# PART VI AMENDMENTS TO STANDARD SPECIFICATIONS

#### INTRODUCTION

The following Amendments and Special Provisions shall be used in conjunction with the 2010 Standard Specifications for Road, Bridge, and Municipal Construction.

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#### AMENDMENTS TO THE STANDARD SPECIFICATIONS

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The following Amendments to the Standard Specifications are made a part of this contract and supersede any conflicting provisions of the Standard Specifications. For informational purposes, the date following each Amendment title indicates the implementation date of the Amendment or the latest date of revision.

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Each Amendment contains all current revisions to the applicable section of the Standard Specifications and may include references which do not apply to this particular project.

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15 02.AP1

## 16 SECTION 1-02, BID PROCEDURES AND CONDITIONS

17 **January 4, 2010** 

## 1-02.7 Bid Deposit

In the first paragraph, the third sentence is revised to read:

In the first paragraph, the first sentence is revised to read:

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For projects scheduled for bid opening in Olympia, the proposal bond may be in hard copy or electronic format via Surety2000.com or Insurevision.com and BidX.com.

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## 1-02.9 Delivery of Proposal

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For projects scheduled for bid opening in Olympia, each Proposal shall be sealed and submitted in the envelope provided with it, or electronically via Expedite software and BidX.com at the location and time identified in Section 1-02.12.

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The following new paragraph is inserted after the first paragraph:

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For projects scheduled for bid opening in the Region, each Proposal shall be sealed and submitted in the envelope provided with it, at the location and time identified in Section 1-02.12. The Bidder shall fill in all blanks on this envelope to ensure proper handling and delivery.

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06.AP1

#### SECTION 1-06, CONTROL OF MATERIALS

39 April 5, 2010

## 1-06.1 Approval of Materials Prior to Use

This section is supplemented with the following new sub-section:

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#### 1-06.1(4) Fabrication Inspection Expense

In the event the Contractor elects to have items fabricated beyond 300 miles from Seattle, Washington the Contracting Agency will deduct from payment due the Contractor costs to perform fabrication inspection on the following items:

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- Steel Bridges and Steel Bridge components
- Cantilever Sign Structures and Sign Bridges
- Cylindrical, Disc, Pin, and Spherical Bearings
- Modular Expansion Joints
- Additional items as may be determined by the Engineer.

The deductions for fabrication inspection costs will be as shown in the Payment Table below.

Zone	Place of Fabrication	Reduction in Payment
1	Within 300 airline miles from Seattle	None
2	Between 300 and 3,000 airline miles from Seattle	\$700.00 per *inspection day
3	Over 3,000 airline miles from Seattle	\$1,000 per *inspection day, but not less than \$2,500 per trip

<sup>\*</sup>Note - An inspection day includes any calendar day or portion of a calendar day spent inspecting at or traveling to and from a place of fabrication.

Where fabrication of an item takes place in more than one zone, the reduction in payment will be computed on the basis of the entire item being fabricated in the furthest of zones where any fabrication takes place on that item.

The rates for Zone 2 and 3 shall be applied for the full duration time of all fabrication inspection activities to include but not limited to; plant approvals, prefabrication meetings, fabrication, coatings and final inspection.

Table 2 "Pay Factors" on page 1-39 is revised to read:

Table 2
Pay Factors

Category	n=3	n=4	n=5	n≖¢	n=7	n=8	n=9	n=10 to	n=12 to	n=15 to	n=18 to	n=23 to	n=30 to	n=43 to	ก=67 to
								N=11	n=14	n=17	п≖22	n≖29	n=42	n=66	••
1.05						100	100	100	100	100	100	100	100	100	100
1.04					100	99	97	95	96	96	96	97	97	97	97
1.03				100	98	96	94	92	93	93	94	95	95	96	96
1.02				99	97	94	91	89	90	91	92	93	93	94	94
1.01	100	100	100	98	95	92	89	87	88	89	90	91	92	92	93
1.00	69	75	78	80	82	83	84	85	86	87	88	89	90	91	92
0.99	66	72	76	78	80	81	82	83	84	85	86	87	89	90	91
0.98	64	70	74	76	78	79	B0	81	82	84	85	86	87	88	80
0.97	63	68	72	74	76	77	78	79	81	82	83	84	86	87	88
0.96	61	67	70	72	74	75	76	78	79	81	82	83	84	86	87
0.95	59	65	68	71	72	74	75	76	78	79	80	82	83	84	86
0.94	58	63	67	69	71	72	73	75	76	78	79	80	82	83	85
0.93	57	62	65	67	69	71	72	73	75	76	78	79	80	82	84
0.92	55	60	63	66	68	69	70	72	73	75	76	78	79	81	82
0.91	54	59	62	64	66	68	69	70	72	74	75	76	78	79	81
0.90	53	57	61	63	65	66	67	69	71	72	74	75	77	7B	80
0.89	51	56	59	62	83	65	66	68	69	71	72	74	75	77	79
0.88	50	55	59	60	62	64	85	66	88	70	71	73	74	76	79
0.87	49	53	57	59	61	62	63	65	87	68	70	71	73	75	77
0.80	48	52	55	58	59	61	62	64	66	67	69	70	72	74	76

(Continued)

Table 2 "Pay Factors" on page 1-40 is revised to read:

Table 2

Pay Factors (continued)

Minimum Required Percent of Work Within Specification Limits for a Given Factor  $(P_U + P_I) = 100$ PAY FACTOR n=23 n=30 n=43 n=67 Category N=5 n=12 n=15 n=18 n=4 n±6 n=7 næ8 n=10 to to to to to to to to n=11 n=14 n=17 n=22 n≖29 n=42 n=66 0.85 44 43 48 47 54 53 57 60 62 64 65 70 72 58 57 0.84 0.83 63 70 0.82 52 51 54 52 56 55 58 40 50 49 0.81 54 52 51 50 61 59 58 64 63 62 66 65 64 43 62 0.80 68 0.79 58 41 39 36 35 44 43 46 45 0.78 0.77 48 50 53 55 60 0.76 0.75 REJECT Values Less Than Those Shown Above

Reject Quality Levels Less Than Those Specified for a 0.75 Pay Factor

Note: If the value of  $(P_U + P_I) - 100$  does not correspond to a  $(P_U + P_I) - 100$  value in this table, use the next smaller  $(P_U + P_I) - 100$  value.

VI-3

1 07.AP1

#### 2 SECTION 1-07, LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

3 April 5, 2010

#### 1-07.13(4) Repair of Damage

The last sentence in the first paragraph is revised to read:

For damage qualifying for relief under Sections 1-07.13(1), 1-07.13(2), 1-07.13(3), or 8-17.5, payment will be made in accordance with Section 1-09.4 using the estimated Bid item "Reimbursement for Third Party Damage".

#### 1-07.16(2) Vegetation Protection and Restoration

The second paragraph is revised to read:

Damage which may require replacement of vegetation includes torn bark stripping, broken branches, exposed root systems, cut root systems, poisoned root systems, compaction of surface soil and roots, puncture wounds, drastic reduction of surface roots or leaf canopy, changes in grade greater than 6-inches, or any other changes to the location that may jeopardize the survival or health of the vegetation to be preserved.

The third paragraph is revised to read:

When large roots of trees designated to be saved are exposed by the Contractor's operation, they shall be wrapped with heavy, moist material such as burlap or canvas for protection and to prevent excessive drying. The material shall be kept moist and securely fastened until the roots are covered to finish grade. All material and fastening material shall be removed from the roots before covering. All roots 1-inch or larger in diameter, which are damaged, shall be pruned with a sharp saw or pruning shear. Damaged, torn, or ripped bark shall be removed as ordered by the Engineer at no additional cost to the Contracting Agency.

The fourth paragraph is revised to read:

Any pruning activity required to complete the Work as specified shall be performed by a Certified Arborist as designated by the Engineer.

08.AP1

## **SECTION 1-08, PROSECUTION AND PROGRESS**

April 5, 2010

## 1-08.1 Subcontracting

The second and third sentences in the eighth paragraph are revised to read:

This Certification shall be submitted to the Project Engineer on WSDOT form 421-023, "Quarterly Report of Amounts Paid as MBE/WBE Participants", quarterly for the State fiscal quarters: January 1 through March 31, April 1 through June 30, July 1 through September 30, October 1 through December 31, and for any remaining portion of a quarter through Physical Completion of the Contract. The report is due 20 calendar days following the fiscal quarter end or 20-calendar days after Physical Completion of the Contract.

The last sentence in the ninth paragraph is revised to read:

When required, this "Quarterly Report of Amounts Credited as DBE Participation" is in lieu of WSDOT form 421-023, "Quarterly Report of Amounts Paid as MBE/WBE Participants".

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## 1-08.5 Time for Completion

The last two sentences in the first paragraph are revised to read:

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When any of these holidays fall on a Sunday, the following Monday shall be counted a nonworking day. When the holiday falls on a Saturday, the preceding Friday shall be counted a nonworking day. The days between December 25 and January 1 will be classified as nonworking days.

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13 09.AP1

#### SECTION 1-09, MEASUREMENT AND PAYMENT

15 **January 4, 2010** 

#### 1-09.9 Payments

The first paragraph is revised to read:

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The basis of payment will be the actual quantities of Work performed according to the Contract and as specified for payment.

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The Contractor shall submit a breakdown of the cost of lump sum Items to enable the Project Engineer to determine the Work performed on a monthly basis. Lump sum item breakdowns shall be submitted prior to the first progress payment that includes payment for the Bid Item in question. A breakdown is not required for lump sum items that include a basis for incremental payments as part of the respective Specification. Absent a lump sum breakdown the Project Engineer will make a determination based on information available. The Project Engineer's determination of the cost of work shall be final.

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In the third paragraph, the second sentence is deleted.

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10.AP1

## SECTION 1-10, TEMPORARY TRAFFIC CONTROL

34 April 5, 2010

In Division 1-10, all references to "truck mounted" are revised to read "transportable".

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## 1-10.2(3) Conformance to Established Standards

In the fifth paragraph, the reference "(TMA's)" is deleted.

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## 1-10.3(2)C Lane Closure Setup/Takedown

In the second paragraph, the reference to "TMA/arrow board" is revised to read "transportable attenuator/arrow board".

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## 1-10.3(3)A Construction Signs

In the fourth paragraph "height" is replaced with "top of the ballast".

## 1-10.3(3)J Truck Mounted Attenuator

The title for this section is revised to read:

Section 9-35.12.

Attenuator(s)".

attenuator".

01.AP2

April 5, 2010

2-01.3(2) Grubbing

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## 1-10.3(3) J Transportable Attenuator

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In the second and fourth paragraphs, the references to "TMA" are revised to read "Transportable Attenuator".

In the third paragraph, the reference to "truck's" is revised to read "host vehicle's".

1-10.4(2) Item Bids with Lump Sum for Incidentals

In the eighth paragraph, the first sentence is revised to read:

1-10.5(2) Item Bids with Lump Sum for Incidentals

In the first paragraph Item 2. e. is revised to read:

allowed in Section 2-01.3(1) item 3.

mounted or attached impact attenuator used on the project.

SECTION 2-01, CLEARING, GRUBBING, AND ROADSIDE CLEANUP

SECTION 2-02, REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Where shown on an approved traffic control plan or where ordered by the Engineer, the

Contractor shall provide, operate, and maintain transportable impact attenuators as required in

All references to "Truck Mounted Impact Attenuator(s)" are revised to read "Transportable

"Transportable Attenuator" will be measured per each one time only for each host vehicle with

In the last sentence of the ninth paragraph, the reference to "TMA" is replaced with "transportable

All references to "truck mounted impact attenuator(s)" are revised to read "transportable attenuator(s)".

e. Upon which embankments will be placed except stumps may be close-cut or trimmed as

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In the first paragraph, the first sentence is revised to read:

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January 4, 2010 43

2-02.3 Construction Requirements 44

02.AP2

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City of Arlington

Airport Boulevard Road Improvements **Contract Documents** 112736/General/Specifications

The fourth paragraph is revised to read:

Amendments to Standard Specifications

The Contractor may dispose of waste material in Contracting Agency owned sites if the Special 1 Provisions or the Engineer permits it. Otherwise, the Contractor shall arrange to dispose of waste 2 at no expense to the Contracting Agency and the disposal shall meet the requirements of Section 3 2-03.3(7)C. 4 5 6 01.AP5 SECTION 5-01, CEMENT CONCRETE PAVEMENT REHABILITATION 7 January 4, 2010 8 5-01.2 Materials 9 The referenced section for the following item is revised to read: 10 11 Dowel Bars 9-07.5(1) 12 13 04.AP5 14 SECTION 5-04, HOT MIX ASPHALT 15 April 5, 2010 16 5-04.3(8)A1 General 17 The second sentence in the second paragraph is revised to read: 18 19 Statistical evaluation will be used for a class of HMA with the same PG grade of asphalt binder, 20 21 when the Proposal quantities exceed 4,000-tons. 22 The third paragraph is revised to read: 23 24 Nonstatistical evaluation will be used for the acceptance of HMA when the Proposal quantities for 25 a class of HMA, with the same PG grade of asphalt binder, are 4,000-tons or less. 26 27 5-04.3(8)A4 Definition of Sampling Lot and Sublot 28 The first sentence in the first paragraph is revised to read: 29 30 A lot is represented by randomly selected samples of the same mix design that will be tested for 31 acceptance with a maximum of 15 sublots per lot; the final lot for a mix design may be increased 32 to 25 sublots 33 34 5-04.3(10)B1 General 35 The first sentence in the second paragraph is revised to read: 36 37 A lot is represented by randomly selected samples of the same mix design that will be tested for 38 acceptance with a maximum of 15 sublots per lot; the final lot for a mix design may be increased 39

to 25 sublots.

1 05.AP5

## 2 SECTION 5-05, CEMENT CONCRETE PAVEMENT

#### 3 April 5, 2010

## 5-05.3(4)A Acceptance of Portland Cement Concrete Pavement

All references to "AASHTO T 22" are revised to read "WSDOT FOP for AASHTO T 22".

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The eighth paragraph is revised to read:

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Acceptance testing for compliance of air content and 28-day compressive strength shall be conducted from samples prepared according to WSDOT FOP for WAQTC TM 2. Air content shall be determined by conducting WSDOT FOP for WAQTC /AASHTO T 152. Compressive Strength shall be determined by WSDOT FOP for AASHTO T 23 and WSDOT FOP for AASHTO T 22.

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## 5-05.3(12) Surface Smoothness

The first paragraph is revised to read:

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The pavement smoothness will be checked with equipment furnished and operated by the Contractor, under supervision of the Engineer, within 48-hours following placement of concrete. Smoothness of all pavement placed except Shoulders, ramp tapers, intersections, tight horizontal curves, and small or irregular areas as defined by Section 5-05.3(3) unless specified otherwise, will be measured with a recording profilograph, as specified in Section 5-05.3(3), parallel to centerline, from which the profile index will be determined in accordance with WSDOT Test Method 807. Tight horizontal curves are curves having a centerline radius of curve less than 1,000 feet and pavement within the superelevation transition of those curves.

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#### 5-05.3(16) Protection of Pavement

All references to "AASHTO T 22" are revised to read "WSDOT FOP for AASHTO T 22".

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## 5-05.3(17) Opening to Traffic

All references to "AASHTO T 22" are revised to read "WSDOT FOP for AASHTO T 22".

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32 02.AP6

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#### **SECTION 6-02, CONCRETE STRUCTURES**

34 April 5, 2010

## 35 **6-02.**

## 6-02.3(6) Placing Concrete

The third paragraph is revised to read:

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All foundations, forms, and contacting concrete surfaces shall be moistened with water just before the concrete is placed. Any standing water on the foundation, on the concrete surface, or in the form shall be removed.

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The following new sentence is added after the fourth sentence in the fourth paragraph:

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The submittal to the Engineer shall include justification that the concrete mix design will remain fluid for interruptions longer than 30-minutes between placements.

## 6-02.3(10)D Concrete Placement, Finishing, and Texturing

The following paragraph is inserted at the beginning of this section:

Before placing bridge approach slab concrete, the subgrade shall be constructed in accordance with Sections 2-06 and 5-05.3(6).

## 6-02.3(11) Curing Concrete

In the fifth paragraph "Type 1D" is revised to read "Type 1D, Class B".

# 6-02.3(17)F Bracing

Under the heading "Temporary Bracing for Bridge Girders", the table is revised to read:

Girder Series	Distance in Inches
W42G	30
W50G	42
W58G	63
W74G	66
Prestressed concrete tub girders with webs with flanges	30
WF36G, WF42G, WF50G, WF58G, WF66G, WF74G, WF83G, WF95G, and WF100G	70
W32BTG, W38BTG, and W62BTG	70
WF74PTG, WF83PTG, WF95PTG, and WF100PTG	70

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## 6-02.3(17)N Removal of Falsework and Forms

The first paragraph including table is revised to read:

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If the Engineer does not specify otherwise, the Contractor may remove forms based on an applicable row of criteria in the table below. Both compressive strength and minimum time criteria must be met if both are listed in the applicable row. The minimum time shall be from the time of the last concrete placement the forms support. In no case shall the Contractor remove forms or falsework without the Engineer's approval.

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Concrete Placed In	Percent of Specified Minimum Compressive Strength1	Minimum Compressive Strength1	Minimum Time
Columns, walls, non-sloping box girder webs, abutments, footings, pile caps,, traffic and pedestrian barriers, and any other side form not supporting the concrete weight.	<del></del>	_	3 days
Columns, walls, non-sloping box girder webs, abutments, traffic and pedestrian barriers, and any other side form not supporting the concrete weight or other loads.	_	1400 psi	18 hours
Side forms of footings, pile caps, and shaft caps. <sup>2</sup>	_	_	18 hours
Crossbeams, shaft caps, struts, inclined columns and inclined walls.	80	_	5 days
Bridge decks supported on wood or steel stringers or on steel or prestressed concrete girders. <sup>3</sup>	80	_	10 days
Box girders, T-beam girders, and flat-slab Superstructure. <sup>3</sup>	80	_	14 days
Arches. <sup>3</sup>	80		21 days

- 1 Strength shall be proved by test cylinders made from the last concrete placed into the form. The cylinders shall be cured according to WSDOT FOP for AASHTO T 23.
- 2 Curing compound shall be immediately applied to the sides when forms are removed.
- 3 Where continuous spans are involved, the time for all spans will be determined by the last concrete placed affecting any span.

The third and fourth paragraphs are deleted.

The fifth paragraph is revised to read:

Curing shall comply as required in Section 6-02.3(11). The concrete surface shall not become dry during form removal if removed during the cure period.

## 6-02.3(20) Grout for Anchor Bolts and Bridge Bearings

In the fourth paragraph "9-20.3(4)" is revised to read "Section 9-20.3(4)".

#### 6-02.3(24) Reinforcement

This first paragraph is revised to read:

 Although a bar list is normally included in the Plans, the Contracting Agency does not guarantee its accuracy and it shall be used at the Contractor's risk. Reinforcement fabrication details shall be determined from the information provided in the Plans.

The third paragraph is deleted.

## 6-02.3(24)C Placing and Fastening

The eighth paragraph is revised to read:

Mortar blocks may be accepted based on a Manufacturer's Certificate of Compliance.

The 14th paragraph is revised to read:

Clearances for main bars shall be at least:

4-inches between:	Bars and the surface of any concrete masonry exposed to the action of salt or alkaline water.
3-inches between:	Bars and the surface of any concrete deposited against earth without intervening forms.
2-1/2-inches between:	Adjacent bars in a layer. Bridge deck bars and the top of the bridge deck.
2-inches between:	Adjacent layers. Bars and the surface of concrete exposed to earth. Reinforcing bars and the faces of forms for exposed aggregate finish.
1-1/2-inches between:	Bars and the surface of concrete when not specified otherwise in this Section or in the Plans. Barrier and curb bars and the surface

1-inch between: Slab bars and the bottom of the slab. Slab bars and the top

surface of the bottom slab of a cast-in-place concrete box girder.

The following new paragraph is inserted after the 14th paragraph:

of concrete.

Cover to ties and stirrups may be ½-inch less than the values specified for main bars but shall not be less than 1-inch.

#### 6-02.3(24)F Mechanical Splices

Items 1, 2, and 3 in the fourth paragraph are revised to read:

 Mechanical splices shall develop at least 125 percent of the specified yield strength of the unspliced bar. The ultimate tensile strength of the mechanical splice shall exceed that of the unspliced bar.

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#### SECTION 6-03, STEEL STRUCTURES 43

**April 5, 2010** 44

## 6-03.3(25) Repair Welding

In the first paragraph "2002" is revised to read "2008". 46

## 6-03.3(25)A Welding Inspection

In the first paragraph "2002" is revised to read "2008".

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In the paragraph below the heading "Radiographic Inspection" "2002 Structural" is revised to read "2008 Bridge".

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## 6-03.3(29) Vacant

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This section including title is revised to read:

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#### **Welded Shear Connectors**

All welded shear connectors on steel girder top flanges shall be installed in the field after the forms for the concrete bridge deck are in place. The steel surface to be welded shall be prepared to SSPC-SP 11, power tool cleaning, just prior to welding. Installation, production control, and inspection of welded shear connectors shall conform to Chapter 7 of the AASHTO/AWS D1.5M/D1.5:2008 Bridge Welding Code. After the welded shear connectors are installed, the weld and the disturbed steel surface shall be cleaned and painted in accordance with Section 6-07.3(9)I.

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20 07.AP6

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SECTION 6-07, PAINTING April 5, 2010

22 April 5, 2010

## 6-07.3(9)G Application of Shop Primer Coat

In the second paragraph, the second, third, and fourth sentences are deleted.

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## 6-07.3(9) Application of Field Coatings

The following new paragraph is inserted preceding the first paragraph:

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Prior to applying field coatings, the Contractor shall field install welded shear connectors on the steel girder top flanges in accordance with Section 6-03.3(29) and as shown in the Plans. After installation of the welded shear connectors, the weld and the disturbed surface of the steel girder top flange shall be cleaned in accordance with SSPC-SP 11 and primed.

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## 6-07.3(10)H Paint System

In the first sentence of the first paragraph "new steel" is revised to read "existing steel".

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09.AP6

## SECTION 6-09, MODIFIED CONCRETE OVERLAYS

39 January 4, 2010

## 6-09.3(6) Further Deck Preparation

In the second paragraph, item number 3. and 4. are revised to read:

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3. Existing non-concrete patches as authorized by the Engineer.

uniform grade and section. The foundation surface for precast concrete barrier Type 2, 3, 4 and transitions shall meet this test for uniformity:

When a 10-foot straightedge is placed on the surface parallel to the centerline for the barrier, the surface shall not vary more than 1/2-inch from the lower edge of the straightedge. If deviations exceed 1/4-inch, the Contractor shall correct them as required in Section 5-04.3(13).

In the second paragraph, the first sentence is revised to read:

The Contractor shall align the joints of all precast barrier segments so that they offset no more than 1/4-inch transversely and no more than 3/4-inch vertically.

12.AP6

## **SECTION 6-12, NOISE BARRIER WALLS** April 5, 2010

## 6-12.3(6) Precast Concrete Panel Fabrication and Erection

The second sentence of the first paragraph in Item 3 is revised to read:

The Contractor shall cast the precast concrete panels horizontally.

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1 2 3	17.AP6 SECTION 6-17, PERMANENT GROUND ANCHORS January 4, 2010
4 5	6-17.3(7) Installing Permanent Ground Anchors In the third paragraph, the first sentence is revised to read:
6 7	The tendon shall be inserted into the drill hole to the desired depth prior to grouting.
8 9	In the third paragraph, the following sentence is inserted after the first sentence:
10 11 12	Wet setting of permanent ground anchors will not be allowed.
13	02.AP7
14 15	SECTION 7-02, CULVERTS January 4, 2010
16 17 18 19	<b>7-02.2 Materials</b> In the first paragraph, the following two items are inserted after the item "Corrugated Polyethylene Culvert Pipe 9-05.19":
20 21 22	Steel Rib Reinforced Polyethylene Culvert Pipe 9-05.21 High Density Polyethylene (HDPE) Pipe 9-05.23
23 24 25	7-02.5 Payment This section is supplemented with the following:
26 27 28	"Steel Rib Reinforced Polyethylene Culvert Pipe In. Diam.", per linear foot. "High Density Polyethylene (HDPE) Pipe In. Diam.", per linear foot.
29	04.AP7
30 31	SECTION 7-04, STORM SEWERS January 4, 2010
32 33 34	<b>7-04.2 Materials</b> In the first paragraph, the following two items are inserted after the item "Corrugated Polyethylene Storm Sewer Pipe 9-05.20":
35 36 37 38	Steel Rib Reinforced Polyethylene Storm Sewer Pipe 9-05.22 High Density Polyethylene (HDPE) Pipe 9-05.23
39 40	7-04.5 Payment This section is supplemented with the following:
41 42 43	"Steel Rib Reinforced Polyethylene Storm Sewer Pipe In. Diam.", per linear foot. "High Density Polyethylene (HDPE) Pipe In. Diam.", per linear foot.

City of Arlington Airport Boulevard Road Improvements **Contract Documents** 112736/General/Specifications

## 01.AP8 1 2 3 4 5

## SECTION 8-01, EROSION CONTROL AND WATER POLLUTION CONTROL

## April 5, 2010

#### 8-01.2 Materials

In the first paragraph, the following is inserted after the first sentence:

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Corrugated Polyethylene Drain Pipe

9-05.1(6)

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## 8-01.3(1) General

In the sixth paragraph, the first sentence is revised to read:

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When natural elements rut or erode the slope, the Contractor shall restore and repair the damage with the eroded material where possible, and remove and dispose of any remaining material found in ditches and culverts.

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In the seventh paragraph the first two sentences are deleted.

17 18 The table in the seventh paragraph is revised to read:

19 20

## Western Washington (West of the Cascade Mountain crest)

May 1 through September 30

17 Acres

October 1 through April 30

5 Acres

22 23 24

25

21

## Eastern Washington (East of the Cascade Mountain crest.)

April 1 through October 31

17 Acres

November 1 through March 31

5 Acres

26 27 28

The eighth paragraph is revised to read:

29 30

The Engineer may increase or decrease the limits based on project conditions.

31 32

The ninth paragraph is revised to read:

33 34

Erodible earth is defined as any surface where soils, grindings, or other materials may be capable of being displaced and transported by rain, wind, or surface water runoff.

35 36 37

The 10th paragraph is revised to read:

38 39 40

Erodible earth not being worked, whether at final grade or not, shall be covered within the specified time period, (see the tables below) using an approved soil covering practice.

41 42

43

## Western Washington (West of the Cascade Mountain crest)

October 1 through April 30 May 1 to September 30

2-days maximum

44 45 7-days maximum

46 47

## Eastern Washington (East of the Cascade Mountain crest.)

October 1 through June 30 July 1 through September 30 5-days maximum 10-days maximum

48 49

## 8-01.3(1)A Submittals

This section is revised to read:

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When a Temporary Erosion and Sediment Control (TESC) Plan is included in the Plans, the Contractor shall either adopt or modify the existing TESC Plan. If modified, the Contractor's TESC Plan shall meet all requirements of Chapter 6-2 of the current edition of the WSDOT Highway Runoff Manual. The Contractor shall provide a schedule for TESC Plan implementation and incorporate it into the Contractor's progress schedule. The Contractor shall obtain the Engineer's approval of the TESC Plan and schedule prior to the beginning of Work. The TESC Plan shall cover all areas that maybe affected inside and outside the limits of the project (including all Contracting Agency-provided sources, disposal sites, and haul roads, and all nearby land, streams, and other bodies of water).

13 14 15

The Contractor shall allow at least 5-working days for the Engineer to review any original or revised TESC Plan. Failure to approve all or part of any such Plan shall not make the Contracting Agency liable to the Contractor for any Work delays.

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## 8-01.3(1)B Erosion and Sediment Control (ESC) Lead

In the last paragraph, "Form Number 220-030 EF" is revised to read "WSDOT Form Number 220-030 EF".

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> 24 25

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## 8-01.3(1)C Water Management

In number 2., the reference to "Standard Specification" is revised to read "Section".

Number 3., is revised to read:

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#### 3. Offsite Water

Prior to disruption of the normal watercourse, the Contractor shall intercept the offsite stormwater and pipe it either through or around the project site. This water shall not be combined with onsite stormwater. It shall be discharged at its pre-construction outfall point in such a manner that there is no increase in erosion below the site. The method for performing this Work shall be submitted by the Contractor for the Engineer's approval.

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## 8-01.3(1)D Dispersion/Infiltration This section is revised to read:

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Water shall be conveyed only to dispersion or infiltration areas designated in the TESC Plan or to sites approved by the Engineer. Water shall be conveyed to designated dispersion areas at a rate such that, when runoff leaves the area, and enters waters of the State, turbidity standards are achieved. Water shall be conveyed to designated infiltration areas at a rate that does not produce surface runoff.

42 43 44

## 8-01.3(2)B Seeding and Fertilizing The fourth paragraph is revised to read:

45 46 47

48

The seed applied using a hydroseeder shall have a tracer added to visibly aid uniform application.

This tracer shall not be harmful to plant, aquatic or animal life. If cellulose fiber mulch or wood fiber mulch is used as a tracer, the application rate shall not exceed 250-pounds per acre.

49 50 51

In the fifth paragraph, "hydro seeder" is revised to read "hydroseeder".

City of Arlington Airport Boulevard Road Improvements Contract Documents

## 8-01.3(2)D Mulching

In the second paragraph, the second sentence is revised to read:

4 5

Wood strand mulch shall be applied by hand or by straw blower on seeded areas.

6 7 8

In the third paragraph, "1" is revised to read "a single" and "hydro seeder" is revised to read "hvdroseeder".

9 10

In the fourth paragraph, "MBFM" is revised to read "MBFM/FRM".

11 12

## 8-01.3(2)E Tacking Agent and Soil Binders

The following new paragraph is inserted at the beginning of this Section:

Tacking agent or soil binders applied using a hydroseeder shall have a mulch tracer added to visibly aid uniform application. This tracer shall not be harmful to plant, aquatic or animal life. If cellulose fiber mulch or wood fiber mulch is used as a tracer, the application rate shall not exceed 250-pounds per acre.

17 18 19

The paragraph "Soil Binding Using Bonded Fiber Matrix (BFM)" is supplemented with the following:

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The BFM may require a 24 to 48 hour curing period to achieve maximum performance and shall not be applied when precipitation is predicted within 24 to 48 hours, or on saturated soils, as determined by the Engineer.

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The last paragraph including title is revised to read:

26 27 28

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## Soil Binding Using Mechanically-Bonded Fiber Matrix (MBFM) or Fiber Reinforced Matrix (FRM)

The MBFM/FRM shall be hydraulically applied in accordance with the manufacturer's installation instructions and recommendations.

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## 8-01.3(2)F Dates for Application of Final Seed, Fertilizer, and Mulch The first paragraph is revised to read:

Unless otherwise approved by the Engineer, the final application of seeding, fertilizing, and mulching of slopes shall be performed during the following periods:

37 38 39

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41

42 43

## Western Washington<sup>1</sup>

Eastern Washington

(West of the Cascade Mountain crest) March 1 through May 15 September 1 through October 1

(East of the Cascade Mountain crest) October 1 through November 15 only

44 45 46

<sup>1</sup>Where Contract timing is appropriate, seeding, fertilizing, and mulching shall be accomplished during the fall period listed above. Written permission to seed after October 1 will only be given when Physical Completion of the project is imminent and the environmental conditions are conducive to satisfactory growth.

## 8-01.3(2)G Protection and Care of Seeded Areas

The first paragraph is revised to read:

3 4 5

1 2

The Contractor shall be responsible to ensure a healthy stand of grass. The Contractor shall restore eroded areas, clean up and properly dispose of eroded materials, and reapply the seed, fertilizer, and mulch, at no additional cost to the Contracting Agency.

6 7

In the second paragraph, number 1. is revised to read:

8 9 10

1. At the Contractor's expense, seed, fertilizer and mulch shall be reapplied in areas that have been damaged through any cause prior to final inspection, and reapplied to areas that have failed to receive a uniform application at the specified rate.

12 13 14

11

#### 8-01.3(2)H Inspection

The first sentence is revised to read:

15 16 17

Inspection of seeded areas will be made upon completion of seeding, temporary seeding, fertilizing, and mulching.

18 19 20

The third sentence is revised to read:

21 22

23

Areas that have not received a uniform application of seed, fertilizer, or mulch at the specified rate, as determined by the Engineer, shall be reseeded, refertilized, or remulched at the Contractor's expense prior to payment.

242526

#### 8-01.3(2)1 Mowing

27 28 In the first paragraph, the last sentence is revised to read:

29 30

Trimming around traffic facilities, Structures, planting areas, or other features extending above ground shall be accomplished preceding or simultaneously with each mowing.

31 32

## 8-01.3(3) Placing Erosion Control Blanket

In the first sentence, "Standard" is deleted.

33 34 35

The second sentence is revised to read:

36 37

Temporary erosion control blankets, having an open area of 60-percent or greater, may be installed prior to seeding.

38 39 40

## 8-01.3(4) Placing Compost Blanket

In the first paragraph, "before" is revised to read "prior to".

41 42 43

The last sentence is revised to read:

44 45

Compost shall be Coarse Compost.

46 47

## 8-01.3(5) Placing Plastic Covering

The first sentence is revised to read:

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Plastic shall be placed with at least a 12-inch overlap of all seams.

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## 8-01.3(6)A Geotextile-Encased Check Dam

The first paragraph is deleted.

8-01.3(6)B Rock Check Dam This section including title is revised to read:

6 7 8

## 8-01.3(6)B Quarry Spall Check Dam

9

The rock used to construct rock check dams shall meet the requirements for quarry spalls.

10 11

## 8-01.3(6)D Wattle Check Dam

12 13 This section is revised to read:

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Wattle check dams shall be installed in accordance with the Plans.

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## 8-01.3(6)E Coir Log

17 18 This section is revised to read:

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# Coir logs shall be installed in accordance with the Plans.

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#### 8-01.3(9)A Silt Fence

22 23

In the second paragraph, the second sentence is revised to read:

24 25

The strength of the wire or plastic mesh shall be equivalent to or greater then what is required in Section 9-33.2(1), Table 6 for unsupported geotextile (i.e., 180 lbs. grab tensile strength in the machine direction).

26 27 28

## 8-01.3(9)B Gravel Filter, Wood Chip or Compost Berm

29

In the second paragraph, the last sentence is deleted.

30 31 32

The third paragraph is revised to read:

33 34 The Compost Berm shall be constructed in accordance with the detail in the Plans. Compost shall be Coarse Compost.

35 36

#### 8-01.3(9)C Straw Bale Barrier This section is revised to read:

37 38

Straw Bale Barriers shall be installed in accordance with the Plans.

39 40 41

#### 8-01.3(9)D Inlet Protection This section is revised to read:

42 43 44

45

Inlet protection shall be installed below or above, or as a prefabricated cover at each inlet grate, as shown in the Plans. Inlet protection devices shall be installed prior to beginning clearing, grubbing, or earthwork activities.

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Geotextile fabric in all prefabricated inlet protection devices shall meet or exceed the requirements of Section 9-33.2, Table 1 for Moderate Survivability, and the minimum filtration properties of Table 2.

When the depth of accumulated sediment and debris reaches approximately ½ the height of an internal device or ½ the height of the external device (or less when so specified by the manufacturers) or as designated by the Engineer, the deposits shall be removed and stabilized on site in accordance with Section 8-01.3(16).

**8-01.3(10) Wattles**In the first paragraph, the third sentence is revised to read:

Excavated material shall be spread evenly along the uphill slope and be compacted using hand tamping or other method approved by the Engineer.

This section is supplemented with the following new paragraph:

The Contractor shall exercise care when installing wattles to ensure that the method of installation minimizes disturbance of waterways and prevents sediment or pollutant discharge into waterbodies.

8-01.3(12) Compost Sock

In the first paragraph, "sock" is revised to read "socks" and "streambed" is revised to read "waterbodies".

In the second paragraph "bank" is revised to read "slope".

In the third paragraph "and" is revised to read "or".

This section is supplemented with the following new paragraph:

Compost for Compost Socks shall be Coarse Compost.

## 8-01.3(14) Temporary Pipe Slope Drain

The first paragraph is revised to read:

Temporary pipe slope drain shall be Corrugated Polyethylene Drain Pipe and shall be constructed in accordance with the Plans

The last paragraph is revised to read:

Placement of outflow of the pipe shall not pond water on road surface.

# **8-01.3(15) Maintenance**In the fourth paragraph, the last sentence is revised to read:

Clean sediments may be stabilized on site using approved BMPs as approved by the Engineer.

## 8-01.3(16) Removal

In the second paragraph, the last sentence is revised to read:

This may include, but is not limited to, ripping the soil, incorporating soil amendments, and seeding with the specified seed.

#### 8-01.4 Measurement

The eighth paragraph is revised to read:

3 4 5

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2

Silt fence, gravel filter, compost berms, and wood chip berms will be measured by the linear foot along the ground line of completed barrier.

6 7

## 8-01.5 Payment

The following bid items are relocated after the bid item "Check Dam":

8 9 10

"Inlet Protection", per each.

11 12

"Gravel Filter Berm", per linear foot.

13 14

The following new paragraph is inserted before the bid item "Stabilized Construction Entrance":

15 16

The unit Contract price per linear foot for "Check Dam" and "Gravel Filter Berm" and per each for "Inlet Protection" shall be full pay for all equipment, labor and materials to perform the Work as specified, including installation, removal and disposal at an approved disposal site.

17 18 19

The paragraph after the bid item "Temporary Curb" is revised to read:

20 21 22

The unit Contract price per linear foot for temporary curb shall include all costs to install, maintain, remove, and dispose of the temporary curb.

23 24

The bid item "Mulching with MBFM" is revised to read "Mulching with MBFM/FRM".

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02.AP8

## **SECTION 8-02. ROADSIDE RESTORATION**

January 4, 2010

29

## 8-02.3(2) Roadside Work Plan

In the first paragraph, the second sentence is revised to read:

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The roadside work plan shall define the Work necessary to provide all Contract requirements, including: wetland excavation, soil preparation, habitat, Structure placement, planting area preparation, seeding area preparation, bark mulch and compost placement, seeding, planting, plant replacement, irrigation, and weed control in narrative form.

36 37 38

The first sentence under "Progress Schedule" is revised to read:

39 40 41

A progress schedule shall be submitted in accordance with Section 1-08.3. The Progress Schedule shall include the planned time periods for Work necessary to provide all Contract requirements in accordance with Sections 8-01, 8-02, and 8-03.

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The first sentence under "Weed and Pest Control Plan" is revised to read:

45 46

The Weed and Pest Control Plan shall be submitted and approved prior to starting any Work defined in Sections 8-01, and 8-02.

The last paragraph under "Plant Establishment Plan" is deleted.

## 8-02.3(2)A Chemical Pesticides

## 8-02.3(2)B Weed and Pest Control

This section is deleted.

This section is deleted.

## 8-02.3(3) Planting Area Weed Control

This section including title is revised to read:

## 8-02.3(3) Weed and Pest Control

The Contractor shall control weed and pest species within the project area using integrated pest management principles consisting of mechanical, biological and chemical controls that are outlined in the Weed and Pest Control Plan or as designated by the Engineer.

Those weeds specified as noxious by the Washington State Department of Agriculture, the local Weed District, or the County Noxious Weed Control Board and other species identified by the Contracting Agency shall be controlled on the project in accordance with the weed and pest control plan.

The Contractor shall control weeds not otherwise covered in accordance with Section 8-02.3(3)A, **Planting Area Weed Control** in all areas within the project limits, including erosion control seeding area and vegetation preservation areas, as designated by the Engineer.

This section is supplemented with the following new sub-sections:

## 8-02.3(3)A Planting Area Weed Control

 All planting areas shall be prepared so that they are weed and debris free at the time of planting and until completion of the project. The planting areas shall include the entire ground surface, regardless of cover, all planting beds, areas around plants, and those areas shown in the Plans.

All applications of post-emergent herbicides shall be made while green and growing tissue is present. Should unwanted vegetation reach the seed stage, in violation of these Specifications, the Contractor shall physically remove and bag the seed heads. All physically removed vegetation and seed heads shall be disposed of off site at no cost to the Contracting Agency.

 Weed barrier mats shall be installed as shown in the Plans. Mats shall be 3-feet square and shall be secured by a minimum of 5-staples per mat. Mats and staples shall be installed according to the manufacturer's recommendations.

## 8-02.3(3)B Chemical Pesticides

Application of chemical pesticides shall be in accordance with the label recommendations, the Washington State Department of Ecology, local sensitive area ordinances, and Washington State Department of Agriculture laws and regulations. Only those herbicides listed in the table Herbicides Approved for Use on WSDOT Rights of Way at http://www.wsdot.wa.gov/Maintenance/Roadside/herbicide\_use.htm may be used.

The applicator shall be licensed by the State of Washington as a Commercial Applicator or Commercial Operator with additional endorsements as required by the Special Provisions or the proposed weed control plan. The Contractor shall furnish the Engineer evidence that all operators are licensed with appropriate endorsements, and that the pesticide used is registered for use by the Washington State Department of Agriculture. All chemicals shall be delivered to the job site in the original containers. The licensed applicator or operator shall complete a Commercial Pesticide Application Record (DOT Form 540-509) each day the pesticide is applied, and furnish a copy to the Engineer by the following business day.

The Contractor shall ensure confinement of the chemicals within the areas designated. The use of spray chemical pesticides shall require the use of anti-drift and activating agents, and a spray pattern indicator unless otherwise allowed by the Engineer.

The Contractor shall assume all responsibility for rendering any area unsatisfactory for planting by reason of chemical application. Damage to adjacent areas, either on or off the Highway Right of Way, shall be repaired to the satisfaction of the Engineer or the property owner, and the cost of such repair shall be borne by the Contractor.

## 8-02.3(5) Planting Area Preparation

In the first paragraph, the second sentence is revised to read:

Material displaced by the Contractor's operations that interferes with drainage shall be removed from the channel and disposed of as approved by the Engineer.

## 8-02.3(7) Layout of Planting

The second paragraph is deleted.

#### 8-02.3(8) Planting

In the second paragraph, the first and second sentences are revised to read:

Under no circumstances will planting be permitted during unsuitable soil or weather conditions as determined by the Engineer. Unsuitable conditions may include frozen soil, freezing weather, saturated soil, standing water, high winds, heavy rains, and high water levels.

The fourth paragraph is revised to read:

Plants shall not be placed below the finished grade.

The fifth paragraph is revised to read:

Planting hole sizes for plant material shall be in accordance with the details shown in the Plans. Any glazed surface of the planting hole shall be roughened prior to planting.

The following new paragraph is inserted after the fifth paragraph:

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49 50 51 All cuttings shall be planted immediately if buds begin to swell.

## 8-02,3(9) Pruning, Staking, Guying, and Wrapping

In the first paragraph, the last sentence is revised to read:

All other pruning shall be performed only after the plants have been in the ground at least one year and when plants are dormant.

## 8-02.3(13) Plant Establishment

In the third paragraph, the first sentence is revised to read:

During the first-year plant establishment period, the Contractor shall perform all Work necessary to ensure the resumption and continued growth of the transplanted material.

In the fourth paragraph, "propose" is revised to read "submit".

## 8-02.3(15) Live Fascines

In the first paragraph, the fourth sentence is revised to read:

Dead branches may be placed within the live fascine and on the side exposed to the air.

In the second paragraph, the third sentence is deleted.

In the second paragraph, the seventh sentence is revised to read:

The live stakes shall be driven through the live fascine vertically into the slope.

## 8-02.3(16)A Lawn Installation

In the third paragraph, the last two items "West of the summit of the Cascade Range - March 1 to October 1." and "East of the summit of the Cascade Range - April 15 to October 1." are revised to read:

Western Washington (West of the Cascade Mountain crest) March through May 15 September 1 through October 1

Eastern Washington (East of the Cascade Mountain crest) October 1 through November 15

The fifth paragraph is revised to read:

Topsoil for seeded or sodded lawns shall be placed at the depth and locations as shown in the Plans. The topsoil shall be cultivated to the specified depth, raked to a smooth even grade without low areas that trap water and compacted, all as approved by the Engineer.

In the sixth paragraph, the last sentence is revised to read:

Following placement, the sod shall be rolled with a smooth roller to establish contact with the soil.

#### 8-02.4 Measurement

The seventh paragraph is revised to read:

Fine compost, medium compost and coarse compost will be measured by the cubic yard in the haul conveyance at the point of delivery. 8-02.5 Payment The following new paragraph is inserted above the paragraph beginning with "Payment shall be increased to 90-percent.....": Plant establishment milestones are achieved when plants meet conditions described in Section 8-02.3(13). The following is inserted after the bid item "Fine Compost": "Medium Compost", per cubic yard. The paragraph for the bid item "Weed Control" is revised to read: "Weed and Pest Control", will be paid in accordance with Section 1-09.6. The following new paragraph is inserted after the bid item "Soil Amendment": The unit Contract price per cubic yard for "Soil Amendment" shall be full pay for furnishing and incorporating the soil amendment into the existing soil. The following new paragraph is inserted after the bid item "Bark or Wood Chip Mulch": The unit Contract price per cubic yard for "Bark or Wood Chip Mulch" shall be full pay for furnishing and spreading the mulch onto the existing soil. 03.AP8 SECTION 8-03, IRRIGATION SYSTEMS January 4, 2010 8-03.1 Description In this section, "staked" is revised to read "approved by the Engineer." 8-03.3 Construction Requirements The second paragraph is revised to read: Potable water supplies shall be protected against cross connections in accordance with applicable Washington State Department of Health rules and regulations and approval by the local health authority. 8-03.3(1) Layout of Irrigation System This section is revised to read: The Contractor shall stake the irrigation system following the schematic design shown in the Plans, Approval must be obtained from the Engineer, Alterations and changes in the layout may

be expected in order to conform to ground conditions and to obtain full and adequate coverage of

plant material with water. However, no changes in the system as planned shall be made without

prior authorization by the Engineer.
City of Arlington
Airport Boulevard Road Improvements
Contract Documents
112736/General/Specifications

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This section is supplemented with the following new sub-section:

## 8-03.3(1)A Locating Irrigation Sleeves

Existing underground irrigation sleeve ends shall be located by potholing. Irrigation sleeves placed during general construction prior to installation of the irrigation system shall be marked at both ends with a 2x4x24-inch wood stake extending 6-inches out of the soil and painted blue on the exposed end.

## 8-03.3(2) Excavation

 In the first paragraph, the fourth sentence is revised to read:

 Trenches through rock or other material unsuitable for trench bottoms and sides shall be excavated 6-inches below the required depth and shall be backfilled to the top of the pipe with sand or other suitable material free from rocks or stones. Backfill material shall not contain rocks 2-inches or greater in diameter or other materials that can damage pipe.

The second paragraph is revised to read:

The Contractor shall exercise care when excavating pipe trenches near existing trees to minimize damage to tree roots. Where roots are 1-1/2-inches or greater in diameter, the trench shall be hand excavated and tunneled under the roots. When large roots are exposed, they shall be wrapped with heavy, moist material, such as burlap or canvas, for protection and to prevent excessive drying. The material must be kept moist until the trench is backfilled. Trenches dug by machines adjacent to trees having roots less than 1-1/2-inches in diameter shall have severed roots cleanly cut. Trenches having exposed tree roots shall be backfilled within 24-hours unless adequately protected by moist material as approved by the Engineer. All material and fastenings used to cover the roots shall be removed before backfilling.

The third paragraph is revised to read:

Detectable marking tape shall be placed in all trenches 6-inches directly above, parallel to, and along the entire length of all nonmetallic water pipes, and all nonmetallic and aluminum sleeves, conduits and casing pipe. The width of the tape and installation depth shall be as recommended by the manufacturer for the depth of installation or as shown in the Plans.

## 8-03.3(3) Piping

This section is revised to read:

All water lines shall be a minimum of 18-inches below finished grade measured from the top of the pipe or as shown in the Plans. All live water mains to be constructed under existing pavement shall be placed in steel casing jacked under pavement as shown in the Plans. All PVC or polyethylene pipe installed under areas to be paved shall be placed in irrigation sleeves. Irrigation sleeves shall extend a minimum of 2-feet beyond the limits of pavement. All jacking operations shall be performed in accordance with an approved jacking plan. Where possible; mains and laterals or section piping shall be placed in the same trench. All lines shall be placed a minimum of 3-feet from the edge of concrete sidewalks, curbs, guardrail, walls, fences, or traffic barriers. Pipe pulling will not be allowed for installation and placement of irrigation pipe.

Mainlines and lateral lines shall be defined as follows:

0 Mainlines: All supply pipe and fittings between the water meter and the irrigation control valves.

**Lateral Lines:** All supply pipe and fittings between the irrigation control valves and the connections to the irrigation heads. Swing joints, thick walled PVC or polyethylene pipe, flexible risers, rigid pipe risers, and associated fittings are not considered part of the lateral line but incidental components of the irrigation heads.

## 8-03.3(4) Jointing

In the second paragraph, the third sentence is revised to read:

Threaded galvanized steel joints shall be constructed using either a nonhardening, nonseizing multipurpose sealant or Teflon tape or paste as recommended by the pipe manufacturer, or as shown in the Plans.

In the last sentence of the second paragraph, "will" is revised to read "shall".

In the fourth sentence of the third paragraph, "will" is revised to read "shall" and "at" is revised to read "of".

In the fifth paragraph, the first sentence is revised to read:

On PVC or polyethylene-to-metal connections, work the metal connection first.

In the fifth paragraph, the third sentence is revised to read:

Connections between metal and PVC or polyethylene are to be threaded utilizing female threaded PVC adapters with threaded schedule 80-PVC nipple only.

In the sixth paragraph, the second sentence is revised to read:

The ends of the polyethylene pipe shall be cut square, reamed smooth inside and out, and inserted to the full depth of the fitting.

#### 8-03.3(5) Installation

The following new paragraph is inserted after the third paragraph:

All automatic control valves, flow control valves, and pressure reducing valves shall be installed in appropriate sized valve boxes. Manual control valves shall be installed in an appropriate sized valve box and where appropriate, upstream of the automatic control valves. Manual and automatic valves installed together shall be in an appropriate sized box with 3-inches of clearance on all sides.

The fourth paragraph is revised to read:

Final position of valve boxes, capped sleeves, and quick coupler valves shall be between ½-inch and 1-inch above finished grade or mulch, or as shown in the Plans.

The following new paragraph is inserted after the fourth paragraph: