UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

CONSTRUCTION AND MATERIAL SPECIFICATIONS

for the

DR. GUY A. WOODS, JR. PROJECT

MAY 1964

YAMHILL COUNTY SOIL AND WATER CONSERVATION DISTRICT

YAMHILL COUNTY, OREGON

DEFINITIONS AND RELATIONSHIP OF PARTIES CONCERNED

Owner

In these specifications the "owner" shall be understood to be Dr. Guy A. Woods, Jr.

The owner is responsible for all expenditures for construction. All items of work to be paid by the owner must have the owner's approval.

It is understood that the owner will execute the plans and specifications to the best of his ability, and that any changes made as construction progresses will be made with the advice and concurrence of the SCS Engineer and approval of the State Engineer.

District

The term "District" shall be understood to be the Yamhill Soil and Water Conservation District.

Technical assistance of the Soil Conservation Service is provided through the District. This assistance presumes that the owner and contractor will diligently follow the plans and specifications.

SCS Engineer

The term "SCS Engineer" shall refer to the Engineer of the United States Department of Agriculture, Soil Conservation Service and engineering representative of the Yamhill Soil and Water Conservation District, or his authorized representative.

The SCS Engineer acting as a technical advisor for the owner has compiled these plans and specifications. The SCS Engineer will provide surveys, tests, and technical direction of the work so that the job may be constructed as planned. He cannot authorize changes without the owner's approval.

State Engineer

The term "State Engineer" shall be understood to be the State Engineer of Oregon or his authorized representative.

Under the provisions of Water Laws of Oregon, the State Engineer is charged with the examination and approval of sites, plans, and specifications, and inspection of construction to insure safety of such work with reference to possible damage to life and property.

These plans and specifications must have the written approval of the State Engineer prior to initiation of construction. It is further required that the work performed in the construction of the dam and the materials that are used in construction that become a part of the completed structure shall at all times be

subject to the approval of the State Engineer and that no change in the plans or specifications made necessary by the development during construction of unforeseen conditions or other wise, shall be made without prior approval of the State Engineer.

Plans

The official plans numbered 1-A-738-1-64 approved by the Soil Conservation Service and the State Engineer are part of these specifications.

Specifications

The directions, provisions, and requirements contained herein pertain to the method and manner of performing the work and to the quality of material to be used.

I. REINFORCED CONCRETE

Concrete shall be mixed and placed as specified below:

a. Cement

To be Portland Cement of a standard commercial brand, free of lumps and partially set masses. In no case shall less than 5-1/2 sacks of cement be used in each cubic yard of concrete.

b. Water

Water shall be free of acid, alkali, oils, and organic matter. Simple rule--water should be suitable for drinking.

c. Aggregate

This may be of non-commercial sources, provided it has adequately graded, clean, hard, strong, durable particles, and is sufficiently free of deleterious substances. The aggregate shall be considered adequately graded and sufficiently free of deleterious substances when it meets the following limitations.

(1) When separated on the number four standard screen, the weight passing the sieve shall not be less than thirty percent nor more than fifty percent of the total. No rock shall exceed 1-1/2" diameter.

(2) Clay lumps do not exceed 1.5 percent.

(3) All other deleterious substances do not exceed five percent.

d. Mixing

Mixing shall be continued for at least 1-1/2 minutes after all materials, including water, are in the mixer. Each batch shall be completely discharged before the mixer is recharged. Not more than 6-1/2 gallons of water per sack of cement shall be used. This includes surface water in the aggregates. Excessive overmixing requiring the addition of water to preserve the required concrete consistency shall not be permitted. Truck mixing will be allowed provided that the use of this method does not violate any applicable provisions of these specifications for concrete.

e. Measurement of Materials

Equipment used for measuring quantities shall be calibrated so that correct quantity of material measured is known.

f. Forms

Forms shall conform to the shape, lines, and dimensions of the members as called for on the plans, and shall be substantial and sufficiently tight to prevent leakage of mortar. They shall be properly braced and tied together so as to maintain position and shape.

g. Placing Concrete

Forms shall be wetted or oiled and thoroughly cleaned of debris and ice. Depositing continuously at one point and letting it flow to distant points shall not be allowed since the water and fines segregate from the rest of the mass. The concrete shall be spaded next to the forms to prevent honeycombing. Laitance and increased water in the upper portions of the concrete shall be prevented. Excess water shall be worked to a low point without causing flow, and be removed.

h. Reinforcing Steel

Reinforcing steel shall be furnished, fabricated and placed as shown on the plans. All reinforcing bars shall be deformed bars of structural grade steel. Reinforcing steel, before being placed in the forms, shall be thoroughly cleaned of loose mill and rust scale, oil, dirt or other coatings of any character that would destroy or reduce the bond.

i. Construction Joints

Joints not indicated on the plans shall be so made and located as to least impair the strength of the structure. Where a joint is to be made, the surface of the concrete shall be thoroughly cleaned, and all laitance removed. In addition to the foregoing, vertical joints shall be thoroughly wetted, but not saturated, and flushed with a coat of neat cement grout immediately before the placing of new concrete.

j. Curing

All concrete shall be kept moist for at least seven (7) days by one of the approved methods of curing. Moisture or a membrane seal shall be applied within thirty (30) minutes after placing. All concrete shall be protected from direct rays of the sun for not less than three (3) days. All concrete shall be protected against freezing for a period of twenty-eight (28) days. This may be reduced to seven (7) days for high-early-strength concrete.

II. OUTLET CONDUIT

a. Trench Excavation

The outlet conduit trench shall be excavated to line and grade as shown on the plans. The trench width shall be approximately 16"

wider than the outside diameter of the outlet pipe. The bottom of the trench shall be shaped to conform to the requirements of class "C" bedding.

b. Bedding

Class "C" bedding. In this class of bedding the pipe shall be bedded with ordinary care in a soil foundation shaped to fit the lower part of the pipe exterior with reasonable closeness for at least 10 percent of its overall height. The remainder of the pipe shall be surrounded by material placed by hand tools to fill completely all spaces under and adjacent to the pipe.

c. Outlet Pipe

Either of the two following types of pipe may be used for the outlet pipe in this structure.

1) Corrugated Metal Pipe

The material for the outlet conduit shall be 21"-diameter, 16 ga., asbestos-bonded, asphalt coated, galvanized, corrugated metal pipe. Joints in the CMP shall be of the "levee type" with a 24" width band and four rod and lug clamps per joint.

2) Concrete Pipe

The material for the outlet conduit shall be 18"-diameter concrete sewer pipe, ASTM Designation C14-standard strength. The pipe j joints will be either mortar joints or rubber gaskets consisting of a continuous rubber ring at each joint. Mortar for the mortar joints shall be one part Portland Cement and two parts sand by volume. The quantity of water will be enough to produce a stiff, workable mortar but in no case shall exceed 5-1/2 gallons per sack of cement. The pipe ends shall be thoroughly cleaned and wetted with water before the joint is made.