SECTION 3
SPECIAL REQUIREMENTS

SUBSECTION 3.01
CONSTRUCTION MATERIALS ALLOWANCES

I. SCOPE:

All project materials supplied by the contractor that may be affected by state regulations for recycled products will be separately specified in each project.

The City of Amarillo may give preference to rubberized asphalt paving made from scrap tires by a facility in Texas in purchases of rubberized asphalt paving material, if the cost as determined by life-cycle cost benefit analysis by the City of Amarillo does not exceed by more than fifteen (15) percent the bid cost of alternative paving materials. Alternative paving materials may consist of asphaltic concrete, Portland Cement concrete or paving stone.

The City of Amarillo shall allow the use of fly ash and bottom ash for paving, bridge construction, and other appropriate street construction unless such use is technically inappropriate in accordance with sound engineering principals or increases the cost of such construction.

SUBSECTION 3.02
PROJECT SUBMITTALS

I. SCOPE:

All submittals to be transmitted to:

Issuing Division for the project
City of Amarillo
509 E. 7th Avenue
Amarillo, Texas 79101
Project W.O. No.
Attention: Project Designer or Manager

Contractor shall have determined and verified all field dimensions and measurements, field construction criteria, materials, catalog numbers, and similar data. Transmittals will not be received from or returned to subcontractors.

Submittal information shall define specific equipment or materials utilized on the project. General product or material information will be rejected.

Submittals shall be received by the project designer or manager at least one week prior to the materials being incorporated in the projects.

At least three copies of a submittal shall be sent to the project designer or manager.

II. TYPES OF SUBMITTALS:

A. Shop Drawings

B. Samples

C. Material Mix Designs

1. Asphaltic concrete

2. Portland Cement concrete

a. structural
b. paving
c. riprap

D. Manuals

1. Operations

2. Equipment

III. SUBMITTALS PROCESS:

A. Items within transmittals will be reviewed for overall design intent and will receive one of the following Actions:

1. FURNISH FOR PROJECT AS SUBMITTED
2. REVISE AND RESUBMIT
3. REJECTED

B. Transmittals received will be reviewed to ascertain Contractor's approval.

C. Transmittals returned to the Contractor with approval are considered ready for fabrication and installation. If for any reason a transmittal is resubmitted, it must be accompanied by a letter defining changes that have been made and the reason for the resubmittal.

D. Transmittals with Revise and Resubmit will be analyzed as follows:

1. One copy will be marked up and returned to the Contractor. It shall be the Contractor's responsibility to insure that these items are corrected and resubmitted.

2. If a portion of the items or system proposed are acceptable, however, the major part of the individual drawings or documents are incomplete or require revision, the entire submittal shall be resubmitted.

E. Failure to include any specific information specified shall result in the transmittal being returned to the Contractor.

F. All costs, associated with the review of any submittal resubmitted more than once shall be borne by the Contractor with said costs being deducted from the Contractor's monthly estimate.

IV. SUBMITTAL REPETITION

Previous submittals on similar materials for projects completed within the last calendar year may be referred to by the Contractor for the present project. The Contractor must indicate to the project designer in writing prior to incorporating the materials. When any doubt or conflict may occur on "dated" submittal information, the Engineer may request new submittal information.

LAST PAGE OF THIS SUBSECTION

SUBSECTION 3.03
PROJECT MATERIAL TESTING

I. SCOPE

This item consists of tests required to be performed on the construction materials used in the projects. All tests shall be performed as described in the appropriate ASTM, AASHTO or other testing agency as designated.

II. MATERIALS

Testing samples of the construction materials shall be representative of the material to be furnished for each project. The Project Representative shall determine if additional testing is required prior to allowing the Contractor to deliver any materials. This does not preclude additional testing from being done after delivery to a project.

III. TESTING EQUIPMENT

The testing equipment shall conform to the appropriate section of the prescribed test.

IV. PAVING PROJECTS

A. Earthwork:

1. **Embankment:** One dry density and moisture content test per four hundred (400) square yards or portion thereof shall be performed by the Project Representative.

2. **Subgrade:** One dry density and moisture content test per three hundred (300) square yards or portion thereof shall be performed by the Project Representative.

3. One Standard Proctor shall be determined for each distinctive and unique type of embankment and subgrade material. When the soils do not vary substantially in a project, only one Standard Proctor will be required.

B. Flexible Base:

1. A group of tests for quality shall be made prior to delivery to the project site by the Contractor. Additional testing after delivery to the project may be performed at the discretion of the Engineer. If less than year old test results on the proposed flexible base are available, these dated test results may be accepted in lieu of initial testing. If the flexible base changes, the Contractor, at his expense, shall provide new test results.

2. One dry density and moisture content test per three hundred (300) square yards or portion thereof shall be performed by the Project Representative.

C. Asphaltic Concrete:

1. The group of tests for quality and a mix design shall be made prior to delivery to the project site by the Contractor. The quality testing and mix design shall be furnished and paid for by the Contractor. If less than year old test results and a mix design are available, these dated test results may be accepted in lieu of additional testing. If during the project, the asphaltic concrete changes, the Contractor, at his expense, shall provide new quality test results and mix design.

2. One density and depth test per five hundred (500) square yards or portion thereof shall be performed by the Project Representative.

3. Other tests such as extractions shall be performed by an independent laboratory as directed by the Project Representative.

D. Portland Cement Concrete:

1. Material Testing and Mix Design:

a. The group of tests for quality and a mix design for Portland Cement concrete shall be made prior to delivery to the project site by the Contractor. The mix design shall be furnished and paid for by the Contractor. If less than year test results and a mix design are available and are directly related to the particular type of construction, these dated test results may be accepted in lieu of additional testing. If during the project, the Portland Cement concrete changes, the Contractor, at his expense, shall provide new test quality results and mix design.

b. Each transit truck load shall have a slump test performed by the Project Representative.

2. Structures:

a. Seven (7) and twenty-eight (28) compressive strengths shall be determined per twenty five (25) cubic yards.

3. Flat Work:

a. Seven (7) and twenty-eight (28) compressive strengths shall be determined per five hundred (500) square feet of flat work proposed on the project.

4. Curb and Gutter:

a. Seven (7) and twenty-eight (28) compressive strengths shall be determined per two hundred (200) linear feet of curb and gutter poured.

E. Other Material:

1. Other material shall be tested as provided in the specific project technical specifications and as shown on the plan sheets for each project.

V. OTHER PROJECTS

The tests shall be performed as required in the project plans and the technical specifications.

VI. MEASUREMENT

The location, frequency, type of testing and who performs the testing will be determined by the Project Representative. The construction methods sections of the technical specifications contain most tests required. When other tests not originally scheduled are required, the Contractor shall be notified by the Project Representative. The Contractor when disagreeing with any test results from the City may provide additional testing at his expense. Actions that result from other testing or test results submitted by the Contractor will be decided by the appropriate City of Amarillo representative.

VII. PAYMENT

The City of Amarillo shall pay for construction material testing that has been scheduled and approved by the Project Representative. Any tests with failing results shall be paid for by the Contractor. Any invoice from a testing laboratory for project testing unauthorized by the Project Representative shall be returned to the Contractor for payment. The Contractor shall have paid all testing laboratory invoices for tests he initiated prior to receiving final project payment.

SUBSECTION 3.03
PROJECT MATERIAL TESTING

I. SCOPE

This item consists of tests required to be performed on the construction materials used in the projects. All tests shall be performed as described in the appropriate ASTM, AASHTO or other testing agency as designated.

II. MATERIALS

Testing samples of the construction materials shall be representative of the material to be furnished for each project. The Project Representative shall determine if additional testing is required prior to allowing the Contractor to deliver any materials. This does not preclude additional testing from being done after delivery to a project.

III. TESTING EQUIPMENT

The testing equipment shall conform to the appropriate section of the prescribed test.

IV. PAVING PROJECTS

A. Earthwork:

1. **Embankment:** One dry density and moisture content test per four hundred (400) square yards or portion thereof shall be performed by the Project Representative.

2. **Subgrade:** One dry density and moisture content test per three hundred (300) square yards or portion thereof shall be performed by the Project Representative.

3. One Standard Proctor shall be determined for each distinctive and unique type of embankment and subgrade material. When the soils do not vary substantially in a project, only one Standard Proctor will be required.

B. Flexible Base:

1. A group of tests for quality shall be made prior to delivery to the project site by the Contractor. Additional testing after delivery to the project may be performed at the discretion of the Engineer. If less than year old test results on the proposed flexible base are available, these dated test results may be accepted in lieu of initial testing. If the flexible base changes, the Contractor, at his expense, shall provide new test results.

2. One dry density and moisture content test per three hundred (300) square yards or portion thereof shall be performed by the Project Representative.

C. Asphaltic Concrete:

1. The group of tests for quality and a mix design shall be made prior to delivery to the project site by the Contractor. The quality testing and mix design shall be furnished and paid for by the Contractor. If less than year old test results and a mix design are available, these dated test results may be accepted in lieu of additional testing. If during the project, the asphaltic concrete changes, the Contractor, at his expense, shall provide new quality test results and mix design.

2. One density and depth test per five hundred (500) square yards or portion thereof shall be performed by the Project Representative.

3. Other tests such as extractions shall be performed by an independent laboratory as directed by the Project Representative.

D. **Portland Cement Concrete:**

1. **Material Testing and Mix Design:**

a. The group of tests for quality and a mix design for Portland Cement concrete shall be made prior to delivery to the project site by the Contractor. The mix design shall be furnished and paid for by the Contractor. If less than year test results and a mix design are available and are directly related to the particular type of construction, these dated test results may be accepted in lieu of additional testing. If during the project, the Portland Cement concrete changes, the Contractor, at his expense, shall provide new test quality results and mix design.

b. Each transit truck load shall have a slump test performed by the Project Representative.

2. **Structures:**

a. Seven (7) and twenty-eight (28) compressive strengths shall be determined per twenty five (25) cubic yards.

3. **Flat Work:**

a. Seven (7) and twenty-eight (28) compressive strengths shall be determined per five hundred (500) square feet of flat work proposed on the project.

4. **Curb and Gutter:**

a. Seven (7) and twenty-eight (28) compressive strengths shall be determined per two hundred (200) linear feet of curb and gutter poured.

E. **Other Material:**

1. Other material shall be tested as provided in the specific project technical specifications and as shown on the plan sheets for each project.

V. OTHER PROJECTS

The tests shall be performed as required in the project plans and the technical specifications.

VI. MEASUREMENT

The location, frequency, type of testing and who performs the testing will be determined by the Project Representative. The construction methods sections of the technical specifications contain most tests required. When other tests not originally scheduled are required, the Contractor shall be notified by the Project Representative. The Contractor when disagreeing with any test results from the City may provide additional testing at his expense. Actions that result from other testing or test results submitted by the Contractor will be decided by the appropriate City of Amarillo representative.

VII. PAYMENT

The City of Amarillo shall pay for construction material testing that has been scheduled and approved by the Project Representative. Any tests with failing results shall be paid for by the Contractor. Any invoice from a testing laboratory for project testing unauthorized by the Project Representative shall be returned to the Contractor for payment. The Contractor shall have paid all testing laboratory invoices for tests he initiated prior to receiving final project payment.

VIII. ASTM TESTING SPECIFICATIONS

A. Concrete Aggregates:

C	227-90	Alkali Reactivity, Potential, of Cement-Aggregate Combinations (Mortar-Bar Method)
C	142-78	Clay Lumps and Friable Particles in Aggregates
C	33-90	Concrete Aggregates
C	125-88	Concrete and Concrete Aggregates
C	330-89	Lightweight Aggregates for Structural Concrete
C	535-89	Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine, Resistance to
C	131-89	Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine, Resistance to
C	1137-90	Degradation of Fine Aggregate Due to Attrition
E	12-70	Density and Specific Gravity of Solids, Liquids, and Gases
C	682-87	Evaluation of Frost Resistance of Coarse Aggregates in Air-Entrained Concrete by Critical Dilation Procedures
C	123-89	Lightweight Pieces in Aggregate
C	117-90	Materials Finer Than 7-μm (No. 200) Sieve in Mineral Aggregates by Washing
C	566-89	Moisture Content, Total, of Aggregate by Drying
C	87-83	Organic Impurities in Fine Aggregate on Strength of Mortar, Effect of
C	40-84	Organic Impurities in Fine Aggregates for Concrete
C	295-90	Petrographic Examination of Aggregates for Concrete
C	586-69	Potential Alkali Reactivity of Carbonate Rocks for Concrete Aggregates (Rock Cylinder Method)
C	289-87	Potential Reactivity of Aggregates (Chemical Method)
D	75-87	Sampling Aggregates
D	2419-74	Sand Equivalent Value of Soils and Fine Aggregate
C	136-84a	Sieve Analysis of Fine and Coarse Aggregates
D	448-86	Sizes of Aggregate for Road and Bridge Construction
C	88-90	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
C	127-88	Specific Gravity and Absorption of Coarse Aggregate
C	128-88	Specific Gravity and Absorption of Fine Aggregate
C	70-79	Surface Moisture in Fine Aggregate
C	702-87	Reducing Field Samples of Aggregate to Testing Size
C	29	Unit Weight and Voids in Aggregate
C	342-90	Volume Change, Potential, of Cement-Aggregate Combinations

B. Concrete:

C	418-90	Abrasion Resistance of Concrete by Sandblasting
C	944-90a	Abrasion Resistance of Concrete or Mortar Surfaces by Rotating-Cutter Method
C	1138-89	Abrasion Resistance of Concrete (Underwater Method)
C	779-89a	Abrasion Resistance of Horizontal Concrete Surfaces
P	214	Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction
C	1152-90	Acid-Soluble Chloride in Mortar and Concrete

C	138-81	Air Content (Gravimetric), Unit Weight, and Yield of Concrete
C	231-91	Air Content of Freshly Mixed Concrete by the Pressure Method
C	173-78	Air Content of Freshly Mixed Concrete by the Volumetric Method
C	260-86	Air-Entraining Admixtures for Concrete
C	227-90	Alkali Reactivity, Potential, of Cement-Aggregate Combinations (Mortar-Bar Method)
C	360-82	Ball Penetration in Fresh Portland Cement Concrete
C	232-87	Bleeding of Concrete
C	234-91a	Bond Developed with Reinforcing Steel, Comparing concretes on the Basis of
C	617-87	Capping Cylindrical Concrete Specimens
C	873-85	Compressive Strength of Concrete Cylinders Cast in Place in Cylindrical Molds
C	39-86	Compressive Strength of Cylindrical Concrete Specimens
C	31-90a	Concrete Test Specimens, Making and Curing in the Field
C	192-90a	Concrete Test Specimens, Making and Curing in the Laboratory
C	1170-91	Consistency and Density of Roller-Compacted Concrete Using a Vibrating Table, Determining
C	512-87	Creep of Concrete in Compression
C	671-86	Critical Dilation of Concrete Specimens Subjected to Freezing
C	1040-85	Density of Unhardened and hardened Concrete In Place by Nuclear Methods
C	1078-87	Determining the Cement Content of Freshly Mixed Concrete
C	1079-87	Determining the Water Content of Freshly Mixed Concrete
C	918-88	Developing Early-Age Compression Test Values and Projecting Later Age Strengths
C	42-90	Drilled Cores and Sawed Beams of Concrete, Obtaining and Testing
C	1074-87	Estimating Concrete Strength by the Maturity Method
C	2-87	Evaluation of Frost Resistance of Coarse Aggregates in Air-Entrained Concrete by Critical Dilation Procedures
C	823-83	Examination and Sampling of Hardened Concrete in Constructions
C	1116-89	Fiber-Reinforced Concrete and Shotcrete
C	293-79	Flexural Strength of Concrete (Using Simple Beam with Center-Point Loading)
C	78-84	Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
C	1018-89	Flexural Toughness and First-Crack Strength of Fiber-Reinforced Concrete (Using Beam with Third-Point Loading)
C	995-86	Flow, Time of, of Fiber-Reinforced Concrete Through Inverted Slump Cone
C	618-91	Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete
C	311-90	Fly Ash or Natural Pozzolans for Use as a Mineral Admixture in Portland-Cement Concrete, Sampling and Testing

C	1059-91	Latex Bonding Agents for bonding Fresh to Hardened Concrete
C	1105-89	Length Change of Concrete Due to Alkali-Carbonate Rock Reaction
C	174-87	Length of Drilled Concrete Cores, Measuring
E	4-89	Load Verification of Testing Machines
C	684-89	Making, Accelerated Curing, and Testing of concrete Compression Test Specimens
C	1176-91	Making Roller-Compacted Concrete in Cylinder molds Using a Vibrating Table
C	801-81	Mechanical Properties of Hardened Concrete Under Triaxial Loads, Determining
C	470-87	Molds for Forming concrete Test Cylinders Vertically
C	928-89a	Packaged, Dry, Rapid-Hardening Cementitious Materials for Concrete Repairs
C	457-90	Parameters of the Air-Void System in Hardened Concrete, Microscopical Determination of
C	856-83	Petrographic Examination of Hardened Concrete
C	803-90	Penetration Resistance of Hardened Concrete
C	94-90	Ready-Mixed Concrete
C	666-90	Resistance of concrete to Rapid Freezing and Thawing
C	172-90	Sampling Freshly Mixed Concrete
C	672-91	Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals
C	642-90	Specific Gravity, Absorption and Voids in Hardened Concrete
C	469-87a	Static Modulus of Elasticity and Poissons's Ratio of Concrete Compression
C	1064-86	Temperature of Freshly Mixed Portland-Cement Concrete
C	403-90	Time of Setting of Concrete Mixtures by Penetration Resistance
C	567-91	Unit Weight of Structural Lightweight Concrete
C	138-81	Unit Weight, Yield, and air Content (Gravimetric) of Concrete
C	490-89	Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete
C	342-90	Volume Change, Potential, of Cement-Aggregate Combinations

C. Concrete Curing, Miscellaneous Materials, and Expansion Joint Fillers:

D	98-87	Calcium Chloride
D	345-90	Calcium Chloride for Road and Structural Applications, Sampling and Testing
D	1191-84	Concrete Joint Sealers
D	1855-89	Concrete Joint Sealer, Jet Fuel-Resistant, Hot-Poured Elastic Type
D	1190-74	Concrete Joint Sealer, Hot-Poured Elastic Type
D	1854-74	Concrete Joint Sealer, Jet-Fuel-Resistant, Hot-Poured Elastic Type
C	1151-90	Evaluating the Effectiveness of Materials for Curing Concrete
D	545-84	Expansion Joint Fillers, Preformed, for Concrete Construction (Nonextruding and Resilient Types)

D	994-71		Expansion Joint Filler, Preformed, for Concrete (Bituminous Type)
D	1751-83		Expansion Joint Filler, Preformed, for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
D	1752-84		Expansion Joint Fillers, Preformed Sponge Rubber and Cork, for Concrete Paving and Structural Construction
D	3569-85		Joint Sealant, Hot-Applied, Elastomeric, Jet-Fuel-Resistant Type, for Portland Cement Concrete Pavements
D	3581-80		Joint Sealant, Hot-Poured, Jet-Fuel-Resistant Type for Portland Cement Concrete and Tar-Concrete
D	3406-85	(1991)	Joint Sealants, Hot-Applied, Elastomeric-Type, for Portland Cement Concrete Pavements
D	3405-78		Joint Sealants, Hot-Poured, for Concrete and Asphalt Pavements
D	3583-85	(1991)	Joint Sealant, Hot-Applied, Elastomeric-Type, for Portland Cement Concrete Pavements, or Joint Sealant, Hot-Applied, Elastomeric, Jet-Fuel-Resistant Type, for Portland Cement Concrete Pavements
D	3582-89		Joint Sealant, Hot-Poured, Jet-Fuel-Resistant Type, for Portland Cement Concrete and Tar-Concrete Pavements
D	3407-78		Joint Sealants, Hot-Poured, for Concrete and Asphalt Pavements
C	309-89		Liquid Membrane-Forming Compounds for Curing Concrete
D	2628-91		Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements
D	632-84	(1989)	Sodium Chloride
C	171-69	(1986)	Sheet Materials for Curing Concrete
C	156-89		Water Retention by Concrete Curing Materials

D. Cement:

C	226-86		Air-Entraining Additions for Use in the Manufacture of Air-Entraining Portland Cement
C	452-89		Expansion, Potential, of Portland Cement Mortars Exposed to Sulfate
C	204-91a		Fineness of Portland Cement by Air Permeability Apparatus
C	115-91		Fineness of Portland Cement by the Turbidimeter
C	563-84		Optimum SO_3 in Portland Cement
C	150-89		Portland Cement
D	3665-82	(1987)	Random Sampling of Construction Materials
C	778-89		Standard Sand

E. Concrete Reinforcing Steel:

A	617/A		Bars, Deformed and Plain, Axle-Steel, for Concrete Reinforcement
A	615-90		Bars, Deformed and Plain, Billet-Steel, for Concrete Reinforcement
A	616/A		Bars, Deformed and Plain, Rail-Steel, for Concrete Reinforcement
D	3963		Epoxy-Coated Reinforcing Steel

A	184/A		Mats, Fabricated Deformed Steel Bar, for Concrete Reinforcement
A	497-90b		Wire, Fabric, Welded Deformed Steel, for Concrete Reinforcement
A	185-90a		Wire Fabric, Plain, Welded Steel, for Concrete Reinforcement

F. Lime:

C	25-91		Chemical Analysis of Limestone, Quicklime, and Hydrated Lime
C	593-89		Fly Ash and Other Pozzolans for Use with Lime
C	1097-90		Hydrated Lime for Use in Asphaltic Concrete Mixtures
C	977-89		Quicklime and Hydrated Lime for Soil Stabilization
C	5-79	(1988)	Quicklime for Structural Purposes
C	821-78	(1990)	Lime for Use with Pozzolans
C	110-87		Physical Testing of Quicklime, Hydrated Lime, and Limestone
C	50-86	(1991)	Sampling, Inspection, Packing, and Marking of Lime and Limestone Products

G. Paving Brick and Block:

D	52-62	(1981)	Wood Paving Blocks from Exposed Platforms, Pavements, Driveways, and Interior Floors Exposed to Wet and Dry Conditions (see Vol. 04.09)

H. Natural Building Stones:

C	241-90		Abrasion Resistance of Stone Subjected to Foot Traffic
C	97-90		Absorption and Bulk Specific Gravity of Dimension Stone
C	170-90		Compressive Strength of Dimension Stone
C	880-89		Flexural Strength of Dimension Stone

I. Soil and Rock:

1. Ground Waters:

D	5092-90		Design and Installation of Ground Water Monitoring Wells in Aquifers
D	4750-87		Subsurface Liquid Levels in a Borehole or Monitoring Well (Observation Well), Determining

2. Soil:

D	1140-54	(1990)	Amount of Material in Soils Finer than the No. 200 (75-um) Sieve
D	1194-72	(1987)	Bearing Capacity of Soil for Static Load on Spread Footings
D	3668-78	(1985)	Bearing Ratio of Laboratory-Compacted Soil-Lime Mixtures
D	4429-84		Bearing Ratio of Soils In Place
D	4373-84	(1990)	Calcium Carbonate Content of Soils
D	1883-87		CBR (California Bearing Ratio) of Laboratory-Compacted Soils

D	3152-72	(1977)	Capillary-Moisture Relationships for Fine-Textured Soils by Pressure-Membrane Apparatus
D	4718-87		Correction of Unit Weight and Water Content for Soils Containing Oversize Particles
D	2487-90		Classification of Soils for Engineering Purposes
D	2166-85		Compressive Strength, Unconfined, of Cohesive Soil
D	4219-83		Compressive Strength, Unconfined, Index Test of Chemical-Grouted Soils
D	4767-88		Consolidated-Undrained Triaxial Compression Test on Cohesive Soils
D	2488-90		Description and Identification of Soils (Visual-Manual Procedure)
D	4380-84		Density of Bentonitic Slurries
D	2922-81	(1990)	Density of Soil and Soil-Aggregate In Place by Nuclear Methods (Shallow Depth)
D	2937-83	(1990)	Density of Soil In Place by the Drive-Cylinder Method
D	4959-89		Determination of Water (Moisture) Content of Soil by Direct Heating Method
D	3080-90		Direct Shear Test of Soils Under Consolidated Drained Conditions
D	4221-90		Dispersive Characteristics of Clay Soil by Double Hydrometer
D	421-85		Dry Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants
D	4753-87		Evaluating, Selecting, and Specifying Balances and Scales for Use in Soil and Rock Testing
D	4829-88		Expansion Index of Soils
D	4944-89		Field Determination of Water (Moisture) Content of Soil by the Calcium-Carbide Gas Pressure Tester Method
G	57-78	(1984)	Field Measurement of Soil Resistivity Using the Wenner Four-Electrode Method
D	2573-72	(1978)	Field Vane Shear Test in Cohesive Soil
D	2940-74		Graded Aggregate Material for Bases or Subbases for Highways or Airports
D	420-87		Investigation and Sampling Soil and Rock
D	4320-84		Laboratory Preparation of Chemically Grouted Soil Specimens for Obtaining Design Strength Parameters
D	3551-90		Laboratory Preparation of Soil-Lime Mixtures Using a Mechanical Mixer
D	3155-83		Lime Content of Uncured Soil-Lime Mixtures
D	4318-84		Liquid Limit, Plastic Limit, and Plasticity Index of Soils
D	8-90		Materials for Roads and Pavements
D	1241-68	(1989)	Materials for Soil-Aggregate Subbase, Base, and Surface Courses
D	4253-83		Maximum Index Density of Soils Using a Vibratory Table
D	5101-90		Measuring the Soil-Geotextile System Clogging Potential (By the Gradient Ratio)
D	4254-83		Minimum Index Density of Soils and Calculation of Relative Density
D	698-78	(1990)	Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5-lb. (2.49-kg.) Rammer and 12-in.(305-mm) Drop
D	1557-78	(1990)	Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-lb. (4.54-kg) Rammer and 18-in. (457-mm) Drop

D	1196-64	(1987)	Nonrepetitive Static Plate Load Tests of Soils and Flexible Pavement Components, for Use in Evaluation and Design of Airport and Highway Pavements
D	3877-80	(1985)	One-Dimensional Expansion, Shrinkage, and Uplift Pressure of Soil-Lime Mixtures
D	4546-90		One-Dimensional Swell or Settlement Potential of Cohesive Soils
D	422-63	(1990)	Particle-Size Analysis of Soils
D	1586-84		Penetration Test and Split-Barrel Sampling of Soils
D	2434-68	(1974)	Permeability of Granular Soils (Constant Head)
D	4972-89		pH of Soils
D	4719-87		Pressuremeter Testing in Soils
D	5080-90		Rapid Determination of Percent Compaction
D	1195-64	(1987)	Repetitive Static Plate Load Tests of Soils and Flexible Pavement Components, for Use in Evaluation and Design of Airport and Highway Pavements
D	2844-89		Resistance R-Value and Expansion Pressure of Compacted Soils
D	4609-86		Screening Chemicals for Soil Stabilization
D	427-83	(1990)	Shrinkage Factors of Soils
D	4943-89		Shrinkage Factors of Soils by the Wax Method
D	1452-80	(1990)	Soil Investigation and Sampling by Auger Borings
D	3282-88		Soils and Soil-Aggregate Mixtures for Highway Construction Purposes, Classification of
D	653-90		Soil, Rock, and Contained Fluids
D	1241-68		Soil-Aggregate Subbase, Base, and Surface Courses, Materials for Wire-Cloth Sieves for Testing Purposes
D	915-61	(1978)	Soil-Bituminous Mixtures, Testing
D	854-83		Specific Gravity of Soils
D	4633-86		Stress Wave Energy Measurement for Dynamic Penetrometer Testing Systems
D	1587-83		Thin-Walled Tube Sampling of Soils
D	2850-87		Unconsolidated, Undrained Compressive Strength of Cohesive Soils in Triaxial Compression
D	3017-88		Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
D	2216-90		Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures, Laboratory Determination of
D	4643-87		Water (Moisture) Content of Soil by the Microwave Oven Method, Determining
D	2217-85		Wet Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants
D	4452-85	(1990)	X-Ray Radiography of Soil Samples

3. Soil-Cement:

D	2901-82	(1986)	Cement Content of Freshly Mixed Soil-Cement
D	806-89		Cement Content of Soil-Cement Mixtures
D	5102-90		Compressive Strength of Compacted Soil-Lime Mixtures, Unconfined
D	1633-84	(1990)	Compressive Strength of Molded Soil-Cement Cylinders
D	1634-87		Compressive Strength of Soil-Cement Using Portions of Beams Broken in Flexure (Modified Cube Method)
D	1635-87		Flexural Strength of Soil-Cement Using Simple Beam with Third-Point Loading
D	560-89		Freezing-and-Thawing Compacted Soil-Cement Mixtures
D	558-82	(1990)	Moisture-Density Relations of Soil-Cement Mixtures

D	4832-88		Preparation and Testing of Soil-Cement Slurry Test Cylinders
D	1632-87		Soil-Cement Compression and Flexure Test Specimens, Making and Curing, in the Laboratory
D	559-89		Wetting-and-Drying Compacted Soil-Cement Mixtures

4. Geosynthetics:

D	4886-88		Abrasion Resistance of Geotextiles (Sand Paper/Sliding Block Method)
D	4751-87		Apparent Opening Size of a Geotextile, Determining
D	4632-86	(1990)	Breaking Load and Elongation of Geotextiles (Grab Method)
D	4716-87		Constant Head Hydraulic Transmissivity (In-Plane Flow) of Geotextiles and Geotextile Related Products
D	4355-84		Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus)
D	4594-86		Effects of Temperature on Stability of Geotextiles
D	3083-89		Flexible Poly (Vinyl Chloride) Plastic Sheeting for Pond, Canal, and Reservoir Lining
D	4439-87		Geosynthetics
D	4945-89		High Strain Dynamic Testing of Piles
D	4873-88		Identification, Storage, and Handling of Geotextiles
D	4833-88		Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products
D	4545-86		Integrity of Factory Seams Used in Joining Manufactured Flexible Sheet Geomembranes, Determining
D	4437-84	(1988)	Integrity of Field Seams Used in Joining Flexible Polymeric Sheet Geomembranes, Determining
D	3020-89		Polyethylene and Ethylene Copolymer Plastic Sheeting for Pond, Canal, and Reservoir Lining
D	4885-88		Performance Strength of Geomembranes by the Wide Strip Tensile Method, Determining
D	4354-89		Sampling of Geosynthetics for Testing
D	4884-90		Seam Strength of Sewn Geotextiles
D	4759-88		Specification Conformance of Geosynthetics, Determining
D	4595-86		Tensile Properties of Geotextiles by the Wide Width Strip Method
D	4533-85	(1990)	Trapezoid Tearing Strength of Geotextiles
D	4491-89		Water Permeability of Geotextiles by the Permittivity Method

5. Bituminous Materials for Street Construction:

D	1561-81a		Bituminous Mixture Test Specimens by Means of California Kneading Compactor, Preparation of
D	692-88		Bituminous Paving Mixtures, Coarse Aggregate for
D	1073-88		Bituminous Paving Mixtures, Fine Aggregate for
D	242-85	(1990)	Bituminous Paving Mixtures, Mineral Filler for
D	1139-90		Bituminous Surface Treatments, Single or Multiple, Crushed Stone, Crushed Slag, and Gravel for
D	345-80	(1986)	Calcium Chloride for Roads and Structural Applications, Sampling and Testing
D	693-84		Crushed Aggregate for Macadam Pavements

D	1074-83		Compressive Strength of Bituminous Mixtures
D	2950-82		Density of Bituminous Concrete In Place by Nuclear Method
D	139-83	(1988)	Float Test for Bituminous Materials
D	2940-74	(1985)	Graded Aggregate Material for Bases or Subbases for Highways or Airports
D	4223-83		Preparation of Test Specimens of Asphalt-Stabilized Soils
D	4602-86		Nondestructive Testing of Pavements Using Cyclic-Loading Dynamic Deflection Equipment
D	140-88		Sampling Bituminous Materials
D	979-87		Sampling Bituminous Paving Mixtures
D	546-88		Sieve Analysis of Mineral Filler for Road and Paving Materials
D	915-61	(1978)	Soil Bituminous Mixtures, Testing
D	70-82	(1990)	Specific Gravity and Density of Semi-Solid Bituminous Materials
D	1188-88		Specific Gravity, Bulk, and Density of Compacted Bituminous Mixtures Using Paraffin-Coated Specimens

6. Bituminous Paving Aggregates:

D	3744-85		Aggregate Durability Index
D	1139-90		Aggregates for Single or Multiple Bituminous Surface Treatments
D	692-88		Coarse Aggregate for Bituminous Paving Mixtures
D	3625-83		Effect of Water on Bituminous Coated Aggregate--Quick Field Test
D	1073-88		Fine Aggregate for Bituminous Paving Mixtures
D	4791-89		Flat or Elongated Particles in Coarse Aggregate
D	2940-74	(1985)	Graded Aggregate Material for Bases or Subbases for Highways or Airports
D	3398-87		Index of Aggregate Particle Shape and Texture
C	123-83	(1990)	Lightweight Pieces in Aggregate
D	242-85	(1990)	Mineral Filler for Bituminous Paving Mixtures
D	4792-88		Potential Expansion of Aggregates from Hydration Reactions
C	50-86		Sampling, Inspection, Packing, and Marking of Lime and Limestone Products
C	29/C		Unit Weight and Voids in Aggregate

7. Bituminous Paving Asphalts:

D	4957-89		Apparent Viscosity of Asphalt Emulsion Residues and Non-Newtonian Bituminous by Vacuum Capillary Viscometer
D	3141-80	(1986)	Asphalt for Undersealing Portland Cement Concrete Pavements
P	226		Bituminous Materials in Tension
D	2397-85		Cationic Emulsified Asphalt
D	4552-87		Classifying Hot-Mix Recycling Agents
D	2027-76	(1986)	Cutback Asphalt (Medium-Curing Type)
D	2028-76	(1986)	Cutback Asphalt (Rapid-Curing Type)
D	2026-72	(1985)	Cutback Asphalt (Slow-Curing Type)
D	2995-84	(1989)	Determining Application Rate of Bituminous Distributors

D	4311-83	(1990)	Determining Asphalt Volume Correction to a Base Temperature
D	402-76	(1987)	Distillation of Cut-Back Asphaltic (Bituminous) Products
D	113-86		Ductility of Bituminous Materials
D	1754-87		Effect of Heat and Air on Asphaltic Materials (Thin-Film Oven Test)
D	977-86		Emulsified Asphalt
D	244-89		Emulsified Asphalts Testing
D	3143-83	(1989)	Flash Point of Cutback Asphalt with Tag Open-Cup Apparatus
D	2170-85	(1990)	Kinematic Viscosity of Asphalts (Bitumens)
D	3279-90		n-Heptane Isolubles
D	5-86		Penetration of Bituminous Materials
D	946-82		Penetration-Graded Asphalt Cement for Use in Pavement Construction
D	4887-89		Preparation of Viscosity Blends for Hot Recycled Bituminous Materials
D	1856-79	(1984)	Recovery of Asphalt from Solution by Abson Method
D	243-87		Residue of Specified Penetration
D	140-88		Sampling Bituminous Materials
D	2399-83		Selection of Cutback Asphalts
D	3628-90		Selection and Use of Emulsified Asphalts
D	4124-86		Separation of Asphalt into Four Fractions
D	2042-81	(1985)	Solubility of Asphalt Materials in Trichloroethylene
D	3142-84	(1989)	Specific Gravity of API Gravity of Liquid Asphalts by Hydrometer Method
D	3205-86		Viscosity of Asphalt with Cone and Plate Viscometer
D	2171-88		Viscosity of Asphalts by Vacuum Capillary Viscometer
D	3381-83		Viscosity-Graded Asphalt Cement for Use in Pavement Construction
D	2493-90		Viscosity-Temperature Chart for Asphalts
D	341-89		Viscosity-Temperature Charts for Liquid Petroleum Products

8. Bituminous Paving Mixtures:

D	4125-83		Asphalt Content of Bituminous Mixtures by the Nuclear Method
D	290-85		Bituminous Mixing Plant Inspection
D	1188-89		Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Paraffin-Coated Specimens
D	2726-90		Bulk Specific Gravity of Compacted Bituminous Mixtures Using Saturated Surface-Dry Specimens
D	4469-85		Calculating Percent Absorption by the Aggregate in an Asphalt Pavement Mixture
D	1664-80	(1985)	Coating and Stripping of Bitumen-Aggregate Mixtures
D	4215-87		Cold-Mixed, Cold-Laid Bituminous Paving Mixtures
D	3387-83		Compaction and Shear Properties of Bituminous Mixtures by Means of the U.S. Corps of Engineers Gyratory Testing Machine (GTM)
D	1074-83		Compressive Strength of Bituminous Mixtures
D	2489-84	(1989)	Degree of Particle Coating of Bituminous-Aggregate Mixtures
D	2950-82		Density of Bituminous Concrete in Place by Nuclear Method
D	3910-84		Design, Testing and Construction of Slurry Seal

D	3497-79	(1985)	Dynamic Modulus of Asphalt Mixtures
D	4867-88		Effect of Moisture on Asphalt Concrete Paving Mixtures
D	1075-88		Effect of Water on Cohesion of Compacted Bituminous Mixtures
D	3515-89		Hot-Mixed, Hot-Laid Bituminous Paving Mixtures
D	4123-82	(1987)	Indirect Tension Test for Resilient Modulus of Bituminous Mixtures
D	995-88		Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures
D	1461-85		Moisture or Volatile Distillates in Bituminous Paving Mixtures
D	3203-88		Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
D	3637-84		Permeability of Bituminous Mixtures
D	3496-79	(1985)	Preparation of Bituminous Mixture Specimens for Dynamic Modulus Testing
D	3202-83		Preparation of Bituminous Mixture Beam Specimens by Means of the California Kneading Compactor
D	1561-81a		Preparation of Bituminous Mixture Test Specimens by Means of California Kneading Compactor
D	4013-81	(1987)	Preparation of Test Specimens of Bituminous Mixtures by Means of Gyratory Shear Compactor
D	2172-88		Quantitive Extraction of Bitumen from Bituminous Paving Mixtures
D	1369-84	(1989)	Quantities of Materials for Bituminous Surface Treatments
D	1560-81a		Resistance to Deformation and Cohesion of Bituminous Mixtures by Means of Hveem Apparatus
D	1559-89		Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus
D	2041-90		Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
D	3549-83	(1987)	Thickness or Height of Compacted Bituminous Paving Mixture Specimens

9. Paving Joint Materials:

D	4070-81		Adhesive-Lubricant for Installation of Preformed Elastomeric Bridge Compression Seals in Concrete Structures
D	1850-74	(1979)	Concrete Joint Sealer, Cold-Application Type (Discontinued 1991)
D	1190-74	(1980)	Concrete Joint Sealer, Hot Poured Elastic Type
D	1854-74	(1990)	Concrete Joint Sealer, Jet-Fuel-Resistant, Hot-Poured Elastic Type
D	1191-84		Concrete Joint Sealers, Testing
D	5078-90		Crack Filler, Hot Applied, for Asphalt Concrete and Portland Cement Concrete Pavements
D	3583-85		Joint Sealant, Hot-Applied, Elastomeric-Type, for Portland Cement Concrete Pavements or Joint Sealant, Hot-Applied, Elastomeric, Jet-Fuel-Resistant-Type, for Portland Cement Concrete Pavements, Testing
D	3582-89		Joint Sealant, Hot-Poured, Jet-Fuel-Resistant Type, for Portland Cement Concrete and Tar-Concrete Pavements, Testing
D	3407-78		Joint Sealants, Hot-Poured for Concrete and Asphalt Pavements

D	1855-89		Jet-Fuel-Resistant Concrete Joint Sealer, Hot-Poured Elastic Type, Testing
D	3569-85		Joint Sealant, Hot-Applied, Elastomeric, Jet-Fuel-Resistant-Type, for Portland Cement Concrete and Tar-Concrete Pavements
D	3406-85		Joint Sealant, Hot-Applied, Elastomeric-Type, for Portland Cement Concrete Pavements
D	3581-80	(1990)	Joint Sealant, Hot-Poured, Jet-Fuel-Resistant Type, for Portland Cement Concrete and Tar-Concrete Pavements
D	3405-78		Joint Sealants, Hot-Poured, for Concrete and Asphalt Pavements
D	2835-89		Lubricant for Installation of Preformed Compression Seals in Concrete Pavements
D	994-71	(1982)	Preformed Expansion Joint Filler for Concrete (Bituminous Type)
D	1751-83		Performed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
D	3542-83		Preformed Polychloroprene Elastomeric Joint Seals for Bridges
D	2628-81		Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements
D	1752-84		Preformed Sponge-Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction
D	545-84		Preformed Expansion Joint Fillers for Concrete Construction (Nonextruding and Resilient Types), Testing

10. Miscellaneous Paving Materials:

D	3963	Epoxy-Coated Reinforcing Steel
D	4505-85	Preformed Plastic Pavement Marking Tape for Extended Service Life
D	4592-86	Preformed Plastic Pavement Marking Tape for Limited Service Life
D	4956-90	Retroreflective Sheeting for Traffic Control

11. Paving Materials Sampling:

D	75-87	Sampling Aggregates
D	140-88	Sampling Bituminous Materials
D	979-89	Sampling Bituminous Paving Mixtures

12. Pavement System Evaluations:

D	4694-87	Deflections with a Falling-Weight Type Impulse Load Device
D	4695-87	General Pavement Deflection Measurements

13. Traveled Surface Characteristics:

E	770-80	(1985)	Classifying Pavement Surface Textures
E	1337-90		Determining Longitudinal Peak Braking Coefficient of Paved Surfaces Using a Standard Reference Tire

E	1393-90		Determining the Polishability of Bituminous Pavement Surfaces and Specimens by Means of the Penn State Reciprocating Polishing Machine
E	1082-90		Measurement of Vehicular Response to Traveled Surface Roughness
E	950-83		Measuring the Longitudinal Profile of Vehicular Traveled Surfaces with an Inertial Profilometer
E	1274-88		Measuring Pavement Roughness Using a Profilograph
E	965-87		Measuring Surface Macrotexture Depth Using a Volumetric Technique
E	670-87		Side Force Friction on Paved Surfaces Using the Mu-Meter
E	524-88		Standard Smooth Tire for Pavement Skid-Resistance Tests
E	501-88		Standard Rib Tire for Pavement Skid-Resistance Tests
E	445/E 445M-88		Stopping Distance on Paved Surfaces Using a Passenger Automobile Equipped with Full-Scale Tires
E	867-89		Traveled Surface Characteristics

J. Concrete Pipe:

C	822-90		Concrete Pipe and Related Products
C	497-88		Concrete Pipe, Manhole Sections, or Tile
C	14-90		Concrete Sewer, Storm Drain, and Culvert Pipe
C	877-77	(1989)	External Sealing Bands for Noncircular Concrete Sewer, Storm Drain, and Culvert Pipe
C	1092-88		Glass Reinforced Concrete D-Load Culvert, Storm Drain and Sewer Pipe
C	969-82	(1990)	Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines
C	1103-90		Joint Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines
C	443-85a	(1990)	Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets
C	789-90		Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers
C	850-90		Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers with Less Than 2 ft. of Cover Subjected to Highway Loadings
C	506-90		Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
C	76-90		Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
C	655-90		Reinforced Concrete D-Load Culvert, Storm Drain, and Sewer Pipe
C	507-90		Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe
C	478-90b		Reinforced Concrete Manhole Sections, Precast
C	923-89		Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals
C	924-89		Testing Concrete Pipe Sewer Lines by Low-Pressure Air Test Method

K. **Precast Concrete Products:**

C	948-81	(1986)	Dry and Wet Bulk Density, Water Absorption, and Apparent Porosity of Thin Sections of Glass-Fiber-Reinforced Concrete
C	947-89		Flexural Properties of Thin-Section Glass-Fiber-Reinforced Concrete (Using Simple Beam with Third-Point Loading)
C	1037-85		Inspection of Underground Precast Concrete Utility Structures
C	891-90		Installation of Underground Precast Concrete Utility Structures
C	857-87		Minimum Structural Design Loading for Underground Precast Concrete Utility Structures
C	825-79	(1990)	Precast Concrete Barrier
C	913-89		Precast Concrete Water and Wastewater Structures
C	915-79	(1990)	Precast Reinforced Concrete Crib Wall Members
C	936-82	(1988)	Solid Concrete Interlocking Paving Units
C	858-83	(1990)	Underground Precast Concrete Utility Structures

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SUBSECTION 3.04
REQUIREMENTS FOR WATER USAGE

I. GENERAL

A. The Contractor shall provide water tank trucks for his use. The City does not provide water free of charge for any purpose including testing and disinfection. The Contractor shall be charged at the prevailing rates for all water used.

B. Prior to any water usage from the City supply, a deposit shall be placed with the Utility Billing Department at the Municipal Building (City Hall), telephone number (806) 378-3075. The deposit will not cover the cost of replacing the meter. The permit shall have been obtained and the deposit placed before the Water Department Meter Shop personnel, located in the City of Amarillo Central Service Center (SE 23rd Avenue and Hayes Street), will issue the meter, valve, fittings, and fire hydrant wrench. Only meters issued by the City of Amarillo will be acceptable for use. No water is to be obtained from a fire hydrant without a standard City of Amarillo fire hydrant connection. This connection will be furnished by the Water Distribution Department if necessary. The Contractor securing the permit will be responsible for the above equipment. If repairs and/or replacement of any of the equipment are required due to misuse, freezing, vandalism, loss, theft, or other damage not the fault of the equipment, the Contractor securing the permit will be billed for the repair. Should the meter, valve, or fittings be lost or stolen, the deposit will be forfeited and any additional amounts due will be billed to the Contractor.

C. All water trucks shall have a permanent air gap between the discharge from the distribution system and the tank truck storage compartment. An air gap means that when the discharge from the distribution system is turned off, there exists a physical air gap between the discharge point and the highest possible level of water in the storage compartment of the tank truck. As an alternative to this method, the tank truck owner shall provide a backflow prevention device approved by the City of Amarillo Utilities Division.

II. FIRE HYDRANT OPERATION

A. The Contractor shall exercise proper care and precaution in the use of a fire hydrant. **No wrench other than a standard fire hydrant wrench shall be used on a fire hydrant.** When the Contractor is using the fire hydrant, he shall always have it completely open and shall use a valve, furnished by the City of Amarillo, to adjust the flow of water for his requirements. The Contractor shall not leave the valve, any hose, pipe, or any other connections on the fire hydrant except when one of his employees is in the vicinity ready to remove such equipment in the case of an emergency. Proper tools for the removal of such valve, hose, pipe, or other connections must be at the hydrant available for immediate use.

B. The contractor may move the equipment to various locations provided the Water Distribution Office is notified, at telephone number (806) 378-4279, of the proposed location prior to actual relocation.

C. If a connection is made on a faulty hydrant, a report of the faulty hydrant shall be made immediately to the Water Distribution Department at telephone number (806) 378-4279.

III. BILLING

Meters will be read monthly by the Contractor at the direction of the Utility Billing Department and reported to the City at telephone number (806) 378-4272. The Contractor

will be billed for the amount of water reported. Ten (10) percent will be added to the rates if bills are not paid by the date shown on the bill.

IV. MISUSE AND DAMAGE

A. Should a violation concerning the use of the fire hydrant be observed, the person named in the permit will be notified and is expected to resolve the violation immediately. Should the violation continue, the City of Amarillo will terminate the permit; remove the meter, valve, and fittings, and the deposit will be forfeited without further notice. Any amount due will also be billed to the Contractor.

B. During the use of a fire hydrant, should the fire hydrant be damaged due to the Contractor's employee, representative, or equipment, the Contractor shall repair or pay the City for repairs required to restore equipment to a condition equal to that prior to its use by the Contractor and also to the satisfaction of the Water Distribution Department Head.

C. Should pavement in the vicinity of a fire hydrant be damaged during the use of the fire hydrant or if it fails due to the use of the fire hydrant, either while the fire hydrant is in use or after it is in use, the Contractor shall replace the damaged pavement to the satisfaction of the Street Superintendent. The Street Superintendent shall determine the cause of the failure and his decision shall be final.

D. Any Contractor observed taking water from a fire hydrant or other connection without the use of a City issued meter will be given a written warning on the first offense. If the Contractor is observed taking water from a fire hydrant or other connection a second time, without the use of a City issued meter, will forfeit their deposit and the City issued equipment will be confiscated by the City. Any amount due will also be billed to the Contractor.

V. PERMIT TERMINATION

At the termination of a permit, the meter, valve, fittings, and fire hydrant wrench shall be returned by the Contractor to the Water Distribution Department. The meter will be read and checked by the Meter Shop personnel for possible damage. After the final billing for water consumption and necessary repair charges, the City will refund the balance of the deposit on the meter, valve, and fittings or bill the Contractor for any amount due.

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SUBSECTION 3.05
CONSTRUCTION DEBRIS REMOVAL

I. SCOPE

Asphalt, asphaltic concrete, portland cement concrete, structural steel and brush debris to be removed from the project(s) will not be allowed to dump at the City landfill. Other debris that is acceptable by Solid Waste Disposal personnel may be taken to the landfill at no charge if the Contractor has a current permit from the Public Works Division of the City of Amarillo.

Contractor is responsible for proper disposal of all construction debris in accordance with all Federal, State and City of Amarillo regulations.