totals computed as hereinafter prescribed for labor, materials, and equipment rental will be added 10% for overhead, profit and supervision. It is understood that labor, materials and equipment may be furnished by the Contractor or the subcontractor or by others on behalf of the Contractor. However, when extra work to be paid for on a force account basis is performed by forces other than those of the Contractor, the Contractor shall reach agreement with such other forces as to the distribution of the payment to be made by the Contracting Agency for such work and no additional payment will be made therefor.

4.07A LABOR

The cost of all labor used in performing the work under this contract shall be based on the prevailing wage scale as may be set forth in the Special Provisions for each particular craft or type of workman involved. Employer payments for payroll taxes and insurances, health and welfare, pension, vacation, and other similar purposes shall be included in this cost.

4.07B MATERIALS

The cost of materials incorporated in the work will be the cost to the purchaser, whether contractor, subcontractor or other forces, from the supplier thereof, except as follows:

- a. If materials are procured by the purchaser by any method which is not a direct purchase from and a direct billing by the actual supplier to such purchaser, the cost of such materials shall be deemed to be the price paid to the actual supplier as determined by the Engineer. No markup except for actual costs incurred in the handling of such materials will be permitted.
- b. If the materials are obtained from a supplier or source owned wholly or in part by the purchaser, payment therefor will not exceed the price paid by the purchaser for similar materials furnished from said source on contract items or the current price of such materials delivered to the job site, whichever price is lower.
- c. The Contracting Agency reserves the right to furnish such materials as it deems advisable, and the Contractor shall have no claims for costs and profit on such furnished materials.

4.07C EQUIPMENT RENTAL

The Contractor will be paid for the use of equipment on the basis of, but not exceeding the prevailing hourly rental rates established by the Oregon State Highway Department and recognized by the Associated General Contractors for the area where such equipment is required to be operated.

On any equipment for which no rental rate has been established by the Oregon State Highway Department, or where the required operation of the equipment is less than four hours or in excess of one week, rental rates shall be proposed by the Contractor and agreed upon in writing by the Engineer prior to the start of four account work.

Equipment that is in operational condition and is standing by with the Engineer's approval for participation in four account work will be paid for at 50 percent of the agreed upon rental rate.

Rental time will not be allowed while equipment is inoperative due to breakdowns for periods in excess of 30 minutes. Rental time shall be computed in $\frac{1}{2}$ -hour increments. In computing rental time of equipment in actual operation, less than 30 minutes will be considered $\frac{1}{2}$ hour.

The rental rates paid, as above provided, shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance and all incidentals. Operators of rented equipment will be paid for as provided under Section 4.08.

All equipment shall, in the opinion of the Engineer be in good working condition and suitable for the purpose for which the equipment is to be used.

Unless otherwise specified, manufacturer's ratings and manufacturer approved modifications shall be used to classify equipment for the determination of applicable rental rates. Equipment which has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer.

Individual pieces of equipment or tools having a replacement value of \$50.00 or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefor.

a. Equipment on the Work - The rental time to be paid for equipment on the work shall be the time the equipment is in operation on the extra work being performed and, in addition, shall include the time required to move the equipment to the location of the extra work and return it to the original location except that moving time will not be paid for if the equipment is used at the site of the extra work on other than such extra work. Loading and transporting costs will be allowed, in lieu of moving time, when the equipment is moved by means other than its own power, except that no payment will be made if the equipment is used at the site of the extra work on other than such extra work.

b. Equipment Not on the Work - For the use of equipment moved in on the work and used exclusively for extra work paid for on a force account basis, the Contractor will be paid rental rates as agreed to, as provided in section 4.10 above, and for the cost of transporting the equipment to the location of the work and its return to its original location, all in accordance with the following provisions.

(1) The original location of the equipment to be hauled to the location of the work shall be agreed to by the Engineer in advance.

(2) The Contracting Agency will pay the costs of loading and unloading such equipment.

(3) The cost of transporting equipment in low bed trailers shall not exceed the hourly rates charged by established haulers or the applicable minimum established rates of the Oregon Public Utility Commission.

(4) The rental period shall begin at the time the equipment is unloaded at the site of the extra work, shall include each day that the equipment is at the site of the extra work, excluding Saturdays, Sundays and legal holidays unless the extra work is performed on such days, and shall terminate at the end of the day on which the Engineer directs the Contractor to discontinue the use of such equipment. The maximum rental time to be paid per day will not exceed 8 hours unless the equipment is in operation for a longer time.

(5) Should the Contractor desire the return of the equipment to a location other than its original location, the Contracting Agency will pay the cost of transportation in accordance with the above provisions, provided such payment shall not exceed the cost of moving the equipment to the work.

(6) Payment for transporting, loading and unloading equipment as above provided, will not be made if the equipment is used on the work in any other way than upon extra work paid for on a force account basis.

4.07D RECORDS

The Contractor shall maintain his records in such a manner as to provide a clear distinction between the direct cost of extra work paid for on the force account basis and the costs of other operations performed in connection with the contract.

The Contractor shall furnish to the Engineer daily reports in duplicate of the extra work to be paid for on a force account basis. The reports shall itemize the materials used and shall set forth the direct cost of labor and the charges for equipment rental whether furnished by the Contractor, or subcontractor. The reports shall provide names or identifications and classifications of workmen, the hourly rate of pay and hours worked together with the size, type and identification number of equipment and hours of equipment operation.

Material charges shall be substantiated by vendors' invoices. Such invoices shall be submitted with the reports; or, if not available, they shall be submitted with subsequent reports. In the event said vendors' invoices are not submitted within 15 days after acceptance of the work, the Contracting Agency reserves the right to establish the cost of such materials at the lowest current price at which said materials are available in the quantities concerned delivered to the location of the work.

All reports shall be signed by the Contractor or his authorized representative.

The Engineer will compare his records with the reports furnished by the Contractor, make any necessary adjustments and then compile the costs of extra work paid for on a force account basis

on forms furnished by the Contracting Agency. When these extra work reports are agreed upon and signed by both parties, they shall become the basis of payment for the work performed.

4.08 CLEANUP AND DUST CONTROL

Throughout the period of construction, the Contractor shall keep the site free and clean from all rubbish and debris and shall promptly clean up all or any portion of the site when notified to do so by the Engineer. Care shall be taken to prevent spillage on the streets over which hauling is done, and any such spillage or debris deposited on streets due to the Contractor's operations shall immediately be cleaned up. The Contractor shall promptly remove from any parts of the working area all unused materials, surplus earth, and debris. Construction areas shall be left in a clean, neat and acceptable condition at the earliest time following completion of that portion of the work.

In the event that the Contractor fails to comply with the orders of the Engineer regarding cleanup the Engineer may require the Contractor to cease progress on any or all parts of the work under contract until the unsatisfactory condition is corrected. The Engineer may order such cleanup work performed by others and the costs therefor deducted from payments due the Contractor. No additional compensation will be allowed as a result of such suspension.

During all phases of the construction work, the Contractor shall take precautions to abate dust nuisance by cleaning up, sweeping, sprinkling with water, or other means as necessary to accomplish results satisfactory to the Engineer.

Upon completion of the work and prior to final inspection the entire site of operations shall be cleared of equipment, unused materials, and rubbish, so as to present a clean and neat appearance. All costs of "Cleanup" including all charges for water, are to be absorbed in the prices bid for the various bid items.

4.09 VERMIN CONTROL

At the time of occupancy by the Contracting Agency, any structure or structures entirely constructed under the contract shall be free of rodents, insects, vermin or pests. Extermination work as may be necessary shall be arranged and paid for by the Contractor as part of the contract work within the contract time and shall be performed by a licensed agency and in accordance with the requirements of governing authorities. The Contractor shall be responsible for any injury to persons or property resulting from extermination work and for the elimination of any offensive odors resulting from extermination operations.

4.10 SANITARY PROVISIONS

The Contractor shall provide, and maintain in a neat and sanitary condition, such accommodations for the use of his employees as may be necessary to comply with all applicable laws, ordinances and regulations.

In the event of damage to the existing sewer facilities, or interruptions of existing sewage flows, the Contractor shall promptly dispose of any free sewage by pumping or other means. Sewage shall not be permitted to flow in the trenches or be covered by backfill. Continuous sanitary sewer service in closed conduits shall be maintained at all times.

Section 5 - Control of Work

5.01 SUPERVISION AND INSPECTION

The Engineer shall decide within the provisions of the specifications all questions which may arise concerning the quality or acceptance of materials furnished and work performed, and all questions concerning the acceptable fulfillment of the contract by the Contractor.

The Engineer or his representative shall have access to the work at all times. The Contractor shall furnish all facilities for inspection at the construction site, and at shops or yards, and shall not cover up any work requiring inspection until the same has been approved by the Engineer. If work should be covered up before being inspected, the Contractor will be required to remove such portions of the work as may be necessary to disclose the part in question.

The Contractor shall notify the Engineer 24 hours prior to commencing any work, or resuming work after shutdowns, except for normal resumption of work following Saturdays, Sundays, or holidays.

The Contractor shall be fully responsible for providing proper supervision and sufficient labor and equipment to accomplish the work and to complete the work within the contract time.

The Contractor shall maintain a local telephone for the duration of the contract, at his own expense, where he or his authorized representative may be reached directly or by message at all times; during and outside of working hours.

5.02 COOPERATION WITH OTHERS

Ordinarily, utility owners and Contracting Agency responsible for facilities located within the right of way will be required to complete any installation, relocation, repair, or replacement prior to the commencement of work by the Contractor. However, when this is not feasible or practicable or the need for such work was not foreseen, such utility owners or Contracting Agency shall have the right to enter upon the right of way and upon any structure therein for the purpose of making new installations, changes or repair, and the Contractor shall so conduct his operations as to provide the time needed for such work to be accomplished during the progress of the improvement.

Where two or more contractors are employed on related or adjacent work, each shall conduct his operations in such a manner as not to cause any unnecessary delay or hindrance to the other.

5.03 MUTUAL RESPONSIBILITY OF CONTRACTORS

The Contracting Agency may let other contracts on any portion of the site for any work not included in the contract.

The Contractor shall perform the work of the contract so that it will properly coordinate with and fit the work performed by other contractors. He shall give the other contractors every reasonable opportunity to perform their work, store materials, and place equipment therefor, and fit their work to the work of other contractors. He shall furnish to the other contractors all information necessary in order that they may properly connect and fit their work to his and in ample time, so that they may have reasonable opportunity to prepare their work accordingly. He shall make the work of the contract ready to receive the work of the other contractors at the time fixed therefor, and shall fit this work to that of the other contractors at the times fixed therefor.

5.04 UTILITIES

Utilities for the purposes of these specifications shall be considered as including but not limited to: pipe lines, conduits, transmission lines, and appurtenances of Public Utilities and those of private industry, businesses or individuals solely for their own use or for use of their tenants; and storm drains, sanitary sewers, irrigation facilities, street lighting, traffic signal, telephone, television, and fire alarm systems.

The Contracting Agency has by a search of known records, endeavored to locate and indicate on the drawings, all utilities which exist within the limits of the work. However, the accuracy or completeness of the utilities indicated on the drawings is not guaranteed. Service connections to adjacent property may or may not be shown on the drawings. It shall be the responsibility of the Contractor to determine the exact location of all utility owners and request that they locate and mark any existing utilities and their appurtenances and service connections which may be affected by the contract work. In addition, the Contractor shall notify the Engineer as to any utility, appurtenances and service connections located by him which have been incorrectly shown or omitted from the drawings.

Unless otherwise specified the Contractor shall remove all interfering portions of utilities which are shown on the drawings as "abandoned" or "to be abandoned in place", and which interfere with the construction of the project. All costs involved in said removals shall be included in the priced bid for the various items of work. All such abandoned utilities removed by the Contractor shall be stored on the site where directed and shall remain the property of the owner utility company or Contracting Agency as determined by the Engineer.

Where utilities are shown on the drawings as "abandoned" or "to be abandoned in place", it shall be the Contractor's responsibility to contact the utility company involved, as required in 5.11, herein, prior to excavating around such utilities to ascertain that the abandonment of the utility has been completed.

In certain cases where indicated on the drawings, the Contractor shall locate utilities in advance of his construction operations. In these cases the Contractor shall backfill the excavations and shall construct either a temporary or permanent resurfacing over the backfill. The temporary resurfacing shall be constructed when the exploratory excavations are made in an area located within the proposed project excavations.

The permanent resurfacing when specified shall be constructed when the exploratory excavations are made in an area located outside the proposed project excavation. Said permanent resurfacing shall be of the type and thickness specified or as field conditions may otherwise require. In either case, the excavations shall be backfilled by the methods and to the relative density specified.

This work shall be performed as soon as practical after award of the contract and in any event a sufficient time in advance of construction to avoid possible delays to the Contractor's work. All costs for making such exploratory excavations (including the backfilling and the resurfacing as specified herein) shall be included in the prices bid for the various items of work.

Utilities which upon exploration are found to interfere with the permanent project work will be relocated, altered, or reconstructed by others in accordance with the provisions of Section 5.05 herein, or the Engineer may approve and order changes in location, line or grade of structures being built, in order to avoid the utilities. The cost of such changes will be paid for under applicable bid items or as "Extra Work" as provided under section 4.07.

Work required in connection with utilities because of interference with contract work will be performed and paid for as specified in the following paragraphs.

5.05 BY OTHER THAN THE CONTRACTOR
When it is stated in the detailed specifications or indicated on the drawings, that a utility is to be relocated, altered or reconstructed by other than the Contractor; the Contracting Agency will conduct all negotiations with the owners in respect to such work and the work shall be done at no cost to the Contractor.

Service connections which physically interfere with project structures or appurtenances, whether or not so stated or indicated, shall be relocated by other than the Contractor; except as otherwise specified or unless directed by the Engineer in accordance with section 5.08.

5.06 BY THE CONTRACTOR UNDER A SPECIFIC CONTRACT ITEM
When the bidding schedule contains a separate item covering the relocation, alteration, or reconstruction of a utility by the Contractor, the price bid for said item shall cover all costs involved in such work.

The Drawings and detailed specifications will give the construction details for the work, and unless the time at which the work must be done is specified in the detailed specifications, the Contractor shall coordinate with the owner in respect to when the work is to be done.

5.07 BY THE CONTRACTOR BUT NOT UNDER A SPECIFIC CONTRACT ITEM
When work on a utility is specified or indicated on the drawings to be done by the Contractor, but is not included as a separate contract item in the bidding schedule, the Contracting Agency will make all arrangements with the owner of the utility in respect to the construction details, however, the Contractor shall coordinate with the owner as to when the work is to be done. Any costs for such work shall be absorbed in the unit prices or included in the lump sum amounts bid for the various contract items.

5.08 BY THE CONTRACTOR - SERVICE CONNECTIONS (EXCEPT SANITARY SEWERS)
For the purpose of these specifications, service connections shall be construed to mean all, or any portion of, the conduit, cable or duct which connects a utility main distribution line to the meter box of an individual user.

Except when shown on the drawings to be relocated by others, and except as otherwise specified herein, the alteration or permanent relocation of service connections which physically interfere with project structures, or appurtenances thereto, which are to be constructed under this contract shall, when directed by the Engineer, be arranged for by the Contractor in accordance with the requirements of the utility owner. The Costs for such work will be paid for as "Extra Work" as per section 4.07.

5.09 BY THE CONTRACTOR FOR HIS OWN CONVENIENCE

The temporary or permanent relocation or alteration of utilities including service connections, desired by the Contractor for his own convenience shall be the Contractor's own responsibility

and he shall make all arrangements regarding such work. The costs of such work shall be absorbed in the unit prices or included in the lump sum amounts bid for the various contract items.

5.10 BY THE CONTRACTOR OR BY OTHERS - UNKNOWN UTILITIES
DISCLOSED DURING CONTRACT WORK

In the event that a utility is disclosed subsequent to the award of the contract, such utility not being indicated on the drawings, or in the event that an existing utility is found to be in a materially different location than shown on the drawings and thus requires additional or more costly work on the part of the Contractor for its maintenance, relocation, or support, the necessary alteration, relocation, proper support and protection shall be done and paid for as follows:

- a. When said utility is found to occupy the space to be occupied by a part of the permanent works to be constructed, or when utility is, in the opinion of the Engineer, in such close proximity to the new work as to require the relocation or alteration of said utility the Contracting Agency will arrange for such relocation or alteration, or require the Contractor to do so as "Extra Work" as per section 4.07.
- b. When any portion of a utility is in close proximity and more or less parallel to the structure of conduit and does not lie between the vertical planes or pay lines specified in subparagraph a. above, the Contractor shall advise the owner thereof, and in cooperation with the owner, provide and place the necessary support for proper protection to insure continuous and safe operation of the utility structure. All costs for such work shall be borne by the Contractor.
- c. With the exception of service connection, when said utility lies within the excavation but does not intercept the permanent works to be constructed and when the length of said utility between the vertical planes or pay lines specified in paragraph a. above, is less than five times the perpendicular distance between pay lines, the Contractor shall maintain the utility in place. The work of maintaining the utility in place will be considered as "Extra Work". (See section 4.07)

5.11 RESPONSIBILITY OF THE CONTRACTOR

The Contractor shall be held responsible for all costs for the repair of any and all damage to the contract work or to any utility (Whether previously known or disclosed during the work), as may be caused by his operations. Utilities not shown on the drawings to be relocated or altered by others, shall be maintained in place by the Contractor. Utilities which are relocated by others in order to avoid interference with structures and which cross the project work shall be maintained in their relocated positions by the Contractor. All costs for such work

shall be absorbed or included in the prices bid for the various items of work.

The Contractor shall notify the owners of all utilities at least 2 working days in advance of excavating around any of their structures.

5.12 DELAYS CAUSED BY FAILURE TO RELOCATE UTILITIES
Where parties other than the Contractor are responsible for the relocation of utilities, and a delay in the Contractor's work is caused by the failure on the part of said parties to remove or relocate such utilities in time to prevent such delay, or by any action or lack of action on the part of the Contracting Agency, it shall be understood that the Contractor shall not be entitled, as a result of such delay to his work, to damages or additional payments over and above the contract price.. If delays in the Contractor's work are caused by the reasons mentioned herein, the Contractor shall be entitled to an extension of time. The length of such extension of time will be determined by the Engineer with consideration as to the effect of the delay on the project as a whole.

In order to minimize delays to the Contractor caused by the failure of other parties to relocate utilities which interfere with structures, the Contractor, upon request to the Engineer, may be permitted to temporarily omit the portion of work affected by the utility. The portion thus omitted shall be constructed by the Contractor immediately following the relocation of the utility involved.

5.13 PERMANENT SURVEY MARKERS
The Contractor shall notify the Engineer not less than seven days prior to starting work in order that the Engineer may take necessary measures to insure the preservation of survey monuments, stakes, or bench marks without the consent of the Engineer, and shall notify the Engineer and bear the expense of replacing any that may be disturbed without permission. Replacement shall be done or arranged for only by the Engineer.

When a change is made in the finished elevation of the pavement of any roadway in which a permanent survey monument is located the Contractor shall, at his own expense, adjust the monument cover to the new grade unless otherwise specified.

5.14 LOT STAKES
Unless otherwise directed by the Engineer or shown in the plans, the Contractor shall preserve existing survey stakes that mark property lines and corners. Any stakes that become lost or disturbed by his operations shall be replaced at the Contractor's expense and by a Registered Civil Engineer or Registered Land Surveyor.

5.15 SURVEY SERVICE

The Engineer will furnish and set construction stakes establishing lines and grades as determined necessary by the Engineer for all work indicated on the plans or required under the contract, including lines and grades for street excavation and fill, finished subgrade, finished base gravel, curbs and gutters, walks, structures and utilities, and will furnish the Contractor all the necessary information relative to the lines and grades.

Line and grade stakes will be offset from the construction area. They will show the offset distances, stationing and required cut or fill to the finished grade or flow line as indicated on the plans or grade sheet. Upon request a copy of the grade sheet will be furnished to the Contractor. Grade stakes will be set by the Engineer to the finished grade of the subgrade and also of the base gravel, or as determined necessary by the Engineer, and the tops of these stakes marked blue or red.

The Contractor shall construct the work in accordance with the Engineer's stakes and marks, making use of them before they are disturbed, and shall be charged with full responsibility for conformity and agreement of the work with such stakes and marks.

The Contractor shall be responsible for the preservation of construction survey stakes and marks for the duration of their usefulness during construction. If any construction survey stakes are lost or disturbed, and in the opinion of the Engineer need to be replaced, such replacement shall be by the Engineer at the expense of the Contractor. The cost of replacing them shall be charged against, and shall be deducted from, the payment for the work.

The Contractor shall give notice to the Engineer not less than two working days in advance of when he will require survey services in connection with the laying out of any portion of the work.

5.16 PRIVATE ENGINEERS

Surveying by private engineers on permit projects or any other work under the control of the Contracting Agency shall conform in all respects to the quality and practice required of the Contracting Agency's surveyors as set forth in subsection 5.15 above.

5.17 LINE AND GRADE

All work, during its progress and upon its completion, shall conform to the lines, elevations, and grades shown on the plans. Distances and measurements, except elevations and structural dimensions, are given and made on horizontal planes.

Three consecutive points set on the same slope shall be used together in order that any variation from a straight grade can

be detected. If any such variation is found, it shall be reported to the Inspector; and, in the absence of such report prior to completion of grade, the Contractor shall be responsible for any error in the grade of the finished work.

5.18 PRESERVATION OF PROPERTY

The Contractor shall protect all public and private property including irrigation berms, insofar as it may be endangered by his operations and he shall take every reasonable precaution to avoid damage to such property.

Public or private improvements of facilities within the right of way not designated for removal but visibly evident or correctly shown on the plans which are damaged or injured directly or indirectly by or on account of any act, omission, or neglect of the Contractor in the execution of the work shall be restored by the Contractor at his expense to a condition substantially equivalent to that existing before such damage of injury occurred, by repairing, rebuilding, or otherwise affecting restoration thereof, or if this is not feasible, a suitable settlement shall be made with the owner of the damaged property.

The Contractor shall give reasonable notice to occupants of buildings on property adjacent to the work to permit the occupants to remove vehicles, trailers and other possessions as well as salvage or relocate plants, trees, fences, sprinkler systems, or other improvements in the right of way which are designated for removal or which might be destroyed or damaged by the Contractor's operations.

The Contractor shall be responsible for the protection of all designated trees and planted areas within the right of way. He shall also exercise care and conduct his operations so as to minimize damages to other planted areas.

5.19 DAMAGE TO RAILROADS

The provisions given elsewhere herein, which require the Contractor to protect property against damage, and which place upon the Contractor all responsibility for damage to property, injury to persons, and loss, expense, inconvenience and delay to the owners of property and others, shall be understood to apply in connection with railway lines or railroads the same as in connection with other kinds of property. In the protection of railway lines and railroads, however, the Contractor will be required to exercise particular care to avoid any damage which might result in train wrecks or in delays in train service. In the performance of work in close proximity to railroad tracks, he shall consult with the railroad owners or officials in regard to means and methods of conducting the work, and, unless the Engineer orders otherwise, he shall use in the performance of the work means and methods which are not unsatisfactory to said owners or officials, and he shall at his own expense provide such trackwalkers and flagmen as

the said owners and officials may deem necessary for the adequate protection of the railroad property and train service.

The Contractor shall be solely and directly responsible to the owners and operators of such properties for any damage, injury, expense, loss, inconvenience or delay which may result from the carrying out of the work to be done under this contract, and if the Special Provisions so specify, he shall give bond or insurance in the amount therein specified to each corporation, company, partnership, or individual owning or operating any of the properties affected, in guarantee of this responsibility. Any extension of time granted the Contractor in which to complete the contract shall not relieve him or his surety from this responsibility.

5.20 PROTECTION OF MATERIALS AND WORK

The Contractor shall provide and maintain substantial and adequate protection as necessary to protect new or existing work, and all items of equipment and furnishings, for the duration of the contract, except that by Board action the Contractor may be relieved of certain responsibilities for maintenance and protection of completed portions of the work as provided under Section 23, hereof.

Unless relieved of responsibility as provided under section 5.21, the Contractor and his sureties shall be fully liable for any loss or damage to the works referred to in the contract, resulting from any cause whatsoever, including but not limited to fire, theft, vandalism, malicious mischief, or injury or damage by the elements, except for any loss or damage that may be occasioned by acts of God, acts of the public enemy, acts of governmental authorities, or any act, omission, or default of the Contracting Agency prior to completion of the project and final acceptance thereof by the Contracting Agency.

5.21 RELIEF FROM MAINTENANCE AND RESPONSIBILITY

Upon the request of the Contractor and with the approval of the Contracting Agency, or upon the order of the Contracting Agency, the Contractor will be relieved of the duty of maintaining and protecting certain portions of the work which are ready to be placed in service and which have been completed in accordance with the plans and specifications, including cleanup.

In addition, such action by the Contracting Agency will relieve the Contractor of responsibility for injury or damage to said completed portions of the improvement resulting from use by public traffic or from the action of the elements or from any other cause, excepting injury or damage resulting from the Contractor's own operations or from his negligence. The Contractor will not be required to again clean up such portions of the improvement prior to field acceptance, excepting for such items of work as result from his operations. However, nothing in this section shall be construed as relieving the Contractor from full responsibility for making good defective

work or materials found to be defective.

5.22 STORAGE OF MATERIALS IN PUBLIC STREETS, ROADS, OR HIGHWAYS

Materials shall not be stored in streets, roads, or highways for longer than four working days after being unloaded, unless a longer storage period is permitted by the Engineer. In the event the rate of progress of construction is such that the materials stored in streets, roads, or highways is not installed in its final position within the time period stipulated hereinabove, the Contractor shall, when so directed by the Engineer remove such materials to storage areas to be provided by the Contractor at his own expense.

Unless otherwise permitted by the Engineer, no storage of excavated material will be permitted in public streets, roads, or highways. After the placing of the backfill in said trench, all remaining excavated material shall be removed from the site of the work.

5.23 HISTORICAL AND ARCHAEOLOGICAL REPORTS

Where historical objects of archaeological and paleontological nature, including ruins, sites, buildings, artifacts, fossils and other objects of antiquity are encountered within the areas on which the contractor's operations are performed, the Contractor shall postpone operations in the area, shall preserve such objects from disturbance or damage and shall notify the Engineer of their existence and location.

Upon receipt of such notification, the Engineer will arrange for the disposition of the objects or for the recording of data relative thereto, and will notify the Contractor when it is proper for him to proceed with the work in the affected area. If the Contractor is directed by the Engineer to perform any work in salvaging said objects, the Contractor shall do so on the "extra work" basis set forth in section 4.07.

5.24 LIGHT, POWER, AND WATER

The Contractor shall furnish temporary light, power, and water complete with connecting piping, wiring, lamps, and similar equipment necessary for the work as determined by the Engineer. The Contractor shall install, maintain, and remove his temporary lines upon completion of work. All expenses in connection with temporary services and facilities shall be paid by the Contractor.

Section 6 - Control of Materials

6.01 MATERIALS AND WORKMANSHIP

All materials, parts and equipment furnished by the Contractor shall be new, high grade, and free from defects and imperfections unless otherwise hereinafter specified. Workmanship shall be in accord with the best standard practices. Both materials and workmanship shall be subject to the approval of the Engineer.

All materials and workmanship not conforming to the requirements of those specifications shall be considered as defective and will be rejected. Defective material whether in place or not, shall be removed immediately from the site of the work by the Contractor at his expense when so directed by the Engineer. No rejected material, the defects of which have been subsequently corrected, shall be used until approval in writing has been given by the Engineer.

In the event any defect in material or workmanship is of a minor nature and the Engineer determines that it is not of such consequence as to result in a dangerous and undesirable condition, the Contracting Agency shall have the right to retain such work and make such deductions in the payment therefor as they determine reasonable and in the public interest. Such determination by the Contracting Agency shall be final.

6.02 TESTS OF MATERIALS

Except as may otherwise be provided, all testing that may be required by the Contracting Agency to determine the quality, fitness and suitability of such materials shall be performed under the direction and upon the order of the Engineer, and at no expense to the Contractor; samples being secured and tested whenever considered necessary by the Engineer. In those cases in which the Contractor is required to provide and bear the expense of such testing the specifications or drawings will definitely so state.

The Contractor, at his own expense, shall deliver the materials for testing at the time and to the place designated by the Engineer.

6.03 TRADE NAMES AND EQUALS

Whenever in the specifications any particular materials, process, and/or equipment is indicated or specified by patent, proprietary, or brand name, or by name of manufacturer, such wording shall be deemed to be used for the purpose of facilitating description of the material, process, and/or equipment desired, and shall be deemed to be followed by the words "or equal". The lists of acceptable materials indicated in various sections of the specifications, or on the drawings, for materials are not intended to be comprehensive lists, or in any order of preference. The Contractor may offer any material, process, and/or equipment which complies with the governing specification and which he considers to be equivalent to that indicated or specified.

If a substitute offered by the Contractor is not found by the Engineer to be equal to the material specified, or indicated, then the Contractor shall furnish and install the specified or indicated by name.

The Contractor shall, before installation, submit data substantiating a request for a substitution of "an equal" item.

The Contractor shall, at his own expense, furnish information and/or data concerning the material and/or equipment offered by him as an equivalent to that specified or indicated by name; and if the Engineer shall so require, the Contractor, at his own expense, shall have the said material tested as to its quality, strength, physical, chemical, and/or other pertinent characteristics, including durability, finish, efficiency, dimensions, service, and suitability to perform the function intended to be served by the material and/or equipment.

The method of performing the test or tests shall be subject to the approval of the Engineer, and the results of said tests shall be reported promptly to the Engineer, who shall evaluate the results thereof and shall determine whether or not the substitute material and/or equipment so tested is deemed to be equivalent, and his findings shall be final. Installation and use of the material shall not be made until such substitute material has been approved by the Engineer.

The time specified for completion of the work under the contract shall not be affected by any circumstance whatsoever developing from the provisions of this section.

6.04 OREGON PRODUCED MATERIALS

The Contractor shall comply with the applicable provisions of sections 279.036 through 279.044 of the Oregon Revised Statutes, which relate to restrictions on use of materials produced outside of the State of Oregon.

All nonmetallic mineral construction materials that are to be used in the work to be done under the contract, excepting cement, sand, gravel, crushed rock and plaster, and excepting materials of kinds not produced or manufactured in Oregon, shall be Oregon produced or Oregon manufactures materials, unless the Contractor has submitted alternate proposals covering the use of such Oregon materials and the use of materials from outside the State, and the Contracting Agency has accepted the proposal which is based upon the use of materials from outside the State. Such alternate proposals shall be accompanied by letters setting forth quotations from producers or manufacturers of the prices f.o.b. the project of the materials produced or manufactured outside of Oregon which are proposed to be used by the Contractor in the work.

With respect to such common building materials as cement, sand, crushed rock, gravel, plaster, etc. the Contractor shall use Oregon produced or manufactured materials in all cases where the bid prices of such materials are no greater than those of similar materials produced or manufactured outside of Oregon.

The provisions in section 6.04 do not apply to contracts on projects financed wholly or in part by Federal funds.

Section 7 - Responsibility To The Public

7.01 PUBLIC CONVENIENCE

The Contractor shall so conduct his operations as to offer the least possible obstruction and inconvenience to traffic, and he shall have under construction no greater amount of work than he can prosecute properly with due regard for the rights of the public.

The Contractor shall obtain prior approval from the Engineer for the closing or partial closing of any street, alley or other public thoroughfare. He shall also give advance notice of such closure to all agencies providing emergency services, including police, fire, and ambulance services.

Unless otherwise provided by the plans or project specifications or authorized by the Engineer, vehicular access to properties at established driveways and pedestrian access to building entrances shall be provided and maintained by the Contractor, except for such periods of time as may be reasonably necessary to expeditiously complete those construction operation which preclude such access.

The Contractor shall conduct his operations in a manner which will minimize interference with the normal use of property adjacent to the construction.

Occupants of property fronting on the street shall be given at least 24 hours advance notice that the entire street or half the street, as the case may be, will be closed to vehicular traffic whenever necessary for the normal prosecution of the work. Such notices shall be given by the Contractor unless otherwise directed by the Engineer, or otherwise specified in the Special Provisions. Parking of cars may be prohibited on streets where construction work, such as grading or paving operations are in progress. When directed by the Engineer, traffic shall be controlled or routed through the construction area, such as maintaining controlled or one-way traffic over one-half of the street while construction is progressing on the other half.

In order that all unnecessary delay to the traveling public may be avoided where ordered by the Engineer, the Contractor shall provide and maintain temporary "No Parking" and/or detour signs pilot cars, and station competent flagmen whose sole duties shall consist of directing the movement of public traffic either through or around the work. Signs shall be of standard size and design as approved by the Engineer and shall comply with the requirements specified in section 27 hereof. Such signs shall be removed as soon as practicable or when directed by the Engineer.

The cost for all work involved in providing for public convenience including detours, as set forth in this article shall be considered as included in the prices paid for the various contract items of work and no additional allowance will be made.

7.02 DETOURS

The Contractor shall construct and maintain temporary detours as shown on the plans or specified in the Special Provisions, or as necessary to provide adequate passage of public traffic and for protection of his work, or as determined necessary by the Contracting Agency. Routing and width of detours shall be approved by the Engineer.

Unless otherwise specified, when a detour is required the Contractor shall be governed by the following:

A Permit will be required from the Contracting Agency for all detours of traffic.

1. One day duration
 - (a) Passable - no gravel but graded
 - (b) Water and maintain smooth and dust free
2. One day to one week duration
 - (a) Gravel
 - (b) Water
 - (c) Maintain smooth and dust free
3. More than one week - if on a major or secondary street (if on a collector street, treatment No. 2 above will suffice).
 - (a) Gravel 2 in. and graded
 - (b) Penetration with a minimum of .30 gal. per sq. yd.
MC 70
 - (c) Maintain with patching of chuck holes.
4. General Conditions
 - (a) If maintenance is not performed, the Contracting Agency will do the maintenance and bill the Contractor at rates specified in section 4.07 thru 4.10.
 - (b) When directed by the Engineer detours shall be removed and all ditches, etc., restored before the permit is closed out. If restoration is delayed more than one week after completion of work, the Contracting Agency will restore the area and bill the Contractor.
 - (c): Before pavement is cut, the Engineer must approve the construction and barricading.

- (d) Provisions for public convenience and public safety shall be maintained in compliance with sections 7.01 thru 7.03 hereof.

The Engineer will reserve the right to estimate the expected time the detour will be in use and will order construction accordingly.

7.03 PUBLIC SAFETY

The Contractor shall erect and maintain temporary fences, traffic control signs, bridges, railings, lights, and barriers, taking all other necessary precautions, and place proper guards for prevention of accident. In the event any of the above items become misplaced, damaged, or destroyed, they shall be replaced immediately in their proper location.

All warning signs, barriers, barricades, lights and performance of flagmen shall conform to the "Oregon Manual on Uniform Traffic Control Devices for Streets and Highways" issued by the Oregon State Highway Department, local ordinances, and existing published rules and/or traffic control manuals and regulations of the Contracting Agency.

The Contractor shall at all times keep open or backfilled excavations in a safe or protected condition. In the event of the existence of unsafe or hazardous conditions in the Contractor's work or operations, the Contractor shall immediately take such measures as are necessary to eliminate the conditions.

The cost for all work involved in providing for public safety as set forth in this article shall be considered as included in the prices paid for the various contract items of work and no additional allowance will be made.

7.04 FIRE HYDRANTS

Access shall be provided to all fire hydrants at all times. Pavements and sidewalks adjacent to fire hydrants shall be kept clean and clear of debris, materials and Contractor's equipment. The Contractor shall not draw any water from a fire hydrant for use on the work other than for extinguishing fire, without first obtaining permission from the owner. Slow-closing valves will be required in connection with the use of fire hydrants. Unnecessary wasting or leakage of water shall not be permitted.

In the event a fire hydrant is damaged, or for any reason becomes inoperative, or is placed out of service due to the nature of the construction, it shall be the Contractor's responsibility to immediately notify the owner and the Engineer.

7.05 USE OF EXPLOSIVES

The use of explosives will be permitted only when authorized in writing by the Engineer unless otherwise stated in the Special

Provisions. Explosives shall be handled, used, and stored in accordance with the provisions and requirements of all applicable laws, ordinances, and regulations with respect thereto.

The approval by the Engineer for the use of explosives shall not relieve the Contractor from his responsibility.

7.06 SAFETY

Construction materials, equipment, methods and workmanship shall be in accordance with applicable local ordinances and State laws. The Contractor shall comply with the lawful orders and codes issued by the Workmen's Compensation Board of the State of Oregon.

7.07 LABOR

The Contractor shall be bound by and comply with all applicable provisions of the Revised Statutes of the State of Oregon and shall keep informed of and observe and comply with, and cause all of his agents and employees to observe and comply with, all Federal, State, and local laws which in any way affect the conduct of the work of this contract.

None but competent workmen shall be employed on any work under these specifications; and any laborer, workman, mechanic, foreman, superintendent, or other person so employed who is found to be to incompetent, intemperate, troublesome, disorderly or otherwise objectionable, or who fails or refuses to perform his work properly and acceptably, shall be removed from the job immediately upon notification in writing, and not again employed on the work unless approved by the Engineer.

7.07 NONDISCRIMINATION OF LABOR

The attention of the Contractor is directed to the provisions of Chapter 659, Oregon Revised Statutes relative to unlawful employment practices and discrimination by employers against any employee or applicant for employment because of race, religion, color, or national origin. Particular reference is made to Section 659.030 ORS, which states that it is an unlawful employment practice for an employer, because of the race, religion, color or national origin of any individual, to refuse to hire or employ or to bar or discharge from employment such individual or to discriminate against such individual in compensation or in terms, conditions or privileges of employment.

In the event the contract is funded in whole or in part by Federal funds, the Contractor shall comply with all provisions of Executive Order No. 11246 or September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

In the event of the Contractor's noncompliance with the non-discrimination clauses of a contract so funded, or with any such rules, regulations, or orders, the contract may be cancelled, terminated, or suspended in whole or in part and the

Contractor may be declared ineligible for further Government contracts or Federally assisted construction contracts, in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 14, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

7.09 PREFERENCE TO WAR VETERANS

As required by ORS 408.220, the Contractor shall, in the employment of labor, give preference to war veterans, providing such veterans possess business capacity necessary to discharge the duties of the position.

7.10 MINIMUM WAGES

The Contractor shall comply fully with ORS 279.348 through 279.356, which provide in part that "the hourly rate of wage to be paid by any contractor or subcontractor to workmen upon all public works shall be not less than the prevailing rate of wage for an hour's work in the same trade or occupation in the locality where such labor is performed."

The provisions of this law do not apply to workmen or other persons regularly employed on a monthly or per diem salary.

The "prevailing rate of wage", for the purposes hereof, shall be the rate of hourly wage and overtime paid in the locality, as hereinafter defined, to the majority of workmen in the same trade or occupation; provided, however, that if there is not a majority in the same trade or occupation paid at the same rate, the average rate of hourly wage and overtime paid in the locality to workmen in the same trade or occupation shall be the prevailing rate, and provided further, that when a contractor or subcontractor is a party to a state-wide agreement in effect with any labor organization, the rate of wages as established in the agreement shall be considered to be the prevailing rate in the locality.

If the wage paid by any contractor or subcontractor to workmen is based on a period of time other than an hour, the hourly wage shall be mathematically determined by the number of hours worked in that period.

The "locality", for the purposes hereof, shall be the largest city in the county or counties in which the work under the contract is performed.

In case any dispute arises as to what is the prevailing rate of wage for the same trade or occupation in the locality and that dispute cannot be settled by the parties involved, the dispute shall be referred to the Commissioner of the State Bureau of Labor, who will determine the prevailing rate of wage for the same trade or occupation in the locality.

The minimum hourly rate of wage, not less than the prevailing rate of wage, which may be paid to workmen in each trade or occupation required for the work under the contract employed in the performance of the contract either by the Contractor or subcontractor or by other person doing or contracting to do the whole or part of the work contemplated by the contract shall be as set forth in the Schedule of Minimum Hourly Wage Rates as may be included in the Special Provisions, and the workmen employed in the performance of the contract shall be paid not less than the applicable specified minimum hourly rate of wage as such is set forth in said schedule.

Before payment is made by or on behalf of the Contracting agency of any sum or sums due under the contract, the Contractor or his surety and every subcontractor or his surety shall submit a statement in writing in a form prescribed by the State Labor Commissioner certifying under oath the hourly rate of wage paid each classification of workmen employed by him upon the work under the contract, and further certifying that no workmen employed by him upon said work has been paid less than the prevailing rate of wage or less than the minimum hourly rate of wage specified in the contract. These statements are to be submitted to the Engineer in the manner and at the times designated by him.

In case of conflict between any of the minimum hourly wage rates set forth in the schedule above referred to and other pertinent minimum hourly wage rates, as such other rates may have been set forth in the contract provisions in accordance with Federal regulations, the higher of the conflicting wage rates shall be applicable under the contract.

There is no representation on the part of the Contracting Agency that labor can be obtained at the hourly rates as may be shown in the Special Provisions. It is the responsibility of bidders to inform themselves as to local labor conditions and prospective changes or adjustments of wage rates. No increase in the contract price shall be allowed or authorized on account of the payment of wage rates in excess of those listed.

7.11 SATURDAY, SUNDAY, HOLIDAY AND OVERTIME WORK
The Contractor shall comply fully with section 279.334 of the Oregon Revised Statutes, which reads as follows: "In all cases where labor is employed by the state, county, school district, municipality, municipal corporation, or subdivision, through a contractor, no person shall be required or permitted to labor more than eight hours in any one day, or 40 hours in any one week, except in cases of necessity, emergency, or where the public policy absolutely requires it, in which event, the person or persons so employed for excessive hours shall receive at least time and a half pay for all overtime in excess of eight hours a day, and for work performed on Saturday and on legal holidays."

However, if it is necessary for the Contractor to perform construction work on Saturdays, Sundays, legal holidays or outside the 8 hours regular working day, the Contractor shall first notify the Engineer of his intent to do so prior to commencing such "overtime work". In any event, all work shall be subject to approval of the Engineer. Prior to the start of such work, the Contractor shall arrange with the Engineer for the continuous or periodical inspection of the work, surveys, and tests of materials, when necessary.

7.12 PERMITS AND LICENSES

Except for private contracts or unless otherwise specified elsewhere in these specifications, the Contracting Agency will obtain required permits for the work. The Contractor shall obtain all other permits and licenses and pay any fees connected therewith, having to do with his construction operation.

7.13 CLEARING AND BURNING PERMITS

The Contractor shall comply fully with ORS 477.246 which reads, in part, as follows: "(1) Everyone shall, before clearing any right of way for any highway or railroad, or any power, commercial telegraph or telephone line, or for any transmission or transportation utility right of way on any forest land, whether upon his land or that of another, where the clearing would constitute a fire hazard, file with the forester a general description of the right of way to be cleared. The forester shall issue a written permit for such clearing. The permit shall set forth the precautionary conditions and manner under which the clearing shall be done."

"(2) No one at any time engaged in clearing any right of way or forest land shall place on adjoining land or property any forest material or debris resulting from such clearing without the permission of the owner of the adjoining land."

7.14 LICENSING OF CONTRACTORS

The Contractor shall be licensed in accordance with all state and local requirements.

7.15 PATENTS, FEES OR ROYALTIES

In the event that any patented article, material or process is to be installed or used in the performance of the work as shown on the plans or particular specifications therefor, the Contractor shall pay the royalty chargeable, if any, and shall save, keep and hold the Contracting Agency harmless from all damage, costs and expenses by reason of any infringement of the patent thereof, and any loss to the Contracting Agency if enjoined from using such patented article or material and the incidental damage caused by the loss of use and damage to the Contracting Agency's property in removing same, and cost of replacing the article or material the use of which is enjoined. Provided further the Bond for Faithful Performance shall be deemed to expressly apply to this provision of the specifications.

7.16 LIABILITY FOR MONIES DUE STATE COMMISSIONS

The Contractor shall promptly pay all contributions or amounts due the State Industrial Accidnet Fund and the State Unemployment Compensation Trust Fund from such Contractor or his subcontractors, incurred in the performance of the contract, (see ORS 279.510).

The Contractor shall pay all sums of money withheld from his employees and payable to the State Tax Commission pursuant to ORS 315.575, 316.575 or 316.711 and 316.714.

7.17 LIABILITY FOR AMOUNTS DUE HOSPITAL ASSOCIATIONS, ETC.
The Contractor shall comply fully with ORS 279.320 which reads in part as follows:

"... The Contractor shall promptly, as due, make payment to any person, copartnership, association, or corporation, furnishing medical, surgical and hospital care or other needed care and attention, incident to sickness or injury, to the employees of such Contractor, of all sums which the Contractor agrees to pay for such services and all moneys and sums which the Contractor:

"(1) May or shall have deducted from the wages of his employees for such services pursuant to the terms of ORS 655.010 to 655.160 and any contract entered into pursuant thereto; or

"(2) Collected or deducted from the wages of his employees pursuant to any law, contract or agreement for the purpose of providing or paying for such services."

7.18 CONTRACTOR'S CONSTRUCTION EQUIPMENT

The Contractor shall furnish and maintain in good condition all equipment and facilities including stairs, ramps, runways, scaffolds, hoists, etc., as required for the proper execution and inspection of the work. All such equipment and facilities shall meet all requirements of all ordinances and laws applicable thereto.

7.19 RIGHT OF WAY

The right of way for the improvement will be provided by the Contracting Agency. Unless the plans or specifications show additional work area to be provided by the Contracting Agency, the Contractor shall make his own arrangements and pay all expenses for additional area required by him outside the limits of the right of way.

Section 8 - Prosecution and Progress

8.01 PROGRESS OF THE WORK

The Contractor shall commence the work within 10 calendar days after receiving notice to proceed, unless otherwise stated in the Special Provisions, and shall diligently prosecute the same to completion within the time limit specified.

8.02 CONTRACTOR'S CONSTRUCTION SCHEDULE

Before starting work, the Contractor shall submit for approval his proposed construction schedule to the Engineer. In the event the Contractor desires to carry on operations in more than one location simultaneously he shall submit for approval a schedule therefor two weeks in advance of beginning such operations. In the event that the Contractor's proposed construction schedule does not meet the necessary construction program schedule as determined by the Contracting Agency, he may be required to resubmit a schedule that shall conform to an approved program of construction operations. The Contractor must obtain from the Engineer written approval of a construction schedule prior to start of work.

8.03 SUSPENSION OF WORK

The Engineer shall have the authority to suspend the work wholly or in part for such periods as may be necessary because of unsuitable weather or unforeseen conditions or the failure of the Contractor to carry out lawful orders to comply with any of the provisions of the contract. The Contractor shall immediately suspend work when so ordered, and he shall resume work after such suspension only on written instructions from the Engineer. Upon receipt of such instructions to resume work, he shall immediately proceed with the work.

If through the fault of the Contracting Agency, the Contractor must suspend operations and incurs expenses or sustains losses which could not have been avoided by the judicious handling of forces and equipment, and if by a diligent prosecution of the work he could not have completed the work before such suspension, the Contractor will be paid such amounts as may be agreed upon between the Contractor and the Contracting Agency to be a fair and reasonable compensation and a commensurate extension of contract time will be granted.

If work is suspended through no fault of the Contracting Agency all such expenses and losses incurred by the Contractor during such suspensions of work shall be borne in full by him. In the event the Contractor fails to properly provide for public safety, traffic, and protection of the work during periods of suspension of work, the Contracting Agency may elect to do so, and deduct the cost thereof from monies due the Contractor.

8.04 TIME OF COMPLETION

The Contractor shall complete the work called for under the contract in all parts and requirements within the number of calendar days set forth in the contract. Unless otherwise provided, all work shall be performed during normal working days. A working day is defined as any day except Saturdays, Sundays, legal holidays, days on which the Contractor is specifically required by the contract to suspend construction operations, and days on which the Contractor is prevented from working by inclement weather or interference from utility relocation or alteration work. Credit for inclement weather or interference

from utility relocation or alteration work will be allowed only when the Contractor is prevented by such work will be allowed only when the Contractor is prevented by such weather or utility work or conditions resulting immediately therefrom, from proceeding for at least five hours with at least 75% of the normal labor and equipment force engaged in the current controlling operation or operations.

Should the Contractor prepare to begin work at the regular starting time in the morning of any day on which inclement weather or the conditions resulting from the weather, or the condition of the work, prevents the work from beginning at the usual starting time and the crew is dismissed as a result thereof, the Contractor will not be charged for a working day whether or not conditions should change thereafter during said day and the major portion of the day could be considered suitable for such construction operations.

The current controlling operation or operations is to be construed to include any feature of the work which, if delayed at the time being considered, could delay the completion of the work behind the contract period.

Determination of each nonworking day except Saturdays, Sundays, legal holidays, and days on which the Contractor is specifically required by the contract to suspend construction operations shall be made and agreed upon during such day by conference between the Engineer and the Contractor. In the event of failure to agree, the Contractor will be allowed 15 days in which to file a written protest setting forth in what respects he differs from the Engineer. Otherwise the decision of the Engineer shall be deemed to have been accepted by the Contractor as correct.

8.05 LIQUIDATED DAMAGES

It is agreed by the parties of the contract that in case all of the work required under the terms of this contract is not completed within the number of calendar days as specified therefor in the contract or any lawful extension thereof as provided herein, damage will be sustained by the Contracting Agency as a result thereof, but to definitely determine and ascertain the actual amount of such damage, either before or after the occurrence thereof would be difficult and impractical. The sum stated in the Special Provisions for liquidated damages for each and every calendar day that the completion of said work is delayed beyond the prescribed completion date, or lawful extension thereof, is hereby stipulated as being the nearest and most exact measure of such damage than can be fixed at this or any subsequent time; and when so assessed by the Contracting Agency, the Contractor shall become liable for and shall pay to the Contracting Agency as liquidated damages and not as a penalty said sum per day for each and every calendar day of such delay. When the amount of liquidated damages is not stated in

the Special Provisions, it is agreed by the parties to the contract that the amount of liquidated damages shall be One Hundred Dollars (\$100.00) per day for each and every calendar day of such delay. The amount of such liquidated damages may be deducted by the Contracting Agency from any compensation due, or that may become due, the Contractor under his contract, and the Contractor and his sureties shall be liable for any excess.

It is further agreed that if the work is not finished and completed in all parts and requirements within the number of calendar days as specified therefor in the contract or any lawful extension thereof as provided herein, the Contracting Agency will have the right to extend the time for completion if to do so seems best to serve its interests; and in case said Contracting Agency decides to so extend the time limit for the completion of the work, it shall have the further right to charge to the Contractor, his heirs, assigns, or sureties, all or any part as it may deem proper, the actual costs of engineering, inspection, supervision, and other overhead expenses, that are directly chargeable to the contract and accrue during the period of such extension, and deduct the amount thereof from the final payment for the work; provided, however, that the cost of the final survey and preparation of the final estimate will not be included in such charges.

In the event that the Contractor is directed to perform extra or additional work, the number of calendar days specified in the contract shall be extended by an amount determined by application to the original number of calendar days of the ratio that the value of the extra or additional work bears to the original contract value.

Should the nature of the extra or additional work be such that the Contractor believes that a longer time extension should be granted than that computed by the above procedure, he may notify the Engineer in writing.

The Contracting Agency may grant such additional time extension as it feels is warranted.

Should any default, act or omission of the Contracting Agency, act of the State, act of public enemy or act of God, epidemic, quarantine restriction, strike, freight embargo, fire or flood cause any delay in the completion of the work the Contractor will not be assessed for liquidated damages nor engineering or other overhead charges for the period of such delay, provided that he shall, within ten (10) days subsequent to the beginning of any such delay, file a written report as to the cause thereof with the Engineer, who will ascertain the facts relative thereto and the extent of the delay, and whose finding in connection therewith shall be final and conclusive. The Contracting Agency shall not be liable to the Contractor for any damages on account of such delay.

8.06 RESPONSIBILITY OF CONTRACTOR AND OF CONTRACTOR'S
REPRESENTATIVE ON THE WORKS

The Contractor shall give his personal attention and supervision to the work until same is entirely completed. In the absence of the Contractor from the work, he shall have a representative in charge who shall be competent to superintend and direct the progress of the work and who shall be authorized to receive instructions and to act for the Contractor on all matters relating to the work. The name, address and telephone number of this representative shall be sent by letter to the Engineer immediately after the awarding of the contract.

8.07 PROVISIONS RELATIVE TO DEFAULT BY CONTRACTOR

If, at any time, the Contractor shall neglect or refuse to prosecute the work with reasonable diligence, or should refuse or neglect to perform the work according to the drawings and specifications, as interpreted by the Engineer, the Contracting Agency will give him written notice to proceed. If the Contractor fails to comply with such notice within a period of seven (7) days, he shall be in default of the contract. The Contracting Agency will have the right, without further notice to the Contractor, and without voiding the contract, to take possession of all materials, to complete the work, and to charge cost of so doing against the Contractor. Should the unpaid balance of the contract price exceed the expense of finishing the work, including compensation for additional managerial and administrative services, such excess shall be paid to the Contractor. If such expenses shall exceed the balance due the Contractor, the Contractor and his bondsmen agree to pay the excess to the Contracting Agency.

Notice, for the purposes of this section, may be served personally, or may be served by mail, addressed to the Contractor and his surety at their respective places of business as indicated in the contract documents.

The determination by the Engineer of the question as to whether any of the terms of the contract or specifications have been violated, or have not been performed satisfactorily, shall be conclusive upon the Contractor, his surety, and any and all other parties who may have any interest in the contract or any portion thereof.

The foregoing provisions of this section shall be in addition to all other rights and remedies available to the Contracting Agency under law.

8.08 TERMINATION OF CONTRACT

If conditions encountered during the progress of the work make it impossible or impracticable to proceed with the work, the Contracting Agency may order the termination of the contract. Upon such termination, the Contracting Agency will pay the Contractor

fair and reasonable compensation as agreed upon between the Contractor and the Contracting Agency. In the event that no agreement is reached between the Contractor and the Contracting Agency as to fair and reasonable compensation, the Contracting Agency will be liable to the Contractor only for the reasonable value of the work performed and any other actual costs sustained by the Contractor.

8.09 ADVERTISING

No advertising matter shall be attached or painted on surfaces of buildings, fences or canopies, except the names of contractors and subcontractors, with their addresses and the designation of their particular branch may be shown on signs of a removable type. Size and location of such signs shall be subject to approval of the Engineer.

8.10 ASSIGNMENT

No contract or any portion thereof, may be assigned without consent of the Contracting Agency except that money due the Contractor may be assigned as specified below.

The Contractor may assign money due or to become due him under the contract and such assignment will be recognized by the Contracting Agency, if given written notice thereof, to the extent permitted by law, but any assignment of money shall be subject to all proper setoffs and withholdings in favor of the Contracting Agency and to all deductions provided for in the contract, and particularly all money withheld, whether assigned or not, shall be subject to being used by the Contracting Agency for completion of the work in the event the Contractor should be in default therein.

8.11 SUBCONTRACTS

Names of subcontractors for all or any portion of the work shall be submitted to the Engineer prior to commencement of any subcontracted work. Such submittals shall state the types of work to be subcontracted and the names of the proposed subcontractors. Subcontracting all or any portion of the work shall not be construed to relieve the Contractor of any of his responsibility under the contract.

No subcontractors will be recognized as such, and all persons engaged in the work of construction will be considered as employees of the Contractor. The Contractor will be held responsible for their work, which shall be subject to the provisions of the contract and specifications.

8.12 CERTIFICATE OF COMPLIANCE

The Contractor shall file with the Engineer, prior to the acceptance of the work, a certificate in form substantially as follows: "I (We) hereby certify that all work has been performed and materials supplied in accordance with the plans, specifications and contract documents for the above work, and that:

1. Not less than the prevailing rates of wages as ascertained by the Contracting Agency has been paid to laborers, workmen and mechanics employed on this work;

2. There have been no unauthorized substitutions of subcontractors; no have any subcontracts been entered into without the names of the subcontractors having been submitted to the Engineer prior to the start of such subcontracted work;

3. No subcontract was assigned or transferred or performed by any subcontractor other than the original subcontractor, without prior notice having been submitted to the Engineer together with the names of all subcontractors;

4. All claims for material and labor and other service performed in connection with these specifications have been paid.

5. All monies due the State Industrial Accident Fund, the State Unemployment Compensation Trust Fund (ORS 279.510), the State Tax Commission (ORS 315.575, 316.575, or 316.711 and 316.714), hospital associations and/or others, (ORS 279.320), have been paid."

Section 9 0 Measurement and Payment

9.01 METHODS OF MEASUREMENT

Materials and items of work which are to be paid for on the basis of measurement shall be measured in accordance with the methods stipulated in the particular sections herein covering materials or types of work.

When material is to be paid for on a volume basis and it would be impracticable to determine a volume by the specified method of measurement, or when requested by the Contractor and approved by the Engineer, the material will be weighed in accordance with the requirements specified for weight measurement and such weights will be converted to volume measurement for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Engineer and shall be agreed to by the Contractor before such method of measurement of pay quantities will be adopted.

Unless otherwise provided, when mineral aggregate or roadway material is being paid for by weight, deductions from pay quantities will be made for the weight of water in excess of 3% if the material is to be treated with bitumen, and 6% if the material is to be waterbound.

9.02 MEASUREMENT OF QUANTITIES FOR UNIT PRICE WORKS,
Unless otherwise specified, linear or area quantities of work such as grading, landscaping, paving, curb, gutter, walk and other work of a similar nature shall be determined from

measurements of dimensions of such work and computed in horizontal planes. However, linear quantities of underground cable, piling, and timber, shall be considered as being the true length measured along the longitudinal axis thereof. For pipe work see related sections.

Volumetric quantities shall be determined by the average end area method.

9.03 UNITS OF MEASUREMENT

Measurements shall be in accordance with U.S. Standard Measures. A pound shall be avoirdupois. A ton shall be 2,000 pounds. The unit of liquid measure shall be the U.S. gallon.

9.04 CERTIFIED WEIGHTS

When payment is specified to be made on the basis of weight, the weighing shall be done on certified platform scales sealed by the State Sealer of Weights and Measures or the City Sealer of Weights and Measures as defined by sections 618.010 through 618.090, Oregon Revised Statutes. The Contractor shall furnish the Engineer with certificates issued by the Sealer of Weights and Measures showing the actual net weights together with the information required by section 618.230, Oregon Revised Statutes. The Contractor shall pay all costs, if any, in connection with obtaining said certificates. The Contracting Agency will accept the certificates as evidence of the weight delivered.

9.05 PAYMENT

Once each month, the Engineer will make an approximate measurement of the work performed to that date and an estimate of the value thereof based on the contract prices. When the work has been satisfactorily completed, the Engineer will determine the final quantity of work performed and prepare the final estimate of the value thereof. The quantities listed in the bid schedule do not govern final payment. Payments to the Contractor will be made only for the actual quantities of contract items performed in accordance with the plans and specifications and if upon completion of the construction these actual quantities show either an increase or decrease from the quantities given in the bid schedule, the contract unit prices will still prevail.

In unit price contracts, when an item for mobilization is included in the bid, this item shall include the cost of assembling of materials, plant, and equipment as set forth in said bid item and as more fully described in the specifications. An evaluation for the purpose of payment for mobilization will be included in progress estimates in unit price contracts only when mobilization is so set forth as an item in the bid. In such cases, the specifications will indicate a fixed sum or a percentage of the total bid price as a maximum that may be bid on this item.

From each progress and final estimate, except on contracts for County roads and bridges, or unless otherwise required by the Special Provisions, applicable Federal or State laws or local ordinances, 10% will be deducted and retained by the Contracting Agency, and the remainder less the amount of all previous payments will be paid to the Contractor. In compliance with ORS 368.245, which relates to contracts for County roads and bridges, 15% will be deducted from each progress and final estimate and retained by the Contracting Agency, and the remainder less the amount of all previous payments will be paid to the Contractor.

At the expiration of 35 days from the date of acceptance of the work by the Contracting Agency, provided that the Contractor has furnished the Contracting Agency satisfactory receipts for all labor and material bills and waivers of liens from any and all persons holding claims against the work, and has furnished the Contracting Agency with the certifications of wage rates as required by section 279.345, Oregon Revised Statutes, the amount deducted from the final estimate and retained by the Contracting Agency will be paid to the Contractor, with the exception of such amounts as are required by law to be further retained, nor on any payment tendered by the Contracting Agency and acceptance thereof is refused by the Contractor.

Payments for work or materials performed or furnished under an assessment proceedings contract will be made as provided in the particular proceedings or legislative act under which such contract was awarded.

Section 61 - Trench Excav., Backfill, Foundation and Bedding for
Sewers, Drains and Culverts

61-1 Description

Trench excavation and backfill shall include all excavation, backfilling, disposal of surplus material, and all other work incidental to the construction of trenches, including any additional excavation which may be required for man holes or other structures forming a part of the pipe line and not otherwise classified as "Structure Excavation".

61-2 CLASSIFICATION

Trench excavation and backfill shall be classified as Class A or Class B for earth excavation, Class C for rock excavation, and Class D for excavation in unsuitable earth below grade. The approximate limits and quantities for Classes A and B will be shown on the construction plans.

Classes A, B, and C excavation and backfill, where ordered by the Engineer, shall extend to the bottom of the pipe zone. Beyond this depth, Class D Excavation will be paid for.

The Engineer shall have the authority to change classifications and the limits thereof as he may deem necessary, consistent with requirements outlines under definitions of the classifications.

2.01 TRENCH EXCAVATION AND BACKFILL, CLASS A

Class A shall be trench excavation where the excavated material is piled beside the trench as it is removed and backfilled from this position, or wasted immediately adjacent to the excavation. The disposal of excess material resulting from pipe volume shall be considered as incidental to Class A, unless otherwise provided for in the special provisions.

2.02 TRENCH EXCAVATION AND BACKFILL, CLASS B

Class B shall cover all cases of trench excavation where the excavated material is transported to another site for wasting and the trench is backfilled with bank run gravel or sand as specified on the plans or in the special provisions. When bank run gravel is specified, it shall conform to Section 26-2, excepting that 100 percent of the material shall pass the 2½ inch square opening.

The Contractor shall secure and maintain all necessary waste sites unless otherwise designated on the plans or in the special provisions.

2.03 TRENCH EXCAVATION AND BACKFILL CLASS C

Class C shall cover the removal and disposal of solid rock, i.e. all material which by actual demonstration, cannot, in the Engineer's opinion, be reasonably excavated with a ¾ yard Bucyrus-Eerie 22-B backhoe equipped with a 19-foot boom,

general duty dipper and rock points, or similar approved equipment and which in fact, removed by systematic drilling and blasting, and also boulders exceeding one-half cubic yard in volume. All rock, boulders or stones shall be removed to the bottom of the pipe zone.

Class C shall be supplemental to either Class A or B as shown on the construction plans or designated by the Engineer. Payment for Class C shall be in accordance with Section 61-4.01B and shall be in addition to the payment made for either Class A or B.

2.04 TRENCH EXCAVATION AND BACKFILL, CLASS D
Class D shall apply to the excavation of unsuitable material which lies below the bottom of the pipe zone, the removal of which may be ordered by the Engineer. Excavated materials shall be transported to another site for wasting and the trench backfilled to the bottom of the pipe zone with foundation material as specified in Section 61.3.03D.

The Contractor shall secure and maintain all necessary waste sites unless otherwise designated on the plans or in the special provisions.

61-3 CONSTRUCTION DETAILS

3.01 EXCAVATION
The length of trench excavated in advance of the pipe laying shall be kept to a minimum, and in no case shall it exceed one hundred and fifty (150) feet unless specifically authorized by the Engineer.

Below the crown of the pipe, trench widths shall not exceed:

15-inch diameter and smaller.... $1\frac{1}{2}$ x inside diameter + 12 in.
18-inches diameter and large.... $1\frac{1}{2}$ x inside diameter + 18 in.

In all cases, trenches must be of sufficient width to permit proper jointing of the pipe and backfilling of material along the side of the pipe. Trench width at the surface of the ground shall be kept to the minimum amount necessary to install the pipe in a safe manner. Trenches shall be excavated with vertical trench walls. Trenches wider than the maximum specified may result in a greater load of overburden than the pipe is designed for and, consequently, if the maximum trench width is exceeded by the Contractor without the written authorization of the Engineer, the Contractor will be required at his own expense to provide pipe of higher strength classification, or to provide a higher class of bedding, as may be deemed necessary by the Engineer.

Excavation for manholes and other structures shall be sufficient to provide a minimum of twelve (12) inches between their surfaces and the sides of the excavation.

All material excavated from trenches and piled adjacent to the trench or in a roadway or public thoroughfare shall be piled and maintained so that the toe of the slope of the material is at least two (2) feet from the edge of the trench. It shall be piled in such manner as will cause a minimum of inconvenience to public travel, and provision shall be made for merging traffic where such is necessary. Free access shall be provided to all fire hydrants, water valves and meters, and clearance shall be left to enable free flow of storm water in all gutters, other conduits, and natural water courses.

3.02 DEWATERING

Pipe trenches shall be kept free from water during pipe laying and jointing by such method as the Contractor may elect, provided the method is acceptable to the Engineer. The Contractor shall be responsible for damages of any nature resulting from the dewatering operations, notwithstanding tacit approval of the method by the Engineer.

Dewatering of the trench shall be considered as incidental to the construction and all costs thereof shall be included in various unit contract prices in the proposal, unless otherwise provided in the special provisions.

3.03 FOUNDATIONS AND BEDDING

Proper preparation of foundation, placement of foundation material where required and placement of bedding material shall precede the installation of all sewer and culvert pipe. This shall include necessary leveling of the native trench bottom or the top of the foundation material as well as placement and compaction of required bedding material to a uniform grade so that the entire length of the pipe will rest firmly on a well compacted material, so the backfill material around the pipe will be placed in a manner to meet requirements specified hereinafter.

3.03B CLASSIFICATION OF BEDDING

Bedding procedures shall be classified as Class A, Class B, Class C, and Class D and shall apply to the pipe zone defined as that portion of the trench between the sides of the trench, 4 inches below the bottom of the pipe for pipe 27 inches in diameter and less and 6 inches for pipe 30 inches in diameter or larger and 12 inches above the top of the pipe. The approximate limits for the various classes of bedding will be indicated on the construction plans where it is feasible to do so.

Where no special reference is made to the classification of bedding on the plans or in the specifications, it shall be construed that all bedding procedures shall be as described for Class C.

The Engineer shall have the authority to change bedding classifications; and the limits thereof as he may deem necessary during

the progress of the construction, consistent with the requirements outlined under the definitions and requirements of the various classifications contained herein.

Where unauthorized excavation has been made below the established grade, the Contractor shall provide, place and compact suitable bedding material to the proper grade elevation at his own expense.

3.03B1 CLASS A. BEDDING.

Class A bedding shall consist of a pipe cradle constructed of Class 4 (1½) Portland Cement Concrete as specified in Section 39-3.01. The bottom of the trench shall be fully compacted before placement of pipe or cradle.

Cradle construction shall conform to the details on the standard drawing. The balance of the pipe zone shall be filled with clean granular, well graded sand and gravel material of which 100% will pass the U.S. Standard ¾ inch opening, and not more than 3 percent will pass the U.S. No. 200 (wet sieve), with a minimum sand equivalent of 50. (Section 6.)

The unit price per lineal foot for Class A Bedding shall be full compensation for furnishing all labor, equipment and materials necessary to complete the work in accordance with these specifications.

3.03B2 CLASS B. BEDDING

Class B bedding shall consist of the leveling of the trench at the bottom of the pipe zone and the furnishing, placing and compacting of bedding materials in the entire pipe zone.

Bedding material used in classes B and C bedding shall consist of clean, granular, well graded sand and gravel material of which 100 percent will pass the U.S. Standard ¾ inch opening, and not more than 3 percent will pass the U.S. No. 200 (wet sieve), with a minimum sand equivalent of 50. (Section 6)

The unit contract price per linear foot for Class B Bedding shall be full compensation for furnishing all labor, equipment and materials necessary to complete the work in accordance with these specifications.

3.03B3 Class C Bedding.

Class C bedding shall consist of the leveling of the trench at the bottom of the pipe zone and the furnishing, placing and compacting of bedding materials in the pipe zone up to 1/6 the outside diameter of the pipe. Select native material shall be placed and compacted in the balance of the pipe zone.

The bedding material for Class C bedding shall conform to bedding material for Class B bedding.

The unit contract price per linear foot for Class C bedding shall be full compensation for furnishing all labor, equipment and materials necessary to complete the work in accordance with these specifications.

3.03B4 CLASS D BEDDING.

Class D bedding shall consist of carefully excavating the trench to proper grade and placing select native material in the pipe zone and backfilling in accordance with Section 61-3.05. Class D bedding, as described, shall be considered as incidental to the construction and all costs thereof shall be included in other unit contract items of the proposal.

3.03C PIPE BEDDING IN SOLID ROCK EXCAVATION.

In solid rock excavation, all ledge rock, boulders, or stones shall be removed to the bottom of the pipe zone. All materials thus removed shall be replaced with the classification of bedding noted on the plans or directed by the Engineer.

3.03D FOUNDATION MATERIAL

Where unsuitable excavation has been removed, necessary foundation material shall be placed and compacted to form a suitable base for the replacement of the required thickness of bedding material. Where unsuitable native foundation materials have been removed from excavations, an approved replacement foundation material shall be placed to the required thickness. Such foundation material shall conform to one of the following gradations as called for on the plans, the special provisions, or as determined by the Engineer.

MATERIAL PASSING	CLASS A		CLASS B	
	Min.	Max.	Min.	Max.
2½" Square opening	98	100	95	100
2" Square opening	92	100	75	100
1½" Square opening	72	87	30	60
1¼" Square opening	58	75	0	15
¾" Square opening	27	47	0	1
⅜" Square opening	3	14	-	-
U.S. No. 4 Sieve	0	1	-	-

Coarse aggregate shall contain no piece larger than five (5) inches, measured along the line of greatest dimension.

Where foundation material is required, all costs for its procurement and placement shall be included in the unit contract price per cubic yard for "Foundation Material. Class".

3.04 CRIBBING AND SHEETING

Unless otherwise provided in the special provisions, the Contractor shall provide all cribbing and sheeting needed to protect the work, existing property, utilities, pavement, etc., and to provide safe working conditions in the trench. Such cribbing and sheeting shall be according to the Contractor's design which shall comply with applicable local and state safety codes.

Removal of any cribbing and sheeting from the trench shall be accomplished in such a manner as to fulfill the above requirements.

Damages resulting from improper cribbing or from failure to crib shall be the sole responsibility of the Contractor. Cribbing will not be a pay item and the cost thereof shall be included in the unit contract price for "Trench Excavation" of the particular class of trench excavation required, unless otherwise provided in the special provisions.

3.05 BACKFILLING

As the pipe is installed, it shall be backfilled by hand in the pipe zone with the materials specified for the applicable Class of pipe bedding. The materials shall be placed and compacted in 6 inch lifts to the top of the pipe zone taking care that the material is in contact with the entire periphery of the pipe. The material shall be so carefully placed that subsequent backfilling operations will not disturb the pipe in any way.

Temporary cribbing, sheeting, or other timbering shall be removed unless specific permission is given by the Engineer to leave it in place.

In backfilling the trench, the Contractor shall take all necessary precautions to protect the pipe from any damage or shifting of the pipe. In general, backfilling shall be performed by pushing the material from the end of the trench into, along and directly over, the pipe so that the material will be applied in the form of a rolling slope rather than by side filling which will damage the pipe. Backfilling from the sides of the trench will be permitted after sufficient material has first been carefully placed over the pipe to such a depth as the Engineer may approve.

Pipe placed below the water table shall be kept from floating by placing backfill material upon it, or by maintaining the water level at the bottom of the trench.

During all phases of the backfilling operations and testing as outlined herein, the Contractor shall protect the sewer installation, provide for the maintenance of traffic as may be necessary, and provide for the safety of property and persons.

The cost of backfilling shall be included in the unit contract price per linear foot for the particular class of trench excavation and backfill, and in addition thereto, payment will be made for compaction and backfill when included in the plans and proposal, or ordered by the Engineer.

3.06 COMPACTION OF TRENCH BACKFILL

Where compaction of trench backfill material is required, one of the following methods or combination thereof as set forth in the special provisions shall be used and payment will be made in

accordance therewith. The Engineer shall have the right to change methods and limits to better accommodate field conditions. The density of backfilled material shall meet requirements outlined in the special provisions.

3.06A1 Water Uses Other Than Trench Backfill.

Water required for dust control and uses other than described in this section shall be considered incidental and the costs thereof shall be included in the unit contract price of applicable bid items in the proposal.

3.06B MECHANICAL TAMPER

3.06C VIBRATORY COMPACTOR

The Vibratory Compactor shall be a single hand operated unit, a group hand operated unit, or a vibratory roller. Where vibratory units will be required on the job, it will be so specified in the special provisions, and the method of payment therefor will be included in the proposal.

3.07 TOP SOIL REMOVAL AND REPLACEMENT

Removal of top soil and replacement of it shall be performed in accordance with the provisions of Section 55 and payment will be made at the unit contract price per cubic yard as specified therein.

3.08 LAWN REMOVAL AND REPLACEMENT

Removal of lawn and the replacement of it shall be performed in accordance with the provisions of Section 56 and payment will be made at the unit contract price per square yard as specified therein.

61-4 MEASUREMENT AND PAYMENT

4.01 TRENCH EXCAVATION AND BACKFILL

Measurement for trench excavation and backfill will be by the linear foot whenever a single classification of trench excavation and backfill is involved for a continuous distance, and when it is so provided in the special provisions or bid proposal. Where trench excavation and backfill will be measured by the cubic yard the allowable width and depth will be as described hereinafter.

4.01A MEASUREMENT BY LINEAR FOOT

When measurement and payment is called for by a unit contract price per linear foot, the trench shall be measured continuously along center line from the beginning point to the terminus and including the distances through structures, excepting however, that if excavation for structures is a bid item in connection with the structures the allowable distance along center line through the structure excavation shall be deducted from the total length of trench.

The unit contract price per linear foot for "Trench Excavation and Backfill, Class", shall be full compensation for all labor, materials, tools and equipment required to excavate and backfill the trench in accordance with the plans and specifications; the unit contract price does not, however, include the work and expense of foundation material, bedding material, water settling and mechanical compaction which, if required, will become separate items in the proposal.

4.01B MEASUREMENT BY THE CUBIC YARD

When measurement and payment is called for by a unit contract price per cubic yard, the volume shall be computed upon the following basis for length, width and depth of trench:

Length. The entire horizontal distance in feet along the center line of the trench, including measurement through manhole or structure locations, excepting, however, that the measurement through such structures will be deducted if the proposal carried a separate item of structure excavation that is applicable to the structures.

Width. For 24 inch pipe and smaller, the width upon which excavation will be calculated will be the inside diameter of the pipe plus 18 inches. For pipes with inside diameter greater than 24 inches, the calculated width will be the inside diameter plus 30 inches.

Depth. The vertical measurement shall be whichever is the lesser dimension arrived at from the following possible cases: (a) the vertical measurement from invert of pipe to original ground or paved surface, (b) the vertical measurement from invert of pipe to the scalped surface after removal of top soil or lawn, and (c) the measurement from invert of pipe to roadway excavation subgrade in cases where it is intended that sewer and street construction are to be performed in conjunction with each other.

Measurement will be made at intervals of not more than 25 feet along the center line of the trench, and closer if the terrain justifies.

The unit contract price per cubic yard for "Trench Excavation and Backfill, Class ...", shall be full compensation for all labor, material, tools and equipment required to excavate and backfill the trench in accordance with the plans and specifications; the unit contract price does not, however, include the work and expense of foundation material, bedding material, water settling and mechanical compaction which, if required, will become separate items in the proposal.

4.02 PIPE BEDDING

Measurement for pipe bedding will be by the linear foot. The pipe bedding shall be measured continuously along centerline from the beginning point to the terminus and including the distances through structures, excepting however, that if bedding

for structures is a bid item in connection with the structures the allowable distance along centerline through the structure bedding shall be deducted from the total length of pipe bedding.

The unit contract price per linear foot for "Pipe Bedding Class", shall be full compensation for all labor, materials, tools, and equipment required to place the pipe bedding in accordance with the plans and specifications.

4.03 COMPACTION OF TRENCH BACKFILL

Measurement for compaction of trench backfill will be by the linear foot. The trench shall be measured continuously along centerline from the beginning point to the terminus and including the distances through structures.

The unit contract price per linear foot for compaction of trench backfill for water settling or mechanical compacting including mechanical tampers and vibratory compactors, shall be full compensation for all labor, materials, tools and equipment required to compact the trench backfill in accordance with the plans and specifications.

61-5 PAYMENT

Payment will be made for such of the following bid items as are included and shown on any particular contract:

1. "Trench Excavation and Backfill Class A" per linear foot
2. "Trench Excavation and Backfill Class B" per linear foot
3. "Trench Excavation and Backfill Class C" per cubic yard
4. "Trench Excavation and Backfill Class D" per cubic yard
5. "Pipe Bedding Class A" per linear foot
6. "Pipe Bedding Class B" per linear foot
7. "Pipe Bedding Class C" per linear foot
8. "Compaction of Trench Backfill - Water Settling" per linear foot
9. "Compaction of Trench Backfill - Mechanical Compaction" per linear foot
10. "Top Soil Removal and Replacement" per cubic yard
11. "Lawn Removal and Replacement" per square yard.

SECTION 72. PIPE, FITTINGS, AND APPURTENANCES FOR WATER MAINS

72-1 Scope

These specifications cover the pipe, fittings, and appurtenant materials normally used for water distribution systems. Special pipe and fittings will be covered in the plans and Special Provisions. Specification references made herein for manufactured materials such as pipe, valves, fittings, refer to designations for the American Water Works Association (AWWA), American Standards Association (ASA), or to the American Society for Testing and Materials (ASTM) as they are effective on the date of call for bids. Guarantees for all materials and workmanship shall be as specified in the Special Provisions.

72-2 Pipe For Water Mains

2.01 Cast Iron Pipe

Cast iron pipe shall conform to the latest AWWA Standards, C-106, or C-108. For pipe sizes of 2 inches and 2½ inches, reference shall be made to Standard C-112, unless otherwise specified in the Special Provisions. Cast iron pipe shall be cement mortar lined inside in accordance with AWWA C-104, and tar-coated outside, unless otherwise specified.

2.02 Ductile-Iron Pipe

Ductile-iron pipe shall conform to AWWA Standard C-151.

2.02A Couplings For Cast Iron and Ductile-Iron Pipe

Mechanical joint type couplings shall conform to the AWWA Specification C-111. Other types of joints shall conform with Federal Specifications WW-P-42 lb., Type I, for caulk joints, or Type II, for push on joints. Flanged couplings shall be drilled and faced in accordance with American Standard B-16.1, B-16.2.

2.02B Fittings For Cast Iron and Ductile-Iron Pipe

Ordinary cast iron fittings shall conform to the AWWA Standard C-110. Cast iron fittings for use with Federal Specifications Type II and Type III cast iron water pipe shall conform to the same specifications except that joint shall be mechanical type and include cast iron glands, plain rubber gaskets, and T-head cast iron bolts and nuts per ASA A-21.11 or an approved compression type with rubber gasket.

2.03 Asbestos-Cement Pipe

Asbestos-cement pipe shall conform to the AWWA Standard C-400. Pressure class, length, specials, and couplings shall be as specified in AWWA C-603, and in the Special Provisions.

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2.03A Fittings for Asbestos-Cement Pipe

Ordinary fittings for asbestos cement pipe shall conform to AWWA C-110.

2.04 Reinforced Concrete Pipe

Reinforced concrete pressure pipe and fittings shall be manufactured and tested to conform to one of the following specification requirements: A. AWWA C-300 for Steel Cylinder Type, Not Prestressed, in pipe diameters of 24 inches and larger for design pressures of 40 psi to 260 psi and for external loading conditions as may be designated on the plans or in the Special Provisions. B. AWWA C-301 for Steel Cylinder Type, Prestressed, in pipe diameters of 30 inches or larger for design pressures to a maximum of 350 psi, and for external loading conditions as may be designated on the plans or in the Special Provisions. C. AWWA C-302 for Non-Cylinder Type, Not Prestressed in pipe diameters 12 inches and larger, for design pressures of not more than 45 psi, and for external loading conditions as may be designated on the plans or in the Special Provisions. D. AWWA C-303 and Federal Specifications SS-P-381A for Steel Cylinder Type, Pretensioned.

2.05 Couplings and Fittings For Reinforced Concrete Pipe

Couplings, fittings, special fittings, and lengths for reinforced concrete pipe shall be in accordance with the Special Provisions and as designated on the plans.

2.06 Steel Pipe

Fabricated electrically welded steel water pipe shall be manufactured in accordance with AWWA C-201. Mill type steel water pipe shall be manufactured in accordance with AWWA C-202. Unless otherwise specified, fabricated pipe shall have spiral seams. Steel pipe up to 3½ inches in diameter shall conform to ASTM designation A-120, unless otherwise specified.

2.06A Linings and Coatings For Steel Pipe

The type of protective treatment shall be specified in the Special Provisions. Any of three recommended treatments are available for use:

1. Cement Mortar Lining and Coating applied in accordance with AWWA C-205.
2. Cold Tar Enamel Protective Coatings for steel pipe applied in accordance with AWWA C-203.
3. Asphalt Dipped and Wrapped Coating. After pipe has been tested, it shall be thoroughly cleaned and maintained free of oil, grease, dirt, rust, loose mill scale, or other objectionable matter. The pipe shall be dipped in a bath of best grade air-blown asphalt type dip maintained at a temperature between 385 degrees and 415 degrees F., or as recommended by the coating manufacturer. Pipe shall remain in dip until it reaches the same temperature as asphalt. It then shall be removed and allowed to cool, then submerged again. After the pipe has been dipped

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and cooled two times, it shall be spirally wrapped with mica surfaced, asphalt impregnated, asbestos fiber felt weighing not less than $23\frac{1}{2}$ pounds per 100 square feet. The wrapping shall be cemented to the pipe with hot asphalt.

2.06B Couplings For Steel Pipe

Steel pipe shall be prepared for one of the following types of joints as noted on the plans or specified in the Special Provisions.

1. Steel Welding of steel pipe joints shall be in accordance with AWWA C-206.
2. Bell and Spigot ends prepared for O-ring rubber gaskets, which provide unrestricted flow in either direction.
3. Flanged Joints shall conform to AWWA Standard C-207.
4. Plain Ends shall be prepared for mechanical compression couplings. Joint tolerances shall not exceed those specified in AWWA C-201. Joints and couplings shall be field coated after thorough cleaning in a manner compatible with the coatings specified in Paragraph 75-2.05.

2.06C Fittings For Steel Pipe

Ordinary fittings for pipe 4 inches and larger shall conform to AWWA C-208, the class of which is to be the same as the class of pipe.

Fittings shall be coated to the same specification as the pipe coating. For pipe $3\frac{1}{2}$ inches and smaller, malleable iron screwed fittings shall be used in accordance with ASA Specification B-16.3. They shall be galvanized unless black is specified.

72-3 Measurement and Payment

Payment for pipe, valves and fittings is described in Section 74-3.

SECTION 73. TRENCH EXCAVATION AND BACKFILL FOR WATER MAIN

73-1 Scope

This item covers the work necessary for trench excavation and backfill including, but not limited to, clearing of the right-of-way, protection of private property during construction, disposal of cleared materials; excavation of the trench for the pipe and appurtenances, foundation stabilization, backfilling in the pipe zone, trench backfilling (of the type specified by the Engineer) above the pipe zone; water settlement, removal, replacement, and rehabilitation of all fences, drainage ditches, waterways, or other features moved or damaged during construction; removal and replacement of top soil as specified; removal of all obstructions, removal of existing utilities, repair of damage to utilities; the maintenance of access to public thoroughfares, and private property; the maintenance of adequate barricades, lights, and warning signs for the protection of the public on city streets, public highways, county roads, and private drives; shoring, cribbing, bracing, sheeting, and dewatering as may be required; hauling and

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disposal of waste excavation including temporary hauling and disposal of soil which cannot be accommodated within the designated right-of-way.

The specific types of backfill to be utilized in the project shall be defined in the special specifications and shown on the drawings. Actual type of backfill to be utilized shall be specified in each case by the Engineer.

73-2 Clearing and Grubbing

This work shall consist of removing natural and artificial objectionable material from the right-of-way, construction areas, road approaches, material and borrow sites, areas through which ditches are to be excavated and other areas that may be specified in the Special Provisions. Demolition of structures other than foundations or slabs shall be as specified in the Special Provisions or as shown on the plans. Existing improvements, adjacent property, utilities and other facilities and trees and plants not to be removed shall be protected from injury or damage resulting from the contractor's operations. Only trees and plants designated or marked for removal by the Engineer shall be removed. The area above the natural ground surface shall be cleared of vegetable growth, such as trees, tree stumps, lawns, roots or downed trees, brush, grass, weeds, and other objectionable material. Debris removed shall be disposed of outside of the right-of-way except when burning of combustible debris is permitted. Burning shall be done in conformance with local regulations and at times and in such manner as to prevent the fire from spreading to areas adjoining the right-of-way. In areas where burning is prohibited by local regulations, all removed material shall be disposed of outside the right-of-way.

2.01 Removal Of Existing Pavement Areas

Removal of sidewalks, driveways, and other paved areas shall be considered as incidental to the construction and the costs thereof shall be included by the contractor in the unit contract price per lineal foot for trench excavation and backfill unless an alternate method of payment is stipulated in the Proposal. Such pavement removal shall be accomplished by utilization of neatly sawed edges cut prior to excavation. Concrete sidewalks, and/or driveways, shall be removed so that a minimum of 30 inches is replaced. If the saw cut would fall within 12 inches of a score mark, the concrete shall be removed and replaced to the score mark. Existing bituminous pavement removal in connection with construction may be cut with a saw or other suitable tool approved by the Engineer on straight lines 6 inches beyond the edge of the trench.

73-3 Trench Excavation

3.01 General

Excavation shall include the removal of all water and materials of any nature which interfere with the construction work. Excavation for pipe shall be by open trenches unless otherwise specified or shown on the drawings.

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If the contractor elects to tunnel or jack any portion not so specified, he shall first obtain approval from the Engineer. Payment for such work will be made as though the specified methods of construction had been used.

Where material is excavated from trenches and piled adjacent thereto, it shall be piled and maintained so that the toe of the slope of the material is at least 2 feet from the edge of the trench. In the case of excavated material from areas other than trenches, the minimum distance from the toe of the slope to the side of excavation shall be 12 inches, unless otherwise specified or permitted by the Engineer.

The maximum length of open trench shall not be greater than 250 feet or the distance necessary to accommodate the amount of pipe installed in a single day, whichever is the greater.

The bottom of the trench shall be carried to the lines and grades shown on the plans or established by the Engineer, or at depths noted on the plans or in the specifications. Any excavation below the depths indicated shall be backfilled with selected backfill material and compacted to the satisfaction of the Engineer at the contractors expense. The bottom of the trenches shall be accurately graded to provide uniform bearing and support for each length of pipe on undisturbed or compacted soil at every point along its entire length except at the joints. Bell holes shall be excavated to assure even bearing of the pipe upon the bedding material and to permit accurate work in making and inspecting the joints.

3.02 Ordinary Excavation

Ordinary excavation is all excavation not classified as rock excavation.

3.03 Rock Excavation

The contractor shall notify the Engineer at least 24 hours prior to any blasting. All blasting shall be done in accordance with local regulations, as well as the Oregon State Workmen's Compensation Board Safety Code for Construction and Excavation Work. Any damage to persons or property resulting from blasting operations shall be the sole responsibility of the contractor and his surety.

3.04 Prevention Of Damage To Existing Structures

All below ground and above ground existing structures whether or not they lie within the limits of the easement obtained by the owner, shall be protected from damage. Where such existing fences, buildings, or any other structure must be removed in order to properly carry out the construction, or are damaged during construction, they shall be restored to their original condition to the satisfaction of the property owner involved at no additional cost to the owner. The contractor shall notify the Engineer of any damage to underground structures and repairs or replacements shall be made before backfilling takes place.

If the contractor encounters existing structures which will prevent the construction of the pipe line and such structures are not properly

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shown on the plans, he shall notify the Engineer before continuing with the construction in order that the Engineer may make such field revisions as necessary to avoid conflict with the existing structures. The cost of waiting or down time during such field revisions shall be borne by the contractor without additional cost to the owner. If the contractor shall fail to notify the Engineer when the existing structure is encountered and shall proceed with the construction despite the interference, he shall do so at his own risk. The contractor shall notify all public and private agencies which are affected by the contractor's responsibility to locate and expose, if necessary, all the existing underground utilities in advance of the trenching operation. Permission to expose any substructure must be obtained from the affected agency before any work takes place. Should interruption of domestic water or other utility service take place during construction, it shall be the contractor's responsibility to notify the proper authorities. Full cooperation will be given to enable the restoration of service as soon as possible, and the contractor shall bear all costs of the repair.

The contractor shall make note of the list of the major public utilities serving the area in which the project is to take place. This list indicates the name and telephone number of the responsible authority of the various utilities which should be notified if conflicts or emergencies arise during the progress of work. Surface and underground utilities excepting service connections which may affect the construction will be shown on the plans insofar as they are known. The contractor shall thoroughly acquaint himself with the nature of the utilities and any structure or thing that may interfere with the construction. Underground utilities are shown for the contractor's convenience only, and the owner assumes no responsibility for improper locations or for failure to show utility locations on the construction plans.

3.05 Shoring And Bracing Of Excavation

The manner of bracing excavations shall be as set forth in the basic safety code and construction code of the State of Oregon. The contractor shall be fully responsible for the needs, sufficiency and adequacy of bracing excavation. If sheeting is used to support the excavated trench, the sheeting shall be removed by the contractor. No such sheeting will be permitted to remain in the trench except, when in the opinion of the Engineer, field conditions, the type of sheeting, or methods of construction used by the contractor are such as to make the removal of the sheeting impracticable. In such cases, the Engineer may permit portions of the sheeting to be cut off to such a depth as he may approve and permit lower portions thereof to remain in the trench.

73-4 Trench Backfill

4.01 General

The contractor shall proceed with backfilling as soon as practicable. Compaction or consolidation shall follow as soon after the placing as

SECTION 73. TRENCH EXCAVATION AND BACKFILL FOR WATER MAIN

possible. Specific bedding and backfill classification shall be shown on the drawings or in the special provisions in accordance with those material and replacement specifications detailed in Section 62, TRENCH EXCAVATION, BACKFILL, FOUNDATION, AND BEDDING FOR SEWERS, DRAINS, AND CULVERTS. Prior to backfilling, all form lumber and debris shall be removed from the trench. Sheeting used by the contractor shall be removed just prior to backfilling unless it is ordered by the Engineer to be left in place. Backfill up to 6 inches above and on both sides of the pipe shall be evenly and carefully placed, and thoroughly compacted but not until all large rocks capable of damaging the pipe or its coating have been removed from the backfill material. The balance of the backfill material shall be placed by methods specified in the Special Provisions or permitted by the Engineer.

4.02 Compaction

If compaction of trench backfill is necessary, one of the following methods or combinations of methods as set forth in the Special Provisions shall be used, and payment will be made in accordance therewith. The Engineer shall have the right to change methods and limits to better accommodate field conditions. The density of backfill material shall meet requirements outlined in the Special Provisions.

4.02A Jetted Backfill

Unless otherwise approved by the Engineer, water shall be applied by jetting. In addition, consolidation methods shall include vibrating jetted backfill as an aid in obtaining the required results. Jets shall be inserted at not more than 4-foot intervals throughout the length of the backfilled area. It shall be slowly forced down to the bottom of the trench and held until the trench backfill is completely saturated with water. The jetting operation shall be completed as close behind the pipeline in backfilling as possible. After the water-settled trench has set for several days, any depression in the trench shall be filled and rounded up over the trench and then further compacted by the use of heavy rubber wheeled equipment.

4.02B Mechanically Compacted Backfill

Backfill shall be mechanically compacted by means of tamping roller, sheeps-foot roller, pneumatic tire rollers, vibrating rollers, or other mechanical tampers of a size and type approved by the Engineer. Permission to use a specific compaction method shall be construed as guaranteeing or implying that the use of such methods will not result in damage to adjacent ground or structures. The contractor shall make his own determination in this regard and shall assume all risks, and liability for settlement or lateral movement of adjacent ground, improvements or utilities either on the surface of the ground or underground. Material for mechanically compacted backfill shall be placed in lifts which, prior to compaction, shall not exceed the depths specified for the various types of equipment.

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4.03 Embankment Fill

Where the plans show the pipe is to be laid above the existing ground surface, an embankment fill shall be made and compacted to conform with the section shown on the plans and the water main trench shall be excavated therein. That portion of the embankment below the bottom of the pipe shall be compacted with rollers, or mechanical compactors, under controlled moisture conditions, as required by the Engineer. Where no bid items are provided in the contract schedule for earth work filling or embankment fill, such work shall be considered as incidental to the construction, and all costs thereof shall be included in the unit contract price per lineal foot for trench excavation and backfill.

73-5 Measurement and Payment

Measurement and payment for works included in this section shall be made in accordance with Paragraph 74-3 unless otherwise stipulated in the contract proposal.

SECTION 74. PIPE INSTALLATION FOR WATER MAINS

74-1 Scope

This section covers the pipe laying, jointing, testing and disinfection of water mains. The construction of these water mains shall meet the requirement herein, and as shown on the plans, and in the Special Provisions. Pipe shall be installed in accordance with the manufacturer's specifications and instructions for installing the type of pipe used, unless modified or changed in the Special Provisions. The contractor shall provide all tools and equipment, including any special tools designed for installing each particular type of pipe used. Specification references made herein refer to designations for American Water Works Association Standards as they are effective on the date of call for bids.

74-2 Pipe Laying

2.01 Installation Of Cast Iron Water Mains

Cast iron water mains shall be installed in accordance with the current AWWA Standard C-600.

2.02 Installation of Asbestos-Cement Water Mains

Asbestos-cement water pipe shall be installed in accordance with the current AWWA Standard C-603.

2.03 Installation of Steel Pipe

All steel pipe shall be installed in accordance with the current AWWA Standard C-600 as modified herein, and as expanded and amended in the Special Provisions.

SECTION 74. PIPE INSTALLATION FOR WATER MAINS

2.03A Threaded Steel Pipe In Sizes Up To And Including 3½ Inch

All steel pipe sizes up to and including 3½ inch shall be connected with malleable iron screwed couplings in accordance with ASA Specification D-16.3. Couplings shall be galvanized or black depending on the coating specified for the pipe. Unions or flanges shall be used at all points of equipment and valve installations. Exposed threads after jointing shall be brush coated with an asphalt coating approved by the Engineer.

2.03B Coupled Pipe 4 Inches And Larger

All steel pipe 4 inches and larger for use in underground service shall be coupled by one of the following methods: (1) Plain ends joined with compression type couplings. (2) O-Ring rubber gasket joint of a design approved by the Engineer but having the following basic design. One end expanded to form a bell, the other or spigot end shall have a rolled groove to accommodate a round rubber gasket of proper diameter and cross section. The combination of bell shape and spigot shape shall effectively confine and compress the rubber gasket. All parts shall be thoroughly cleaned before assembly and a vegetable soap solution shall be brushed on the inside of the bell end just prior to assembly. All component parts of couplings, valves, etc., shall receive as specified for steel pipe. Bolts and nuts, exposed edges, etc., shall, after installation, be covered with a heavy hot pour of asphalt, if asphalt coated pipe is used, or with coal tar enamel if coal tar coated pipe is used. All steel pipe 4 inches and larger for above ground service shall be coupled with flanges or dresser or victaulic type couplings. All flanges for steel pipe shall conform to AWWA Standards C-207, Class B, for working pressures up to 86 psi, Class D for working pressures to 150 psi, and Class E for working pressures up to 275 psi. Pipe for outdoor service above ground shall be protected with one coat primer and one coat bituminous paint approved by the Engineer. Pipe for indoor service shall be protected with one coat of red lead and two coats of approved enamel paint of a color specified by the Engineer.

2.04 Installation Of Concrete Pipe

The installation of reinforced concrete water pipe - steel cylinder type, not prestressed; reinforced concrete water pipe - steel cylinder type, prestressed; reinforced concrete water pipe - non-cylinder type, not prestressed; and reinforced concrete water pipe - steel cylinder type, pretensioned shall all be installed in accordance with the current AWWA Standard C-600 as modified and expanded in the Special Provisions.

2.05 Disinfection Of Water Mains

All water main construction shall be disinfected in accordance with AWWA Standard C-601.

2.06 Concrete Blocking

Concrete thrust blocking as detailed on the plans or on the standard drawings shall be placed at bends, tees and crosses, as directed by the Engineer. Concrete for use in blocking shall be 2000 psi minimum strength

SECTION 74. PIPE INSTALLATION FOR WATER MAINS

concrete poured in place unless precast blocks are authorized by the Engineer. Concrete blocking shall bear against solid undisturbed earth at the side and bottom of the trench excavation, and shall be shaped so as not to obstruct access to the joints of the pipe or fittings.

2.07 Connections To Existing Mains

All connections to existing water mains shall be made by the owner unless otherwise provided in the Special Provisions. All special fittings required to be inserted into any main already in use shall be furnished by the contractor and be installed by the owner. The contractor shall furnish the specials as shown on the plans and all other material required. He shall make all necessary excavations and backfilling.

2.08 Water Service Connections

Water Distribution-Service Connections-and Lines shall be made by the owner unless otherwise specified in the Special Provisions. When made a part of the contract, the size and type of pipe used shall be as shown on the plans and as specified in the Special Provisions.

Copper service pipe shall comply with ASTM-D-88, Type K, seamless soft annealed.

Materials for plastic service pipe shall comply with the current Commercial Standards CS255, Material Type III, grade 3, with a hydrostatic design stress of 630 psi for water at 23 degrees C (73.4 degrees F), designated as PE3306 ultra high molecular weight. Specifications for materials of demonstrated characteristics equal or superior to PE3306 may be utilized upon approval by the Engineer.

Catalog numbers of certain manufacturers of service line fittings and accessories are given to indicate the type and quality of the items required. Equivalent items by other manufacturers will be acceptable if approved by the Engineer.

Corporation stops for direct main taps shall be Mueller H-15000 or H-15010. For use with saddles, they shall be Mueller Type H-15035. (Copper service line only.)

Angle meter stop shall be Mueller H-15175. Curb stops shall be Mueller H-10203 with Mueller H-10316 curb box for 3/4 or one inch curb stops Mueller H-10336 or equal for 1 1/4 to 2 inch, inclusive, curb stops.

74-3 Measurement And Payment

Payment for trenching and backfill and for resurfacing of paved areas, will be on the basis of unit prices stipulated in the proposal. Acceptable alternate methods for measurement and payment if any are listed in the proposal.

SECTION 74. PIPE INSTALLATION FOR WATER MAINS

Payment for materials, equipment, accessories, and the installation thereof will be on the basis of unit prices and/or lump sum prices as stipulated in the proposal.

SECTION 75. GATE VALVES FOR WATER MAINS

75-1 General

Gate valves for below ground services shall be installed with valve boxes which prevent fouling of the operating nut or wheel by dirt, rocks, or other debris. All valves for buried service shall be of the non-rising stem type and unless otherwise shown on the drawings or specified in the Special Provisions, shall open by turning the operating nut or hand wheel to the left (counter clockwise). The valve shall be suitable for ordinary water works service intended to be installed in a normal position or buried pipelines for water distribution systems.

75-2 Materials

Gate valves 2½ inches and smaller shall be all bronze, non-rising stem, conforming to Federal Specification WW-V-54, Type I, Class A.

Gate valves 3 inches and larger shall conform to AWWA C-500. They shall be designed for 150 psi minimum working pressure, shall be non-rising stem, double disc type with parallel or inclined seats, bottom wedging, and have 2 inch square operating nuts. The nuts shall have flanged base, shaped or cut away to permit access to the packing gland bolts, if used. Valves with ferrous metal bodies shall be protected with an asphalt varnish, as specified in AWWA C-500, applied to all ferrous surfaces other than finished and bearing surfaces. Valves 3 inches and larger shall be designed for the type of joint used for the pipe or tapping sleeve to which the valves are to be connected.

Tapping sleeves and tapping valves shall be Mueller, Series H-600, 700 or approved equal. Joints shall be caulk type, mechanical or ring type.

75-3 Construction Details

All gate valves shall be inspected upon delivery in the field to insure proper working order before installation. They shall be set and jointed to the pipe in the manner as set forth in the AWWA Standards for the type of connections ends furnished. Valves shall be provided with a standard valve chamber or cast iron gate box so arranged that no shock will be transmitted to the valve. The box shall be centered over the operating nut and the cast iron box cover shall be set flush with the ground surface or finished paved surface. After installation, all valves shall be subjected to the field test for piping in accordance with Paragraph 74-2.01 herein.

SECTION 75. GATE VALVES FOR WATER MAINS

3.01 Valve Boxes And Valve Chambers

Materials and installation workmanship for valve boxes and valve chambers or pits shall be in accordance with AWWA Standard C-600, Section 10.3. Valve boxes shall be made of cast iron and/or approved pre-cast concrete type. In either case, the cast iron ring and cover shall be utilized and be of the extension type with screw or slide type adjustment. The minimum thickness of cast iron boxes shall be 3/16 inch. Valve boxes shall be of such length so as to provide the depth of cover over the pipe without full extension.

SECTION 76. FIRE HYDRANTS

76-1 General

This specification covers post type hydrants with compression or gate shut off for general water works service.

76-2 Materials

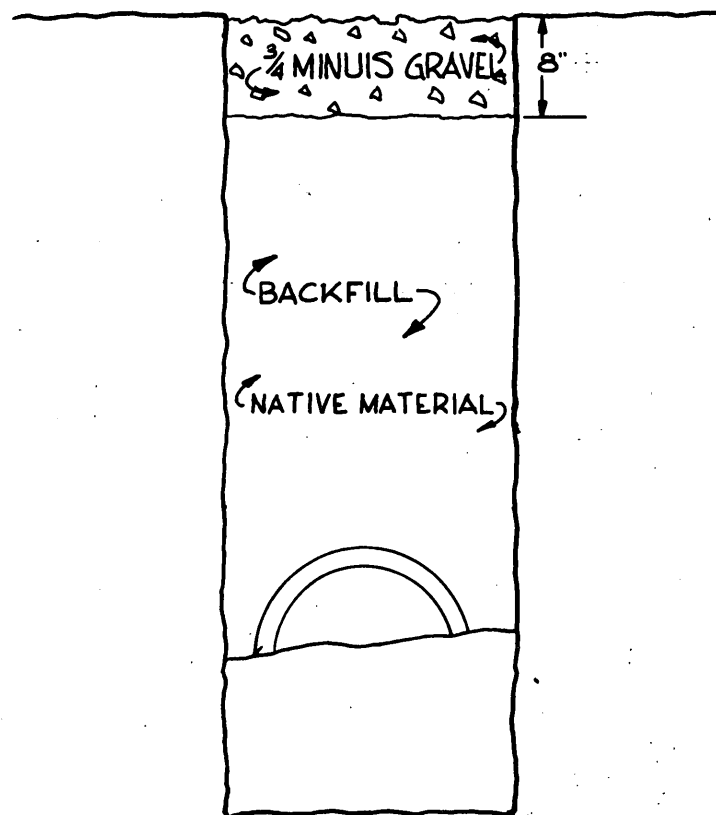
All materials used in the production of fire hydrants for ordinary service shall conform to the specifications designated for each material listed in AWWA Standard C-502. Special hydrant dimensions shall be as specified in the Special Provisions. Unless otherwise so specified, hydrants shall have a 4½ inch pumper connection as required by the contracting agency and two 2½ inch hose connections. All hose threads shall be National Standard, unless otherwise specified.

76-3 Construction Detail

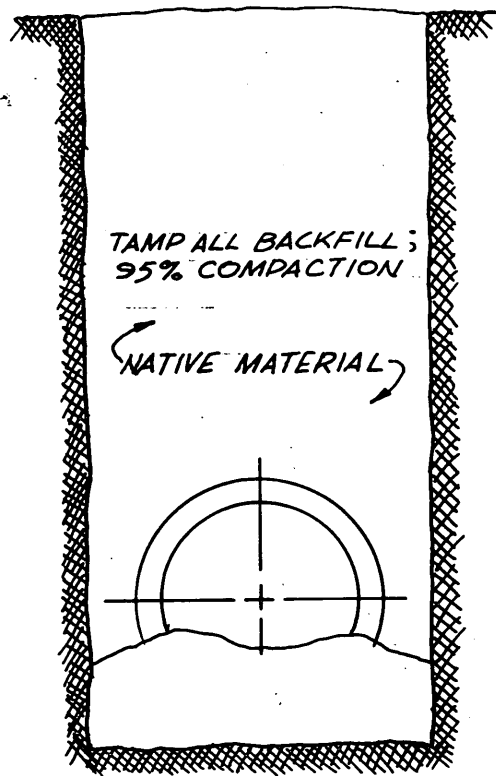
Fire hydrant laterals shall be case iron with bell and spigot, flanged, lead, or mechanical joints conforming to AWWA C-111 or as shown on the drawings. Each lateral shall have a gate valved with a valve box located according to standard drawings or as specified by the Engineer.

76-4 Measurement And Payment

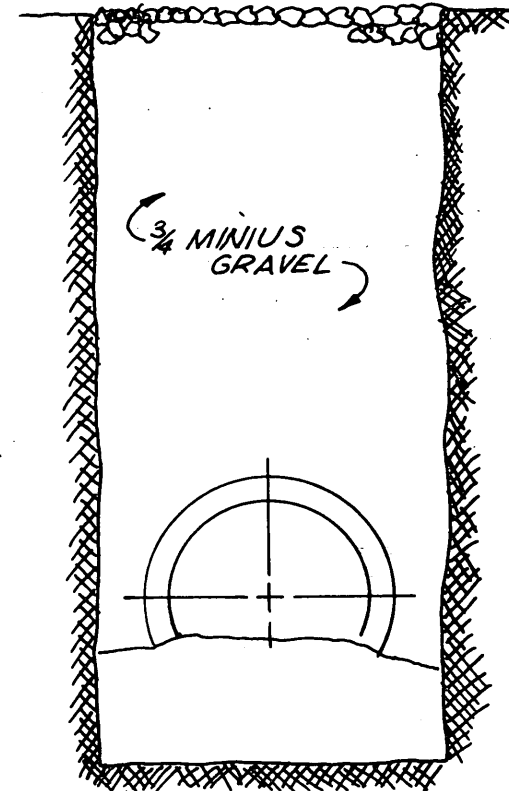
Measurement and payment for materials and appurtenances covered in this section will be made in accordance with Paragraph 74-3 herein.



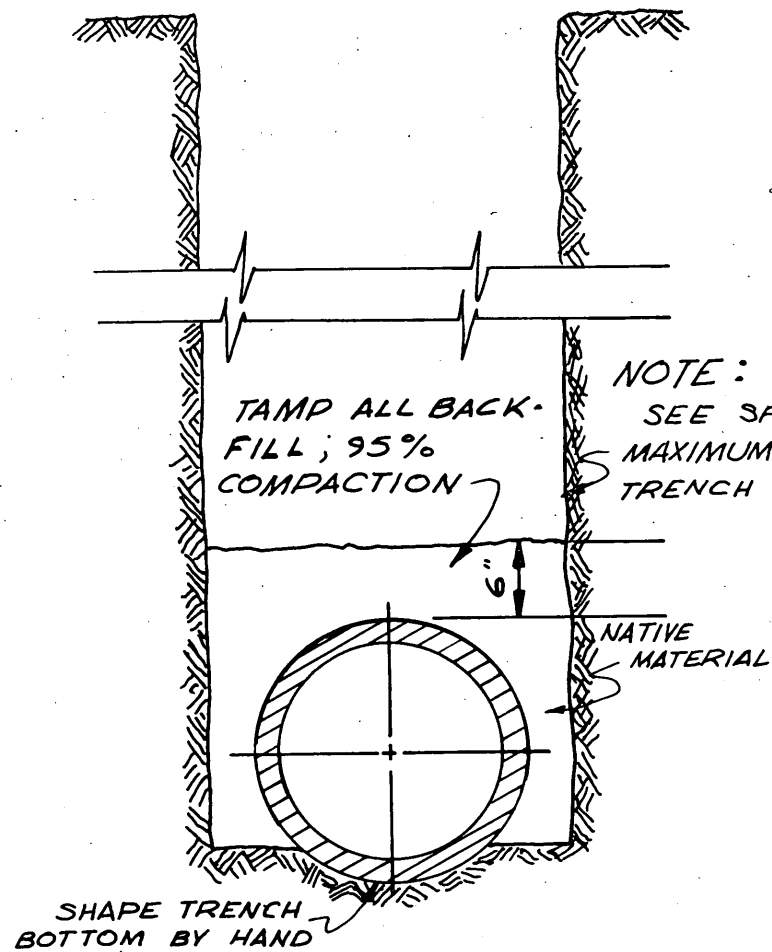
CLASS A, BACKFILL



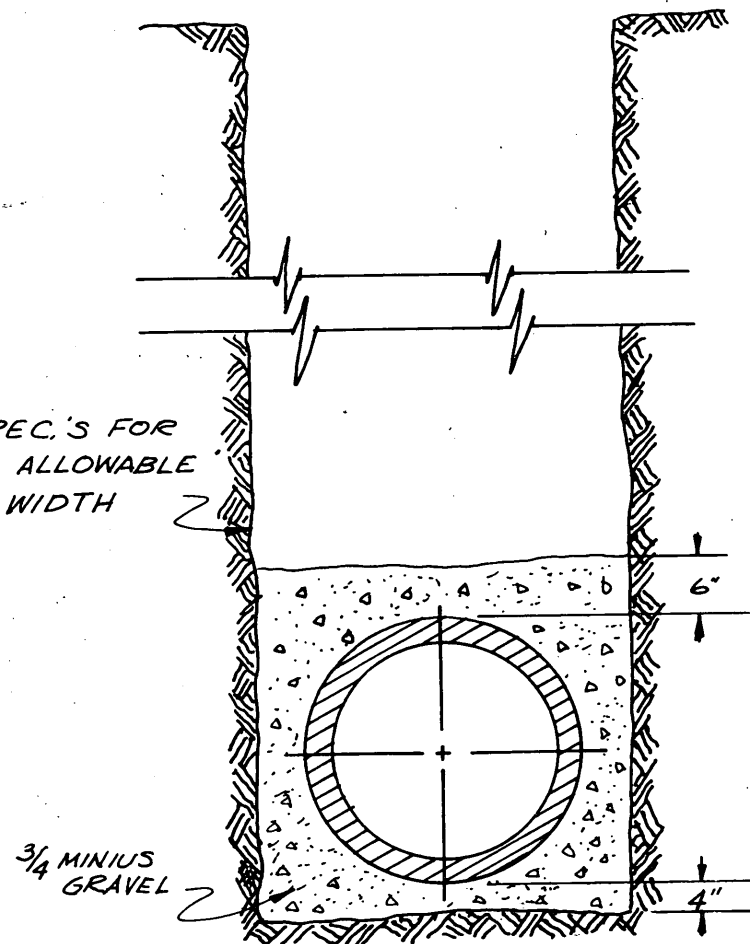
CLASS "A" BACKFILL



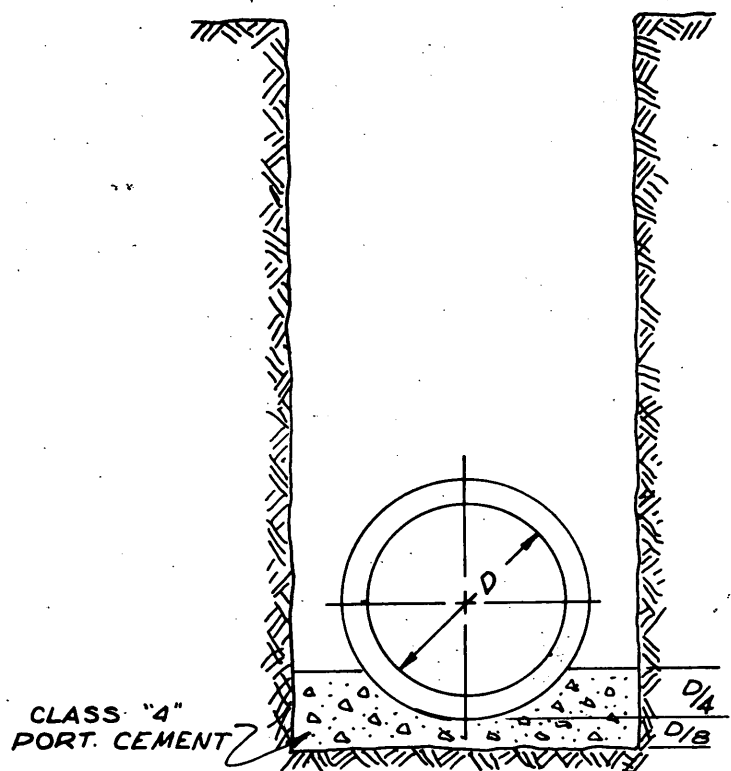
CLASS "B" BACKFILL



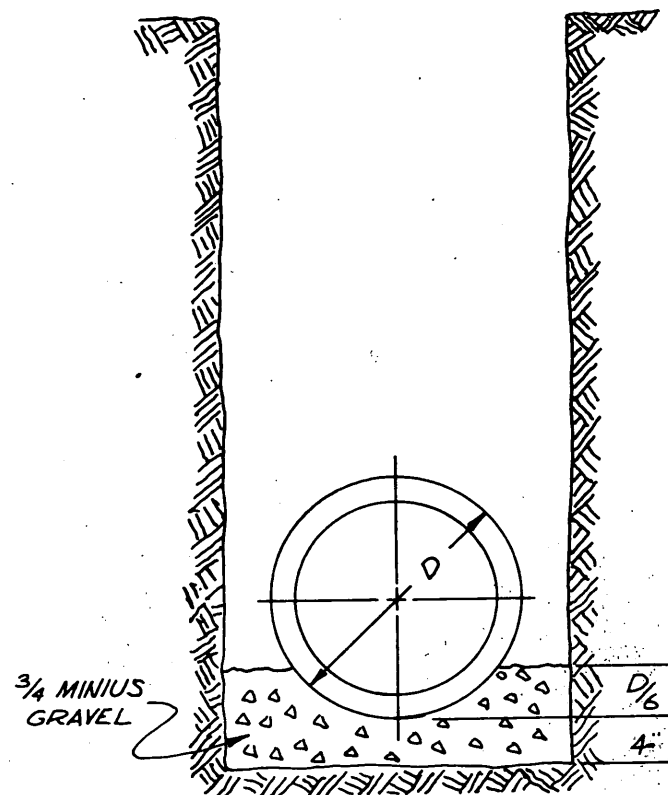
CLASS "D" BEDDING



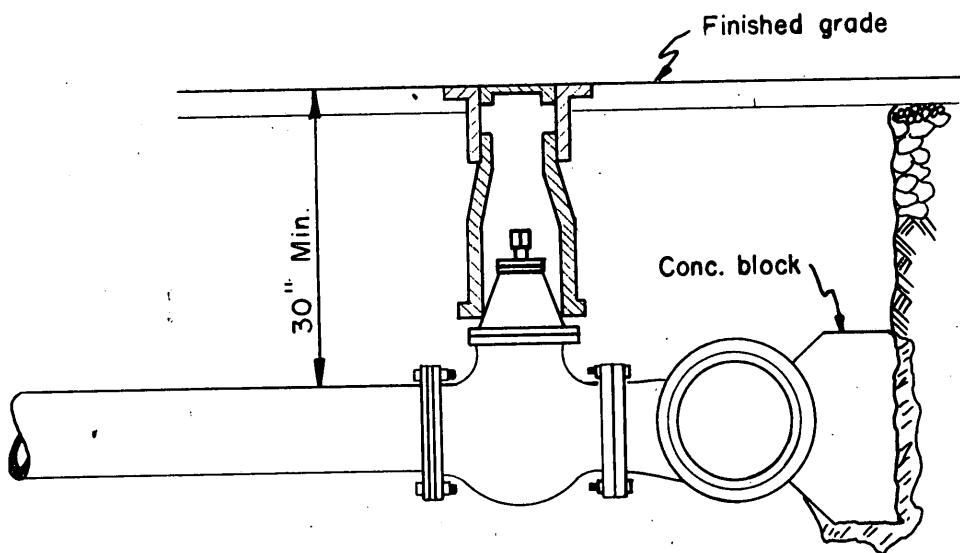
CLASS "B" BEDDING



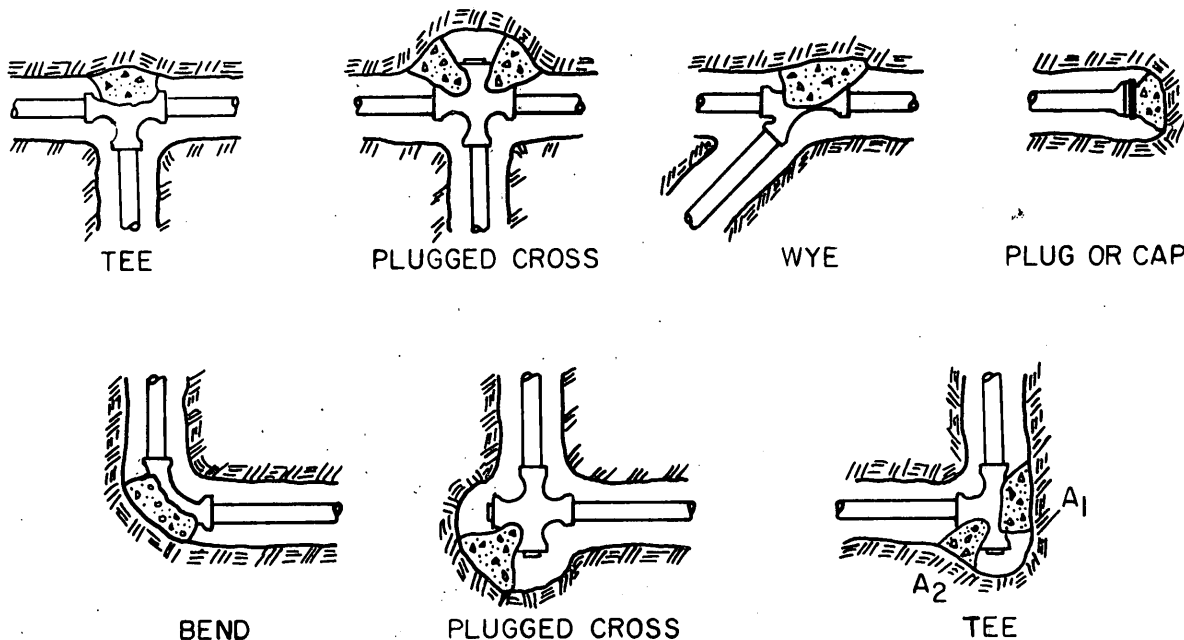
CLASS "A" BEDDING



CLASS "C" BEDDING



VALVE BOX DETAIL



NOTES:

1. CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
2. KEEP CONCRETE CLEAR OF JOINT AND ACCESSORIES.
3. THE REQUIRED THRUST BEARING AREAS FOR SPECIAL CONNECTIONS ARE SHOWN ENCIRCLED ON THE PLANS; e.g. (15) INDICATES 15 SQUARE FEET BEARING AREA REQUIRED.
4. IF NOT SHOWN ON PLANS REQUIRED BEARING AREAS AT FITTING SHALL BE AS INDICATED BELOW, ADJUSTED IF NECESSARY, TO CONFORM TO THE TEST PRESSURE(S) AND ALLOWABLE SOIL BEARING STRESS(ES) STATED IN THE SPECIAL SPECIFICATIONS.
5. BEARING AREAS AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS TAKE PRECEDENCE OVER BEARING AREAS AND BLOCKING DETAILS SHOWN ON THIS STANDARD DETAIL.

BEARING AREA OF THRUST BLOCKS IN SQ.FT.

FITTING SIZE	TEE, WYE PLUG OR CAP	90° BEND PLUGGED CROSS	TEE PLUGGED ON RUN A ₁ A ₂		45° BEND	22½° BEND	11½° BEND
4	1.0	1.4	1.9	1.4	1.0		
6	2.1	3.0	4.3	3.0	1.6	1.0	
8	3.8	5.3	7.6	5.4	2.9	1.5	1.0
10	5.9	8.4	11.8	8.4	4.6	2.4	1.2
12	8.5	12.0	17.0	12.0	6.6	3.4	1.7
14	11.5	16.3	23.0	16.3	8.9	4.6	2.3
16	15.0	21.3	30.0	21.3	11.6	6.0	3.0
18	19.0	27.0	38.0	27.0	14.6	7.6	3.8
20	23.5	33.3	47.0	33.3	18.1	9.4	4.7
24	34.0	48.0	68.0	48.0	26.2	13.6	6.8

NOTE:

ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 150 psi AND AN ALLOWABLE SOIL BEARING STRESS OF 2,000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION: BEARING AREA = (TEST PRESSURE/150) x (2,000/SOIL BEARING STRESS) x (TABLE VALUE).

THRUST BLOCKING DETAILS



Argonaut Insurance Company

HOME OFFICE • MENLO PARK, CALIFORNIA

PROPOSAL BOND

KNOW ALL MEN BY THESE PRESENTS,

That we, FRANK T. MATTHEWS, INC.

5203 S.E. 108th, Portland, Oregon 97266

as Principal, and ARGONAUT INSURANCE COMPANY, a corporation organized under the laws of the State of California and duly authorized under the laws of the State of Oregon to become sole surety on bonds and undertaking, as Surety, are held and firmly bound unto _____

CITY OF NEWBERG, OREGON (hereinafter called the obligee)

in the full and just sum of TEN PERCENT OF TOTAL AMOUNT OF BID Dollars, (\$ 10%)

for the payment whereof in lawful money of the United States, we bind ourselves, our heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said FRANK T. MATTHEWS, INC.

has submitted the accompanying bid dated February 6, 1973 for

CONSTRUCTION OF SPRINGBROOK STREET WATER LINE, NEWBERG

NOW, THEREFORE, if the said contract be awarded to the Principal and the Principal shall, within such time as may be specified, enter into the contract in writing, and give bond, with surety acceptable to the Obligee for the faithful performance of the said contract, then this obligation shall be void; otherwise to remain in full force and effect.

Signed and Sealed this 6th day of February 19 73

FRANK T. MATTHEWS, INC.

BY:

Frank T. Matthews, President

ARGONAUT INSURANCE COMPANY

By

Carol Ginter,

Attorney-in-fact

Argonaut Insurance Company

HOME OFFICE • MENLO PARK, CALIFORNIA

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That ARGONAUT INSURANCE COMPANY, a corporation organized and existing under the laws of the State of California, and having its principal office in Menlo Park, California, does hereby constitute and appoint

CAROL GINTER

of Portland, Oregon its true and lawful Attorney(s)-in-fact to sign, execute, seal, acknowledge and deliver for, and on its behalf, and as its act and deed, any and all bonds, recognizances, undertakings, contracts of indemnity or other writings obligatory in the nature thereof, as follows:

Any such obligations within the United States, in any amount

And said Company hereby ratifies and confirms all and whatsoever said Attorney(s)-in-fact may lawfully do in the premises by virtue of these presents.

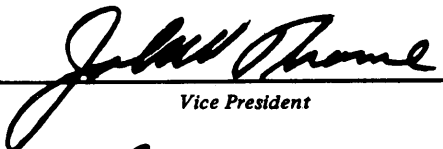
This appointment is made under and by authority of the following Resolution passed by the Board of Directors of said Company at a meeting held at the principal office of said Company, a quorum being present and voting, on the seventh day of July, 1959, which resolution is still in effect:

"RESOLVED, that the President or any Vice President, in conjunction with the Secretary or any Assistant Secretary, be and they are hereby authorized and empowered to appoint Attorneys-in-fact of the Company, in its name and as its acts, to execute and acknowledge for and on its behalf any and all bonds, recognizances, undertakings, contracts of indemnity or other writings obligatory in the nature thereof, with power to attach thereto the seal of the Company. Any such writings so executed by such Attorneys-in-fact shall be as binding upon the Company as if they had been duly executed and acknowledged by the regularly elected Officers of the Company in their own proper persons."

IN WITNESS WHEREOF, ARGONAUT INSURANCE COMPANY has caused these presents to be sealed with its corporate seal, duly attested by its Vice President and its Assistant Secretary, this 6th day of November 19 72

ARGONAUT INSURANCE COMPANY

(Seal)


Vice President

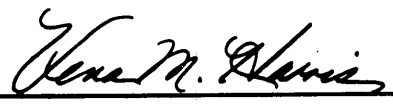
Assistant Secretary

THE STATE OF CALIFORNIA
COUNTY OF SAN FRANCISCO ss.

On this 6th day of November 1972 before me came the above named Vice President and Assistant Secretary of Argonaut Insurance Company, to me personally known to be the individuals and officers described herein, and acknowledged that the seal affixed to the preceding instrument is the corporate seal of Argonaut Insurance Company and that the said corporate seal and their signatures as officers were duly affixed and subscribed to said instrument by the authority and direction of said Corporation.

(Seal)



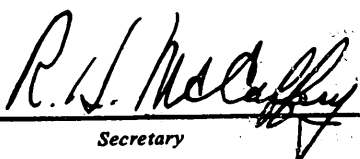

Notary Public

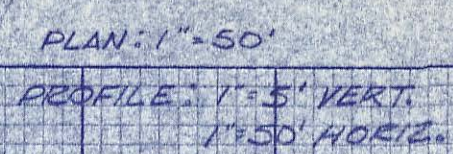
I, the undersigned Secretary of Argonaut Insurance Company, hereby certify that the above and foregoing is a full, true and correct copy of the Original Power of Attorney issued by said Company, and do hereby further certify that the said Power of Attorney is still in force and effect.

And I do hereby further certify that the Certification of this Power of Attorney is signed and sealed by facsimile under and by the authority of the following resolution adopted by the Board of Directors of the Argonaut Insurance Company at a meeting duly called and held on the 19th day of January, 1972 and that said resolution has not been amended or repealed:

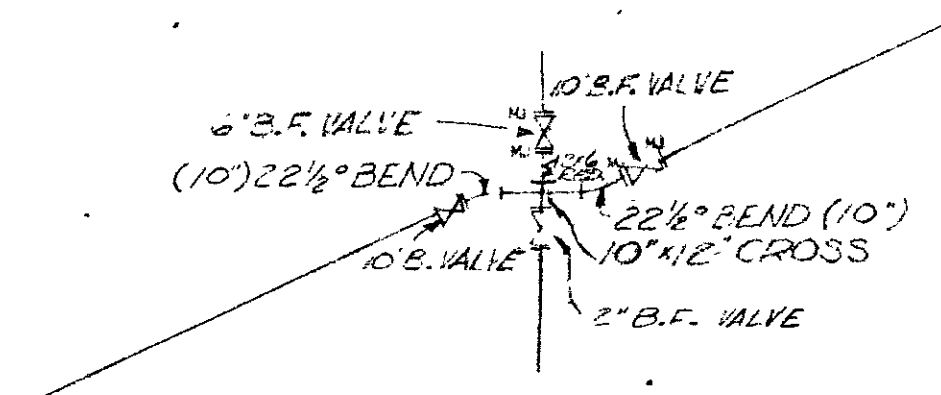
"RESOLVED, that the signature of the Secretary or any Assistant Secretary of this Corporation, and the seal of this Corporation, may be affixed or printed by facsimile to any certification of a Power of Attorney of this Corporation, and that such printed facsimile signature and seal shall be valid and binding upon this Corporation."

GIVEN under my hand and the seal of said Company, at Menlo Park, California, this 6th day of February 19 73

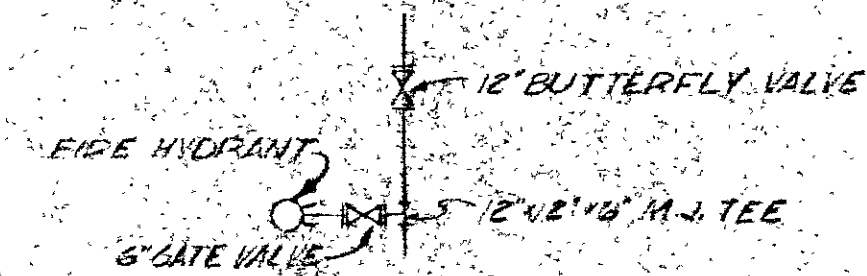

Secretary



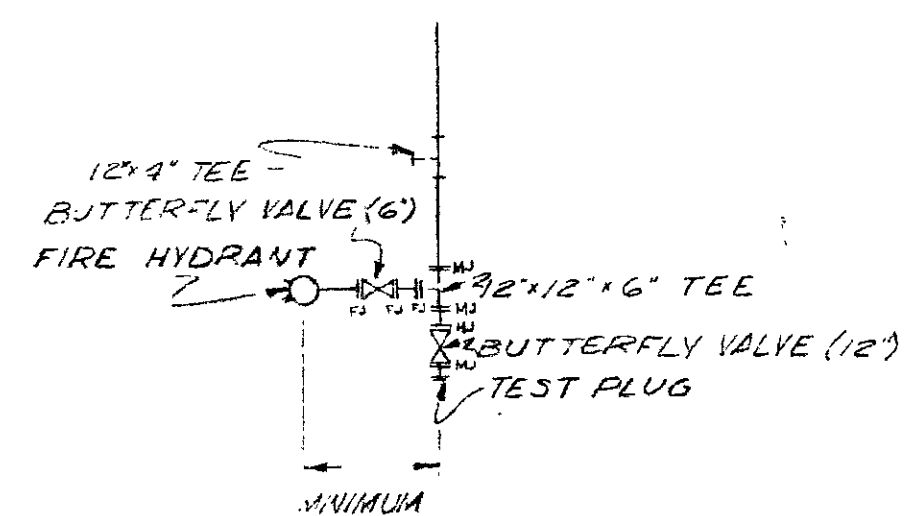
A circular professional engineer seal for Robert E. Meyer, State of Oregon. The seal contains the text: REGISTERED PROFESSIONAL ENGINEER, 3027, OREGON, MAY 9, 1995, and ROBERT E. MEYER. The seal is stamped over a handwritten signature.



SPRINGBROOK ST S 99 W
 NO SCALE
 STATION 21+55.45
 DETAIL 1

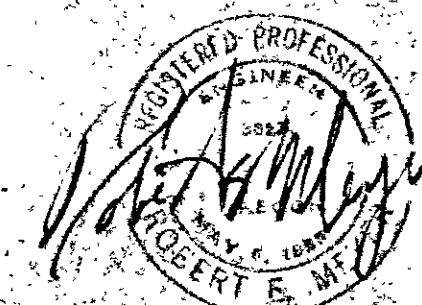


SPRINGBROOK STREET
 NO SCALE
 STATION 16+03



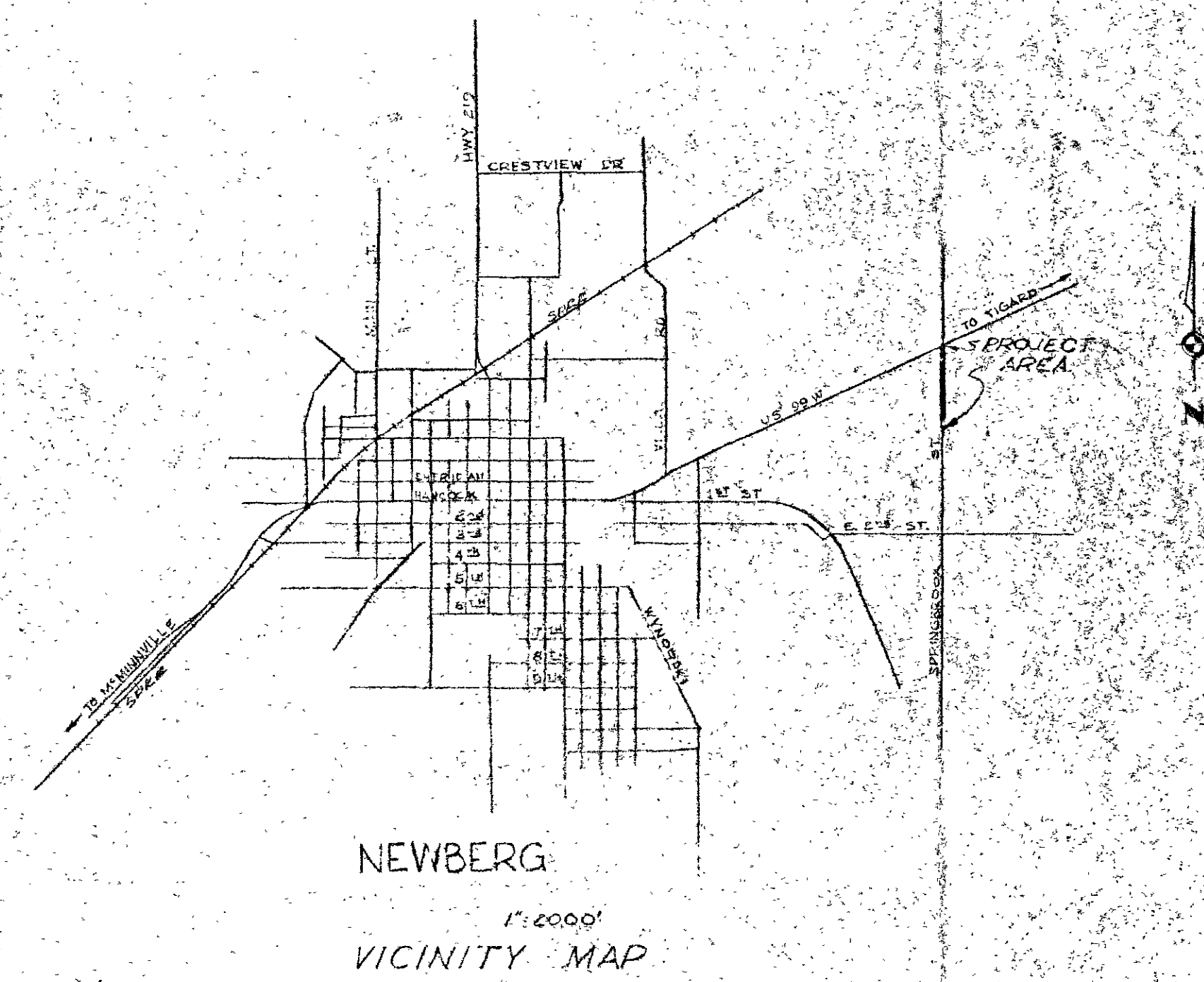
NOTE: DELETE TEST PLUG AT STATION 11+00

SPRINGBROOK STREET
 NO SCALE
 STATION 5+20 & 11+00
 DETAIL 2



EMERGENCY PHONE NUMBERS

Police	538-9421
Fire Dept.	538-3131
Public Works	538-4712
Engineer	538-9421 Ext. 25
Gas	Commerce 9985
Electricity	538-3151
Telephone	118



SPRINGBROOK STREET WATER LINE