

What is a QCCS?

- Specialized Inspector of Field Testable Materials responsible for:

All materials are tested at the appropriate frequency and QA is notified of schedules and quantities of materials placed to date

- **Establish field tested material quantities and minimum tests required**
- **Maintaining accurate material quantities and tests taken (tracking materials)**
- Maintaining accurate and up-to-date Test Summary Sheets for each project

1

EMBANKMENT OR EXCAVATION?

ITEM NO	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE (IN FIGURES)	TOTAL (IN FIGURES)
0290	0320-0100000A CLEARING AND GRUBBING	LUMP SUM	ALL	13,300.00	13,300.00
0300	0330-0123000K EMBANKMENT IN PLACE	CUYD	17,700.00	32.15	569,055.00
0310	0350-0105000J SUBGRADE GEOTEXTILE	SQYD	20,500.00	1.25	25,625.00
0320	0390-0105000K LOOSE RIPRAP, CLASS 50	CUYD	55.00	125.00	6,875.00

2

Embankment Testing

Density Curves & Bulk Specific Gravity

QC = 1/Soil Type & QA = 1/Project

Family of Curves (Minimum 3 curves)
FOP AASHTO T 272

Compaction

Deflection Testing (without Density)

1 Test per 3 Feet of Depth (Fill)

Density & Deflection

1 Test per 3000 yd³

17,700 yd³ / 3000 = 6 QC Tests

1 Test per 10 QC Tests = 1 QA Test

Existing Ground Surface

1 Test per 3000 yd²

FIELD TESTED MATERIALS ACCEPTANCE GUIDE				(Revised November 2020)		Same Frequency for all Tests (Minimums)			
MATERIAL AND OPERATION	DESCRIPTION OF TEST	TEST METHOD			FORM T24	QUALITY ASSURANCE			
		ODOT	WAGTC	AASHTO		Contractor Quality Control	Independent Assurance/Verification	Project Manager	Region Quality
Density Curve		T 99	3468		1/Soil type				1/Project
Bulk Specific Gravity		T 85	3468						
Family of Curves		R 75	3468FC						
Deflection Testing	TM 158		1793S		1 test per 3 ft. in depth				
Nuclear Gauge		T 310	1793S		See Table 00330-1 Below				1 test per 10 QC Tests per Table 00330-1
Coarse Particle Correction		T 99	1793S						
Deflection Testing	TM 158		1793S						

TABLE 00330-1 Frequency of Quality Control Testing (English)		
Individual Areas	Under 3500 yd ² or yd ³	Over 3500 yd ² or yd ³
Existing Ground Surface	1 test per 1000 yd ²	1 test per 3000 yd ²
Embankments	1 test per 500 yd ²	1 test per 3000 yd ²
Excavations and Finished Subgrade	1 test per 1000 yd ²	1 test per 3000 yd ²

Existing Ground Surface area is difficult to calculate and assign a minimum number of required tests to, make an educated estimate and adjust during construction

3

CONTRACT -						
PROJECT NAME -						
MFTP VERSION - 2021						
		JMF - JOB MIX FORMULA		AMD - APPROVED MIX DESIGN		
NTR - NO TESTS/CERTS REQUIRED		Q - QUALITY COMPLIANCE CERT		AS - APPROVED SOURCE		
O = CMO - CERTIFICATE OF MATL ORIGIN		F - FIELD INSPECTION RPT		CS - CONTROL SAMPLE		
L - MATL LAB REPORT		T - TEST RESULT CERT.		QPL - QUALIFIED/APPROVED PRODUCTS LIST		
E - EQUIPMENT LIST		W - WARRANTY		ALTN - AT LEAST THE NEAREST		
BI	ITEM NAME	UNIT	QTY	SPEC	QUALITY	QUANTITY
	Earthwork	CuYd		330		
	Establishing Max Density (for compaction)					
	Density Curve				T99	QC: 1/soil type 1 QC Curve & 1 QA Curve
	Bulk Specific Gravity				T85	QA: 1/project
	Family of Curves				R75	Minimum of 3 Curves Needed for a Family As Needed
	Compaction					
	Existing Ground Surface					
	Nuclear Gauge				T310	QC: See table 330-1 15-23 Est. QC Tests
	Coarse Particle Correction				T99	QA: 10% required of QC & 2-3 Est. QA Tests
	Deflection Testing				TM158	
	Embankment					
	Deflection Testing				TM158	QC: 1 test/3 ft in depth TBD
	Nuclear Gauge				T310	QC: See table 330-1 6 QC Tests Min &
	Coarse Particle Correction				T99	QA: 10% required of QC 1 QA Test Min
	Deflection Testing				TM158	

4

0670	0530-0104100A COATED REINFORCEMENT, GRADE 60	LUMP SUM	ALL	31,000.00	31,000.00
0680	0540-0203000A DECK CONCRETE CLASS HPC4500	LUMP SUM	ALL	86,500.00	86,500.00
0690	0540-0302000A GENERAL STRUCTURAL CONCRETE, CLASS 4000	LUMP SUM	ALL	68,000.00	68,000.00
0850	0540-0203000A DECK CONCRETE CLASS HPC4500	LUMP SUM	ALL	86,500.00	86,500.00
0860	0540-0302000A GENERAL STRUCTURAL CONCRETE, CLASS 4000	LUMP SUM	ALL	68,000.00	68,000.00

00540.80(a)(1) Lump Sum - Add the following to the end of this subsection:

The estimated quantity of concrete is:

Bridge No. 23931

Type and Class	Quantity (Cu. Yd.)
Deck Concrete, Class HPC4500	69
General Structural Concrete, Class 4000	104

Bridge No. 23932

Type and Class	Quantity (Cu. Yd.)
Deck Concrete, Class HPC4500	69
General Structural Concrete, Class 4000	104

Class HPC 4500 = 138 CY

Class 4000 = 208 CY

5

<p>00540.80(a)(1) Lump Sum - Add the following to the end of this subsection:</p> <p>The estimated quantity of concrete is:</p> <p>Bridge No. 23931</p> <table border="0"> <tr> <td>Type and Class</td> <td>Quantity (Cu. Yd.)</td> </tr> <tr> <td>Deck Concrete, Class HPC4500</td> <td>69</td> </tr> <tr> <td>General Structural Concrete, Class 4000</td> <td>104</td> </tr> </table> <p>Bridge No. 23932</p> <table border="0"> <tr> <td>Type and Class</td> <td>Quantity (Cu. Yd.)</td> </tr> <tr> <td>Deck Concrete, Class HPC4500</td> <td>69</td> </tr> <tr> <td>General Structural Concrete, Class 4000</td> <td>104</td> </tr> </table>	Type and Class	Quantity (Cu. Yd.)	Deck Concrete, Class HPC4500	69	General Structural Concrete, Class 4000	104	Type and Class	Quantity (Cu. Yd.)	Deck Concrete, Class HPC4500	69	General Structural Concrete, Class 4000	104	<p>SECTION 00540 - STRUCTURAL CONCRETE (CONTINUED)</p> <p>Portland Cement Concrete</p> <table border="1"> <tr> <td>Sampling</td> <td>TM 2</td> </tr> <tr> <td>Air Content</td> <td>T 152</td> </tr> <tr> <td>Slump</td> <td>T 119</td> </tr> <tr> <td>Concrete Temperature</td> <td>T 309</td> </tr> <tr> <td>Density (Unit Weight)</td> <td>3573WS or 4000C</td> </tr> <tr> <td>Yield</td> <td>T 121</td> </tr> <tr> <td>Water/Cement Ratio</td> <td>T 121</td> </tr> <tr> <td>Strength</td> <td>T 22 & T 23</td> </tr> </table> <p>⁽¹⁾ 1 Set Represents a minimum of 3 Cylinders</p> <p>⁽¹⁶⁾ Per Mix Design & Source</p>	Sampling	TM 2	Air Content	T 152	Slump	T 119	Concrete Temperature	T 309	Density (Unit Weight)	3573WS or 4000C	Yield	T 121	Water/Cement Ratio	T 121	Strength	T 22 & T 23	<table border="1"> <tr> <td colspan="2">QA Testing</td> </tr> <tr> <td>⁽¹⁶⁾ Test at minimum frequencies according to table 00540-1. Review specs.</td> <td>Projects under 100 yd³ all classes 1/Project representing all classes of PCC</td> </tr> <tr> <td></td> <td>Projects over 100 yd³ all classes 1/500 yd³ per class minimum 1/class</td> </tr> </table> <p>TABLE 00540-1 Frequency of Quality Control Testing</p> <table border="1"> <tr> <td>Minimum frequencies per Class of concrete based on daily production records.</td> <td>Frequency</td> </tr> <tr> <td>Production</td> <td></td> </tr> <tr> <td>0 to 100 yd³ on a single day</td> <td>1 Set each day</td> </tr> <tr> <td>Quantity Over 100 yd³</td> <td></td> </tr> <tr> <td>100 to 600 yd³ on a single day</td> <td>1 Set per each 100 yd³ or portion thereof</td> </tr> <tr> <td>over 600 yd³ on a single day</td> <td>1 Set per each 200 yd³ or portion thereof after reaching 600 yd³</td> </tr> </table>	QA Testing		⁽¹⁶⁾ Test at minimum frequencies according to table 00540-1. Review specs.	Projects under 100 yd ³ all classes 1/Project representing all classes of PCC		Projects over 100 yd ³ all classes 1/500 yd ³ per class minimum 1/class	Minimum frequencies per Class of concrete based on daily production records.	Frequency	Production		0 to 100 yd ³ on a single day	1 Set each day	Quantity Over 100 yd ³		100 to 600 yd ³ on a single day	1 Set per each 100 yd ³ or portion thereof	over 600 yd ³ on a single day	1 Set per each 200 yd ³ or portion thereof after reaching 600 yd ³
	Type and Class	Quantity (Cu. Yd.)																																														
Deck Concrete, Class HPC4500	69																																															
General Structural Concrete, Class 4000	104																																															
Type and Class	Quantity (Cu. Yd.)																																															
Deck Concrete, Class HPC4500	69																																															
General Structural Concrete, Class 4000	104																																															
Sampling	TM 2																																															
Air Content	T 152																																															
Slump	T 119																																															
Concrete Temperature	T 309																																															
Density (Unit Weight)	3573WS or 4000C																																															
Yield	T 121																																															
Water/Cement Ratio	T 121																																															
Strength	T 22 & T 23																																															
QA Testing																																																
⁽¹⁶⁾ Test at minimum frequencies according to table 00540-1. Review specs.	Projects under 100 yd ³ all classes 1/Project representing all classes of PCC																																															
	Projects over 100 yd ³ all classes 1/500 yd ³ per class minimum 1/class																																															
Minimum frequencies per Class of concrete based on daily production records.	Frequency																																															
Production																																																
0 to 100 yd ³ on a single day	1 Set each day																																															
Quantity Over 100 yd ³																																																
100 to 600 yd ³ on a single day	1 Set per each 100 yd ³ or portion thereof																																															
over 600 yd ³ on a single day	1 Set per each 200 yd ³ or portion thereof after reaching 600 yd ³																																															
<p>Class HPC 4500 = 138 CY</p> <p>1 set of plastic tests prior to placement and 00540.16 138 yd3 @ 1/set per 100 yd3, minimum 1 Set per day 2 Sets of QC Tests and Cylinders Min 1 Set of QA Tests and Cylinders Min</p>	<p>Class 4000 = 208 CY</p> <p>1 set of plastic tests prior to placement and 00540.16 208 yd3 @ 1/set per 100 yd3, minimum 1 Set per day 4 Sets of QC Tests and Cylinders Min 1 Set of QA Tests and Cylinders Min</p>																																															

6

SECTION 00540 - STRUCTURAL CONCRETE (CONTINUED)				QA Testing				
Portland Cement Concrete				TM 2				
Sampling				T 152	# # Test at minimum frequencies according to table 00540-1. Review specs.		Projects under 100 yd ³ all classes	
Air Content				T 119			1/Project representing all classes of PCC	
Slump				T 309				
Concrete Temperature				T 121				
Density (Unit Weight)				T 121				
Yield				T 121				
Water/Cement Ratio				T 22 & T 23			Projects over 100 yd ³ all classes	
Strength					1500 yd ³ per class minimum 1/class			
# # 1 Set Represents a minimum of 3 Cylinders # # Per Mix Design & Source				TABLE 00540-1 Frequency of Quality Control Testing Minimum frequencies per Class of concrete based on daily production records.				
				Production		Frequencies		
				0 to 100 yd ³ on a single day		1 Set each day		
				Quantity Over 100 yd ³		1 Set per each 100 yd ³ or portion thereof		
				100 to 500 yd ³ on a single day		1 Set per each 200 yd ³ or portion thereof		
				over 500 yd ³ on a single day		1 Set per each 600 yd ³ after reaching 600 yd ³		
00540.80(a)(1) Lump Sum - Add the following to the end of this subsection: The estimated quantity of concrete is: Bridge No. 23931 Type and Class Deck Concrete, Class HPC4500 69 General Structural Concrete, Class 4000 104 Bridge No. 23932 Type and Class Deck Concrete, Class HPC4500 69 General Structural Concrete, Class 4000 104								
Portland Cement Concrete	CY	138	00540	Deck Concrete, Class HPC 4500				
Sampling								
Air Content								
Slump								
Concrete Temperature								
Density (Unit Weight)								
Yield								
Water/Cement Ratio								
Strength								
Portland Cement Concrete	CY	208	00540	General Structural Concrete, Class 4000				
Sampling								
Air Content								
Slump								
Concrete Temperature								
Density (Unit Weight)								
Yield								
Water/Cement Ratio								
Strength								

7

FIELD TESTED MATERIALS ACCEPTANCE GUIDE (Revised November 2020)				Same Frequency for all Tests (Minimums)					
MATERIAL AND OPERATION	DESCRIPTION OF TEST	TEST METHOD			FORM 734	QUALITY ASSURANCE			
		ODOT	WAQTC	AASHTO		Contractor Quality Control	Independent Assurance/Verification		
					Project Manager		Region Quality	Materials Laboratory	
Sampling and Testing Frequency AGGREGATE PRODUCTS - except Asphalt Aggregates: For aggregates which require product compliance testing, sample and submit for testing each separated size of aggregate produced at least once every 12 months. This includes but not limited to concrete aggregate, base aggregate, shoulder aggregate, and riprap aggregate.									
ASPHALT AGGREGATE: For aggregate to be used in Asphalt Concrete Pavement, Emulsified Asphalt Concrete or Chip Seals, sample and submit each separated size of aggregate product to the PM for product compliance testing at the frequency shown in the Region tables located at the following website:									
https://www.oregon.gov/ODOT/Construction/Pages/Manual-of-Field-Test-Procedures.aspx									
Mortars Admixtures Mixing Water	Material must meet the requirements of Section 02020								

8

OREGON DEPARTMENT OF TRANSPORTATION
MATERIALS LABORATORY
880 AIRPORT ROAD SE
SALEM, OR 97301-4798
903.986.3000
Fax: 903.986.3096

Contract No.: C15212 EA: CON04330 F.A. No: 5504(207) Lab No. 20.CMD567

Project Name: US07 - S Century Drive to USFS Boundary Material Source: Hooker Creek Bend
Highway: The Dalles - California Highway Mix Type: General Structural
County: Deschutes Specified Compressive Strength: 4000 psi @ 28 days
Contractor: High Desert Aggregate & Paving, Inc. Aggregate Max Num: 1"
Project PM: Bill Martin Exposure: Severe
ODOT PM: Bill Martin Proposed Use: Misc
Submitted By: Stuart Cobine Bid Item No: 0900.0900

STRUCTURAL CONCRETE MIX DESIGN REVIEW

Mix Design by: Timothy Whitehall CCT # 42300 Contractor Mix Design No.: CLAS4001

Cement Manufacturer	Source	Type	(lbs/CY)
CapPortland	Sangyang	VI	611
SCM Manufacturer	Source	Type	

Slump (inches)	Coarse Agg Source	GSSD	Abs	DRUW	Coarse Agg Size	
5.0	07-047-4	2.67	2.3%	102.6	1" - #4	1750
6.0						

Density (lb/ft ³)	Fine Agg Source	GSSD	Abs	FM	Fine Agg Size	
141.8	07-047-4	2.55	3.3%	2.74	#4 - 0	1208
W/C Ratio						
0.42						256

	Water Source	Qty	
	BASF MasterAir AE 90	Air-Entraining	acye3 3.2
	BASF MasterPly/tee 997	WRA	acye3 16.3
	BASF MasterGel Drive	Retarding	acye3 3.1

Average Trial Batch Compressive Strength: 4976 psi @ 28 days Amendment 1 Date:

Amendment 2 Date:

Amendment 3 Date:

Based on the information submitted for review, this mix design Does Comply with specifications. This report does not supersede, delete or amend the Contract Documents or relieve the Contractor of the responsibility to provide concrete within specification. Adjustments to the design as reported are not allowed except as stated in Standard Specification 02001.36.

Scott D. Nelson, P.E. Date: 1/6/2021
Scott D. Nelson, P.E.
Structure Services Engineer
C/Project Manager: High Desert Aggregate & Paving, Inc. Austin Johnson Scott Nelson Eric Burns Stuart Cobine
Region OAC - 4 tsullivan@hwaerent.com

9

Coarse Agg Source	GSSD	Abs	DRUW	Coarse Agg Size	
07-047-4	2.67	2.3%	102.6	1" - #4	1750
Fine Agg Source	GSSD	Abs	FM	Fine Agg Size	
07-047-4	2.55	3.3%	2.74	#4 - 0	1208

1750 lbs/CY of 1" - #4 Coarse Aggregate
1208 lbs/CY of #4 - 0 Fine Aggregate

(Concrete Total) x (Aggregate Batch Weights) / (2000) = Aggregate Needed

(208 cy) x (1750) / (2000) = 182 tons of CA 1" - #4
(208 CY) x (1208) / (2000) = 126 tons of FA #4 - 0

10

OREGON DEPARTMENT OF TRANSPORTATION
MATERIALS LABORATORY
880 AIRPORT ROAD SE
SALEM, OR 97301-4788

Contract No.: C15212 EA: CON04330 F.A. No: S06207 Lab No. 20-CMD568
 Project Name: US97: S Century Drive to USFS Boundary Material Source: Hooker Creek Bend
 Highway: The Dalles - California Highway Mix Type: Structural HPC
 County: Deschutes Specified Compressive Strength: 4500 psi @ 28 days
 Contractor: High Desert Aggregate & Paving, Inc. Aggregate Max Nom: 1.5"
 Project PM: Bill Martin Exposure: Severe
 ODOT PM: Bill Martin Proposed Use: Bridge Deck/End Panels
 Submitted By: Stuart Cobine Bid Item No: 0680.0710.0650.0980

STRUCTURAL CONCRETE MIX DESIGN REVIEW

Mix Design by: Timothy Whitehall CCT # 42300 Contractor Mix Design No.: HPC45001

Concrete Manufacturer	Source	Type	(lbs/CY)
CalPortland	Sungyang	L9	435
SCM Manufacturer	Source	Type	
Asphve	DurShop Grade 120	GGP Slag	197
BASF	MasterLife SF 100	Silica Fume	26

Slump (inches)	Coarse Agg Source	GSSD	Abs	DRUW	Coarse Agg Size	
5.5	16-024-4	2.89	1.1%	102.2	1.5" - 3/4"	504
Air Content (%)	07-047-4	2.67	2.3%	102.6	1" - #4	1511
5.5						
Density (lb/cy)	Fine Agg Source	GSSD	Abs	FM	Fine Agg Size	
145.9	07-047-4	2.55	3.3%	2.74	#4 - 0	952
W/C Ratio						
0.38						

	Water Source	City	249
BASF MasterAir AE 90	Air-Entraining	oc/yd3	7.2
BASF MasterPolyheed 997	WBA	oc/yd3	19.7
BASF MasterGermex 1088	WBA High Range	oc/yd3	26.3
BASF MasterSet Devis	Retarding	oc/yd3	4.1
BASF MasterFiber MAC 2000 CB	Fibers	lb/yd3	4
BASF MasterFiber MAC M 100	Fibers	lb/yd3	0.5

Average Total Batch Compressive Strength: 7310 psi @ 28 days
 RCPT (AASHTO T277/ASTM C1202): *Prescriptive Cementitious
 Shrinkage (Length change) test ASTM C157: -0.077% @ 28 days

Amendment 1 Date:
 Amendment 2 Date:
 Amendment 3 Date:

Based on the information submitted for review, this mix design Does Comply with specifications. This report does not supersede, delete or amend the Contract Documents or relieve the Contractor of the responsibility to provide concrete within specifications. Adjustments to the design as reported are not allowed except as stated in Standard Specification 02001.36.

Scott D. Nelson, P.E. 1/6/2021
 Date

Scott D. Nelson, P.E.
 Structure Services Engineer
 C/Project Manager: High Desert Aggregate & Paving, Inc. Austin Johnson Scott Nelson Eric Burns Stuart Cobine
 Region OAC - 4 twhitehall@hdsconcrete.net

11

Coarse Agg Source	GSSD	Abs	DRUW	Coarse Agg Size	
16-024-4	2.89	1.1%	102.2	1.5" - 3/4"	504
07-047-4	2.67	2.3%	102.6	1" - #4	1511
Fine Agg Source	GSSD	Abs	FM	Fine Agg Size	
07-047-4	2.55	3.3%	2.74	#4 - 0	952

504 lbs/CY of 1 1/2" - 3/4" Coarse Aggregate
 1511 lbs/CY of 1" - #4 Coarse Aggregate
 1208 lbs/CY of #4 - 0 Fine Aggregate

(Concrete Total) x (Aggregate Batch Weights) / (2000) = Aggregate Needed

(138 cy) x (504) / (2000) = 35 tons of CA 1 1/2" - 3/4"
 (138 cy) x (1511) / (2000) = 105 tons of CA 1" - #4
 (138 CY) x (952) / (2000) = 66 tons of FA #4 - 0

12

(Concrete Total) x (Aggregate Batch Weights) / (2000) = Aggregate Needed

(138 cy) x (504) / (2000) = 35 tons of CA 1 1/2" – 3/4"

(208 cy) x (1750) / (2000) = 182 tons of CA 1" - #4

(138 cy) x (1511) / (2000) = 105 tons of CA 1" - #4

(208 CY) x (1208) / (2000) = 126 tons of FA #4 - 0

(138 CY) x (952) / (2000) = 66 tons of FA #4 - 0

Total Aggregate Needed

35 Tons of 1 1/2" – 3/4"

(182+105) = 287 Tons of 3/4" - #4

(126+66) = 192 Tons of #4 – 0

13

FIELD TESTED MATERIALS ACCEPTANCE GUIDE (Revised November 2020)					Same Frequency for all Tests (Minimums)			
MATERIAL AND OPERATION	DESCRIPTION OF TEST	TEST METHOD			FORM 734-	QUALITY ASSURANCE		
		ODOT	WAQTC	AASHTO		Contractor Quality Control	Independent Assurance/Verification	
						Project Manager	Region Quality Assurance	Materials Laboratory
SECTION 00540 - STRUCTURAL CONCRETE								
Aggregate Production								
(1) QAE may waive after 5 sublots/shifts (2) Perform a minimum of 3 tests, QL's required (3)	Sampling Reducing (2)(3)(4) Sieve Analysis (4) Fineness Modulus (1)(3) Wood Particles (4) Sand Equivalent	TM 225		R 90 R 76 T 27/T 11 T 27/T 11 T 176	1792	1/Sublot & Start of Production		1 per 10 Sublots
					1792			
					A Sublot equals 1,000 Tons			

<u>Tons of Aggregate</u>	<u>Minimum Required QC Tests</u>	<u>Minimum Required QA Tests</u>
35 Tons of 1 1/2" – 3/4"	4 – 1@SOP and Min 3 Sublot	1 – 1 per 10 Sublots
(182+105) = 287 Tons of 3/4" - #4	4 – 1@SOP and Min 3 Sublot	1 – 1 per 10 Sublots
(126+66) = 192 Tons of #4 – 0	4 – 1@SOP and Min 3 Sublot	1 – 1 per 10 Sublots

14

Structural Concrete Aggregate Production		CY	540	Sublot = 1,000 tons	
Sampling				T2	
Reducing				R76	
Sieve Analysis (Minimum 3 tests, Coarse Agg - Fine Agg)			2690.20 & 2690.30	T27/T11	QC: 1/sublot and start of production QA: 1/10 Sublots
Fineness Modulus (Fine Agg)			2690.30	T27/T11	4 QC Tests Min 1/SOP & 3 Sublot 1 QA Test Min
Wood Particles (QAC may waive after 5 sublots, CA)			2690.20	TM225	
Sand Equivalent (Fine Agg)			2690.30	T176	
Soundness				T104	
Abrasion				T96	
Degradation				TM208	QC: See Section 4(a) PM: Submit to Mat Lab
Lightweight Pieces				T113	1 Compliance Test Required Annually Per size of Aggregate
Organics				T21	
Dry Rodded Unit Weight (Coarse Agg)			2690.20	T19	
Bulk Specific Gravity (Coarse Agg & Fine Agg)			2690.20 & 2690.30	T84	QC: Start of production and when changes in aggregate occurs
Absorption (Coarse Agg & Fine Agg)			2690.20 & 2690.30	T85	1 @ SOP and When changes in Aggregate occur
Portland Cement	Material meets the requirements of Section 2001.10		02010.10		
Modifiers	Material meets the requirements of Section 2001.10		02035.10		
Admixtures	Material meets the requirements of Section 2001.10		02040.10		
Mixing Water	Material must meet the requirements of Section 2020		02020.10		
Portland Cement Concrete		CY	138		Deck Concrete, Class HPC 4500
Sampling				TM2	
Air Content				T152	
Slump				T119	
Concrete Temperature			00540.16 / 00540.17 & Table 00540-1 of the MFTP	T309	QC: See 00540.16 and Table 00540-1 of the MFTP Frequency Guide for Testing Requirements
Density (Unit Weight)				T121	Minimum 2 QC Tests Minimum 1 QA Test
Yield				T121	QA: See 4D of the MFTP
Water/Cement Ratio				T121	
Strength				T22/23	Min 2 QC & 1 QA Set
Portland Cement Concrete		CY	208		General Structural Concrete, Class 4000
Sampling				TM2	
Air Content				T152	
Slump				T119	
Concrete Temperature			00540.16 / 00540.17 & Table 00540-1 of the MFTP	T309	QC: See 00540.16 and Table 00540-1 of the MFTP Frequency Guide for Testing Requirements
Density (Unit Weight)				T121	Minimum 4 QC Tests Minimum 1 QA Test
Yield				T121	QA: See 4D of the MFTP
Water/Cement Ratio				T121	
Strength				T22/23	Min 4 QC & 1 QA Set

15

0960	0641-0128000M PLANT MIX AGGREGATE BASE	TON	40,500.00	10.00	405,000.00
0970	0641-0130000M AGGREGATE SHOULDERS	TON	22,500.00	12.50	281,250.00

FIELD TESTED MATERIALS ACCEPTANCE GUIDE				(Revised November 2020)		Same Frequency for all Tests (Minimums)				
MATERIAL AND OPERATION	DESCRIPTION OF TEST	TEST METHOD			FORM 734	QUALITY ASSURANCE				
		ODOT	WAGTC	AASHTO		Contractor Quality Control	Independent Assurance	Verification	Materials Laboratory	
SECTION 00641 - AGGREGATE SUBBASE, BASE, AND SHOULDERS										
Aggregate Production	Abrasion			T 96	4000	See Sec. 4A	Submit To Central Lab			See Section 4(A)
Aggregate Subbase	Grading			R 90 R 76 T 27 T 176		1/Project or 1/Source	Visual			
Aggregate Base and Shoulders	Abrasion			T96	4000	See Section 4A	Submit to Lab			See Section 4A
Grading	Degradation	TM 208				A Sublot equals 2000 Tons				
Aggregate Base (See 02630)	Grading			R 90 R 76 T 27 T 176		1/Sublot & Start of Production				
Aggregate Shoulder (See 02640)	Grading			R 90 R 76 T 27 T 176	1792					1 per 10 Sublots
Open Graded Aggregate Base (See 02630.11)	Grading			R 90 R 76 T 27 T 176	1792	1/5 Sublots & Start of Production				
(1) Perform at least 3 tests (2) May be waived by GAE	Grading			R 90 R 76 T 27 T 176						
Placement	Fracture (Method 1)			T 335	1792	1/5 Sublots & Start of Production				
Aggregate Base						A Sublot equals 2000 Tons				
Plant Mix Applications Only										
Aggregate (Mixture)	Sampling			R 90 R 76 T 255 & T 265	1792	1/Sublot or minimum 1/Day				1 per 10 Sublots
Establishing Maximum Density & Optimum Moisture (Mix Design)	Reducing									
(2) Method A	Moisture									
Compaction	Density Curve	TM 223		(1) 7 99	3468 B	Each Core per Source				1/Project
(Individual tests must meet Specification)	Coarse Particle Correction				3468 B					
	Bulk Specific Gravity			T 85	1793B	1 per Sublot				
	Deflection Testing	TM 158		7310	1793B	(1) 5 Tests Per Sublot				(1) 1 (5 Tests) per 10 Sublots
	Nuclear Gauge				1793B	(1) 5 Tests Per Sublot				

16

ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE	FIELD TESTED MATERIALS ACCEPTANCE GUIDE (Revised November 2020)				Same Frequency for all Tests (Minimums)				
						MATERIAL AND OPERATION	DESCRIPTION OF TEST	TEST METHOD	FORM	Contractor Quality Control	Project Manager	Region Quality Assurance	Verification Materials Laboratory	
0960	0641-0128000M PLANT MIX AGGREGATE BASE	TON	40,500.00	10.00	405,000.00									
0970	0641-0130000M AGGREGATE SHOULDERS	TON	22,500.00	12.50	281,250.00									

MATERIAL AND OPERATION	DESCRIPTION OF TEST	TEST METHOD	FORM	Contractor Quality Control	Project Manager	Region Quality Assurance	Verification Materials Laboratory
SECTION 0641 - AGGREGATE SUBBASE, BASE, AND SHOULDERS							
Aggregate Production	Abrasion	T 96	4000	See Sec. 4A	Submit To Central Lab		See Section 4(A)
Aggregate Subbase Grading (See 0641.10(b))	Sampling Reducing Sieve Analysis (See 0641.10(b))	R 90 R 76 T 27 T 176	4000	1/Project or 1/Source	Visual		
Aggregate Base and Shoulders	Abrasion Degradation	T 96	4000	See Section 4A	Submit to Lab		See Section 4A
Grading	Sampling Reducing Sieve Analysis (See 02630) (See 02630 11) (1) Perform at least 3 tests (2) May be waived by GAE	R 90 R 76 T 27 T 176	4000	1/Source & Start of Production			1 per 10 Sublots
Aggregate Base (See 02630)	Sampling Reducing Sieve Analysis (See 02630 11) (1) Perform at least 3 tests (2) May be waived by GAE	R 90 R 76 T 27 T 176	4000	1/Source & Start of Production			1 per 10 Sublots
Aggregate Shoulder (See 02640)	Sampling Reducing Sieve Analysis (See 02630 11) (1) Perform at least 3 tests (2) May be waived by GAE	R 90 R 76 T 27 T 176	4000	1/Source & Start of Production			1 per 10 Sublots
Open Graded Aggregate Base (See 02630 11) (1) Perform at least 3 tests (2) May be waived by GAE	Sampling Reducing Sieve Analysis (See 02630 11) (1) Perform at least 3 tests (2) May be waived by GAE	R 90 R 76 T 27 T 176	4000	1/Source & Start of Production			1 per 10 Sublots
Placement	Moisture	T 255 & T 265	1792	1/Day			1 per 10 Sublots
Aggregate Base	Moisture	T 255 & T 265	1792	1/Day			1 per 10 Sublots
Aggregate Shoulder	Moisture	T 255 & T 265	1792	1/Day			1 per 10 Sublots
Establishing Maximum Density & Optimum Moisture (Mix Design)	Density Curve Coarse Particle Content Bulk Specific Gravity	TM 223	3468 B	1/Project	Each Size per Source		1/Project
Compaction	Deflection Testing Nuclear Gauge	TM 158	3468 B	1 per Sublot	1 per Sublot		1 (5 Tests) per 10 Sublots

Annual Compliance according to Section 4A
 Production QC @ SOP and 1/2000 tons
 T335 @ SOP & 1/5 SUBLOTS
 QA @ 1/10 sublots
 Placement QC 1/sublot or Minimum 1/Day
 QA @ 1/10 sublots
 Establishing Max Den & Opt Moisture
 QC 1/Each Size per Source
 QA @ 1/Project
 Deflection QC 1/sublot
 Compaction QC 5/sublot
 QA @ (15 tests)/10 sublots

17

ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE	FIELD TESTED MATERIALS ACCEPTANCE GUIDE (Revised November 2020)				Same Frequency for all Tests (Minimums)			
						MATERIAL AND OPERATION	DESCRIPTION OF TEST	TEST METHOD	FORM	Contractor Quality Control	Project Manager	Region Quality Assurance	Verification Materials Laboratory
0960	0641-0128000M PLANT MIX AGGREGATE BASE	TON	40,500.00	10.00	405,000.00								
0970	0641-0130000M AGGREGATE SHOULDERS	TON	22,500.00	12.50	281,250.00								

MATERIAL AND OPERATION	DESCRIPTION OF TEST	TEST METHOD	FORM	Contractor Quality Control	Project Manager	Region Quality Assurance	Verification Materials Laboratory
SECTION 0641 - AGGREGATE SUBBASE, BASE, AND SHOULDERS							
Aggregate Production	Abrasion	T 96	4000	See Sec. 4A	Submit To Central Lab		See Section 4(A)
Aggregate Subbase Grading (See 0641.10(b))	Sampling Reducing Sieve Analysis (See 0641.10(b))	R 90 R 76 T 27 T 176	4000	1/Project or 1/Source	Visual		
Aggregate Base and Shoulders	Abrasion Degradation	T 96	4000	See Section 4A	Submit to Lab		See Section 4A
Grading	Sampling Reducing Sieve Analysis (See 02630) (See 02630 11) (1) Perform at least 3 tests (2) May be waived by GAE	R 90 R 76 T 27 T 176	4000	1/Source & Start of Production			1 per 10 Sublots
Aggregate Base (See 02630)	Sampling Reducing Sieve Analysis (See 02630 11) (1) Perform at least 3 tests (2) May be waived by GAE	R 90 R 76 T 27 T 176	4000	1/Source & Start of Production			1 per 10 Sublots
Aggregate Shoulder (See 02640)	Sampling Reducing Sieve Analysis (See 02630 11) (1) Perform at least 3 tests (2) May be waived by GAE	R 90 R 76 T 27 T 176	4000	1/Source & Start of Production			1 per 10 Sublots
Open Graded Aggregate Base (See 02630 11) (1) Perform at least 3 tests (2) May be waived by GAE	Sampling Reducing Sieve Analysis (See 02630 11) (1) Perform at least 3 tests (2) May be waived by GAE	R 90 R 76 T 27 T 176	4000	1/Source & Start of Production			1 per 10 Sublots
Placement	Moisture	T 255 & T 265	1792	1/Day			1 per 10 Sublots
Aggregate Base	Moisture	T 255 & T 265	1792	1/Day			1 per 10 Sublots
Aggregate Shoulder	Moisture	T 255 & T 265	1792	1/Day			1 per 10 Sublots
Establishing Maximum Density & Optimum Moisture (Mix Design)	Density Curve Coarse Particle Content Bulk Specific Gravity	TM 223	3468 B	1/Project	Each Size per Source		1/Project
Compaction	Deflection Testing Nuclear Gauge	TM 158	3468 B	1 per Sublot	1 per Sublot		1 (5 Tests) per 10 Sublots

Annual Compliance according to Section 4A
 Production QC @ SOP and 1/2000 tons
 T335 @ SOP & 1/5 SUBLOTS
 QA @ 1/10 sublots
 Placement QC 1/sublot or Minimum 1/Day
 QA @ 1/10 sublots
 Establishing Max Den & Opt Moisture
 QC 1/Each Size per Source
 QA @ 1/Project
 Deflection QC 1/sublot
 Compaction QC 5/sublot
 QA @ (15 tests)/10 sublots

Compliance	QC Tests	QA Tests
1 Annual Compliance Test	22 QC Production Tests Min – 1SOP & 1/2000 = 22 6 QC Production Fracture – 1SOP & 1/5 Sublots = 6 21 Placement Test Min (moisture) – 1/2000 = 21 1 QC Max Den & Opt Moisture Min – 1/Size & Source = 1 21 QC Deflection Tests Min – 1/2000 = 21 105 QC Density Tests Min – 5/Sublot = 105 (5*21)	3 QA Production Tests Min – 1/10 sublots = 3 3 QA Placement Tests Min (Moisture) – 1/10 sublots = 3 1 QA Max Den & Opt Moisture Min – 1/Project = 1 3 QA Deflection Tests Min – 1/10 Sublots = 3 15 QA Density Tests Min – 5/10Sublots = 15 (5*3)

18

0960	0641-012800M PLANT MIX AGGREGATE BASE	TON	40,500.00	10.00	405,000.00
0970	0641-013000M AGGREGATE SHOULDERS	TON	22,500.00	12.50	281,250.00

22,500 Tons of Agg Shoulders

- Annual Compliance according to Section 4A
- Production QC @ SOP and 1/2000 tons T335 @ SOP & 1/5 SUBLOTS
- QA @ 1/10 sublots

MATERIAL AND OPERATION	DESCRIPTION OF TEST	TEST METHOD		FORM	Same Frequency for all Tests (Minimums)			
		ODOT	WAGFC		AASHTO	Contractor Quality Control	Project Manager	Region Quality Assurance
SECTION 0641 - AGGREGATE SUBBASE, BASE, AND SHOULDERS								
Aggregate Production	Abrasion			T 96	4000	See Sec. 4A	Submit To Central Lab	See Section 4(a)
Aggregate Subbase	Grading			R 90 R 76 T 27	4200	Visual		
Aggregate Base and Shoulders	Grading			T 176	4000	Submit to Lab		See Section 4A
Aggregate Base (See 02630)	Degradation			TM 208	11,000	Submit to Lab		See Section 4A
Aggregate Shoulders (See 02640)	Fracture (Method 1)			T 335	1000	10 Sublots @ Start of Production		1 per 10 Sublots
Open Graded Aggregate Base (See 02630.1)	Fracture (Method 1)			T 335	1000	10 Sublots @ Start of Production		1 per 10 Sublots
Aggregate (Mixture)	Moisture			T 255 & T 265	1792	1/5 Sublot or minimum 1/Day		1 per 10 Sublots
Establishing Maximum Density & Optimum Moisture (Mix Design) Method A	Density Curve			TM 223	3468 B	Each Size per Source		1/Project
Compaction	Deflection Testing			TM 158	1730B	1 per Sublot		1 (5 Tests) per 10 Sublots

Compliance	QC Tests	QA Tests
1 Annual Compliance Test	13 QC Production Tests Min – 1SOP & 1/2000 = 13 4 QC Production Fracture – 1SOP & 1/5 SUBLOTS = 4	2 QA Production Tests Min – 1/10 sublots = 2

19

Aggregate Subbase, Base, and Shoulders			641			
Aggregate Production						
Aggregate Base (See 2630)			TON	40,500		
	Abrasion			00641.10 & Section 4A	T96	Sublot = 2,000 tons QC: See Section 4(a) PM: Submit to Mat Lab
	Degradation				TM208	1 - Annually
	Sampling				T2	
	Reducing				R76	QC: 1/Sublot & Start of Production
	Sieve Analysis (minimum 3 tests)			00641.15 & 00641.16	T27	QA: 1/10 Sublots
	Sand Equivalent (QAC may waive)				T176	3 QA Tests
	Fracture (Method 1)				T335	QC: 1/5 Sublots QA: 1/10 Sublots
						6 QC Tests 3 QA Tests
Shoulders (See 2640)			TON	22,500		
	Abrasion			00641.10 & Section 4A	T96	Sublot = 2,000 tons QC: See Section 4(a) PM: Submit to Mat Lab
	Degradation				TM208	1 - Annually
	Sampling				T2	
	Reducing				R76	QC: 1/Sublot & Start of Production
	Sieve Analysis (minimum 3 tests)			00641.15 & 00641.16	T27	QA: 1/10 Sublots
	Sand Equivalent (QAC may waive)				T176	2 QA Tests
	Fracture (Method 1)				T335	QC: 1/5 Sublots QA: 1/10 Sublots
						4 QC Tests 2 QA Tests
Placement						
Aggregate Base						
Plant Mix Applications only Agg (Mixture)						
	Sampling			00641.12 & 00641.16(b)	T2	QC: 1/5 Sublots and Start of Production
	Reducing				R76	QA: 1/10 Sublots
	Moisture				T255/T265	3 QA Tests
Establishing Maximum Density & Optimum Moisture (Mix Design)						
	Density Curve - Method "A"				T99-A	QC: Each Size per Source
	Coarse Particle Correction				TM223	1 QC Curve
	Bulk Specific Gravity				T85	QA: 1/Project
Compaction						
	Deflection Testing				TM158	QC: 1/Sublot QA: 1 (5 Tests) per 10 Sublots
					T310	3 QA Tests 105 QC Tests
	Nuclear Gauge (Individual tests must meet Specification)					15 QA Tests

20

FIELD TESTED MATERIALS ACCEPTANCE GUIDE (Revised November 2020)					Same Frequency for all Tests (Minimums)					
MATERIAL	DESCRIPTION	TEST METHOD	FORM	QUALITY ASSURANCE						
SECTION 00745	Aggregate Prods							23.00	759,000.00	
SECTION 00745	Mixture Acceptance Gradation								0,000.00	
SECTION 00745	Mixture Acceptance - ACP								7,500.00	
SECTION 00745 - ASPHALT CONCRETE PAVEMENT - STATISTICAL ACCEPTANCE (CONTINUED)										
Mixture Acceptance - ACP "With and Without RAP"					A Sublot equals 1000 Tons					
Mix Design Verification Testing										
Lime					Material must meet the requirements of Section 2090					
Latex					See Special Provisions for Latex Requirements					
Plant Disch					(1) % Hydrated Lime	TM 321		2277	1/Sublot	1 per 10 Sublots
Maximum De					(2) TM 322		2277			
Performing					(2) Required at start of production and if meters fail to meet specification	Readings backed by Tank Measure & Production Records Daily	2401 ACP	Daily Production		
Smoothness					(1) If Applicable					
Certification of Profiler Equipment					TM 769					
Determining Profile Index					TM 770					
Determining International Roughness Index					TM 772			See Special Provisions		

21

0990	0745-032200M	LEVEL 3, 1/2 INCH LIME TREATED ACP	23.00	759,000.00
00745.16	<p>(5) Plant Calibration - Calibrate all to ODOT TM 322 before beginning production</p> <p>1/Sublot or Minimum 1/Day</p>			CP mixing plant according
		LEVEL 4, 1/2 INCH LIME TREATED ACP	23.00	287,000.00

Level 3, 1/2" Lime Treated ACP = 33,000 tons
 Furnace Calibration 1/JMF & Each Calendar Year QC & QA
 Sublot = 1,000 tons
 33,000 / 1,000 = 33 QC Sublot Tests Min
 33,000 / 10,000 = 4 QA Tests Min (1 per 10 Sublots)

Level 4, 1/2" Lime Treated ACP = 11,500 tons
 Furnace Calibration 1/JMF & Each Calendar Year QC & QA
 Sublot = 1,000 tons
 11,500 / 1,000 = 12 QC Sublot Tests Min
 11,500 / 10,000 = 2 QA Tests Min (1 per 10 Sublots)

Asphalt Plant Calibration Prior to Production

FIELD TESTED MATERIALS ACCEPTANCE GUIDE (Revised November 2020)					Same Frequency for all Tests (Minimums)			
MATERIAL	DESCRIPTION	TEST METHOD	FORM	QUALITY ASSURANCE				
SECTION 00745	Asphalt Content	Ignition Method	TM 323	2327C	1/JMF & Each Calendar Year			1/JMF & Each Calendar Year
		(Residual aggregate from AASHTO T 308)		2277	1/Sublot			1 per 10 Sublots
		(2) Sublot Samples a minimum of 2 Days Prior to ACP Production						
		(2) RAP Percentage	TM 321	2277	1/Sublot or Minimum 1/Day			1 per 10 Sublots
		(2) # Applicable	TM 322					
		(2) Required at start of production and if meters fail to meet specifications						
		(2) RAP Moisture Cold Feed Moisture	TM 321	2277				
		Readings backed by Tank measure & Production Records Daily	TM 322	2401 ACP	Daily Production			

22

0990	0745-0322000M LEVEL 3, 1/2 INCH LIME TREATED ACP	TON	33,000.00	23.00	759,000.00
1000	0745-0334000M LEVEL 3, 1/2 INCH LIME TREATED ACP IN LEVELING	TON	1,200.00	25.00	30,000.00
1010	0745-0422000M LEVEL 4, 1/2 INCH LIME TREATED ACP	TON	11,500.00	25.00	287,500.00

Level 3, 1/2" Lime Treated ACP = 33,000 tons
 Control Strip = 1 per JMF & Change in Equipment or JMF
 Sublot = 1,000 tons
 $33,000 / 1,000 = 33$ Sublot Tests x 5 = 165 QC Density Tests
 $33,000 / 10,000 = 4$ Tests x 5 = 20 QA Density Tests

Level 4, 1/2" Lime Treated ACP = 11,500 tons
 Control Strip = 1 per JMF & Change in Equipment or JMF
 Sublot = 1,000 tons
 $11,500 / 1,000 = 12$ Sublot Tests x 5 = 60 QC Density Tests
 $11,500 / 10,000 = 2$ Tests x 5 = 10 QA Density Tests

FIELD TESTED MATERIALS ACCEPTANCE GUIDE						Same Frequency for all Tests (Minimums)			
MATERIAL AND OPERATION	DESCRIPTION OF TEST	TEST METHOD			FORM 734	QUALITY ASSURANCE			
		DOT	WAGC	AASHTO		Contractor Quality Control	Project Manager	Region Quality Assurance	Independent Assurance
SECTION 0075 - ASPHALT CONCRETE PAVEMENT - STATISTICAL ACCEPTANCE (CONTINUED)									
Mixture Acceptance - ACP "With and Without RAP"						A Sublot equals 1000 Tons			
Mix Design Verification	Gyralory Specimen	TM 326							
Fabrication	Maximum Density Test				T 209	2005GV	1/5Sublot & according to Section 00745.16 (b)-1-f		1 per 10 Sublots
Determination of G _{max}	Bulk Specific Gravity				T 166	2050			
Stripping Susceptibility	Tensile Strength Ratio				T 283	2050	1/JMF See Section 00745.16 (b)-1-f		
*Call if complete & submit as required. (See Section 745.16(f))					T 329	2277	1/5Sublot		
Plant Discharge Moisture	Asphalt Mix Moist.				T 209	2050	1st Sublot Daily or Min. 1/Day		
Maximum Density Test G _{max}	Max. Specific Gravity MAMD	TM 305				2064	Develop Rating Pattern size		
Performing Control Strip	Control Strip	TM 306			T 355	17834	Average 3 tests per Sublot or Max. 1/Day. See Section 00745.49 (a)-2		1 per 10 Sublots
Compaction	Nuclear Density					4000	1/5Sublot See Section 4C		1 per 10 Sublots
Asphalt Cement	Compliance				R 66		Submit to Lab		1/5 QC Samples (Random)

23

OREGON DEPARTMENT OF TRANSPORTATION
 MATERIALS LABORATORY
 800 AIRPORT ROAD SE
 SALEM, OR 97301-4798
 503.986.3000
 Fax: 503.986.3095

Contract No.: C15212 EA: CON04330 F.A. No.: 5004(207) Lab No.: 21-MD0067
 Project Name: US97: S Century Drive to USFS Boundary Bid Item: 0990, 1000
 Highway: The Dalles - California Highway County: Deschutes Amendment 1 Date:
 Begin MP: 152.50 End MP: 156.00 Amendment 2 Date:
 Contractor: High Desert Aggregate & Paving, Inc. Amendment 3 Date:
 Project Manager: Bill Martin Use: Level 3 1/2" Dense Mix

ASPHALT CONCRETE PAVEMENT MIX DESIGN REVIEW

Lab Name: Carlson Testing Certified Mix Design Technician: Kevin Jordan
 Mix Producer: High Desert Aggregate & Pav Contractor Mix Design No.: B2021.03
 Asphalt Supplier: McCall Transferred from Lab No.:
 Asphalt Grade: PG64-28 Antistriper Information: Evotherm P25 0.5000%
 Gb (60°/60° F): 1.031

This JMF requires the use of Evotherm P25 at an addition rate of 0.5% of liquid asphalt. Dryback required.
 CCON04 changes allowable ranges for VMA (14.0 - 17.5%) and VFA (65 - 78), and allows use of Evotherm as a LASA. Production history supports changes.
 Asphalt content adjustments may be necessary under production.

Stockpile Information					
Stockpile Size	1/2" - #4	#4 - #8	#4 - 0	RAP	Project
Stockpile Source	09-099-4	09-099-4	09-099-4		
Stockpile Percentage	22.0	12.0	36.0	30.0	
Bulk Specific Gravity (Gsb)	2.664	2.700	2.743	2.761	

22% - 1/2" - #4 **Level 3, 1/2" Lime Treated ACP**
 12% - #4 - #8 **Where's the Lime?**
 36% - #4 - 0
 30% - RAP
 0% - Lime

Lab Name: Carlson Testing Certified Mix Design Technician: Kevin Jordan
 Mix Producer: High Desert Aggregate & Pav Contractor Mix Design No.: B2021.03
 Asphalt Supplier: McCall Transferred from Lab No.:
 Asphalt Grade: PG64-28 Antistriper Information: **Evotherm P25 0.5000%**
 Gb (60°/60° F): 1.031

This JMF requires the use of Evotherm P25 at an addition rate of 0.5% of liquid asphalt. Dryback required.
 CCON04 changes allowable ranges for VMA (14.0 - 17.5%) and VFA (65 - 78), and allows use of Evotherm as a LASA. Production history supports changes.
 Asphalt content adjustments may be necessary under production.

Tim Earnest 23-Aug-21

Reviewed by Signature: _____ Date: _____
 C: Project Manager; Chris Duncan, Pavements; Bluminius; Region 4 QA Coord. High Desert Aggregate & Paving, Inc.

24

OREGON DEPARTMENT OF TRANSPORTATION
MATERIALS LABORATORY
300 AIRBORNE ROAD SE
SALEM, OR 97301-4788

Contract No.: C15212 EA: COM04330 F.A. No: 5004(207) Lab No.: 21-MD0071
 Project Name: US97: S Century Drive to USFS Boundary Bid Item: 1010
 Highway: The Dalles - California Highway County: Deschutes Amendment 1 Date:
 Begin MP: 152.50 End MP: 156.00 Amendment 2 Date:
 Contractor: High Desert Aggregate & Paving, Inc. Amendment 3 Date:
 Project Manager: Bill Martin Use: Level 4 1/2" Dense Mix

ASPHALT CONCRETE PAVEMENT MIX DESIGN REVIEW

Lab Name: High Desert Aggregate & Paving Certified Mix Design Technician: Travis Evans
 Mix Producer: High Desert Aggregate & Paving Contractor Mix Design No.: HD2021.02P
 Asphalt Supplier: McCall Transferred from Lab No.:
 Asphalt Grade: PG70-28ER Antistrip Information: Evothem P25 0.5000%
 Gb (60%/60° F): 1.033
 This JMF requires the use of Evothem P25 at an addition rate of 0.5% of liquid asphalt. Drybacks required.
 CCO#04 changes allowable ranges for VMA (14.0 - 17.5%) and VFA (65 - 78), and allows use of Evothem as a LASA.
 Targets based upon production data from US97: MP147.5 - 152.2 District Paving project.

Stockpile Information	1/2" - #4	#4 - 8	#4 - 0	RAP
Stockpile Size	09-099-4	09-099-4	09-099-4	SP
Stockpile Source	25.0	15.0	40.0	20.0
Stockpile Percentage	2.663	2.699	2.743	2.761
Bulk Specific Gravity (Gsb)				

Job Mix Formula

Sieve	% Pass	Paving Course	% Asphalt by Wt of Mixture (Pb)	Maximum Specific Gravity (Gmm)
3/4" (19mm)	100	Wearing <input checked="" type="checkbox"/>	6.7	2.503
1 1/2" (12.5mm)	95	Base <input checked="" type="checkbox"/>		
3/8" (9.5mm)	85	Leveling <input type="checkbox"/>		
1/4" (6.25mm)	69	Temporary <input checked="" type="checkbox"/>		
No. 4 (4.75mm)	52			
No. 8 (2.36mm)	42		VMA: 17.5	VFA: 77
No. 16 (1.18mm)	29	Percent A/C in Rap: 5.3	Combined Aggregate Gravity (Gsb): 2.719	Gmb Sample Weight: 4760
No. 30 (0.60mm)	19	Number of Vibrations: 100	Void Target (VA): 4.0	Mixing Temp Range: 328-341F
No. 50 (0.30mm)	12	Tensile Strength Ratio: 83	Placement Temp Range: 305-315F	
No. 100 (0.15mm)	9			
No. 200 (0.075mm)	7.3			

Compliance Statement: Based on the information submitted for review, this mix design does comply with specifications.

Reviewed by Signature: Tim Earnest Date: 23-Aug-21

C: Project Manager: Chris Duman, Pavements, Bituminous, Region 4 QA Coord; High Desert Aggregate & Paving, Inc.

Stockpile Information

Stockpile Size	1/2" - #4	#4 - 8	#4 - 0	RAP
Stockpile Source	09-099-4	09-099-4	09-099-4	SP
Stockpile Percentage	25.0	15.0	40.0	20.0
Bulk Specific Gravity (Gsb)	2.663	2.699	2.743	2.761

Level 4, 1/2" Lime Treated ACP

- 25% - 1/2" - #4
- 15% - #4 - #8
- 40% - #4 - 0
- 20% - RAP
- 0% - Lime

Lab Name: High Desert Aggregate & Paving Certified Mix Design Technician: Travis Evans
 Mix Producer: High Desert Aggregate & Paving Contractor Mix Design No.: HD2021.02P
 Asphalt Supplier: McCall Transferred from Lab No.:
 Asphalt Grade: PG70-28ER Antistrip Information: **Evothem P25 0.5000%**
 Gb (60%/60° F): 1.033
 This JMF requires the use of Evothem P25 at an addition rate of 0.5% of liquid asphalt. Drybacks required.
 CCO#04 changes allowable ranges for VMA (14.0 - 17.5%) and VFA (65 - 78), and allows use of Evothem as a LASA.
 Targets based upon production data from US97: MP147.5 - 152.2 District Paving project.

25

Level 3, 1/2" Lime Treated ACP

33,000 ton + 1,200 tons in leveling
 34,200 tons of ACP

To determine the Percent stone (Ps) we need Percent binder (Pb) from the design

$100 - Pb = PS \quad 100 - 6.3 = 93.7$

$34,200 \times .937 = 32,045$ Tons of Agg and Rap

Let's figure how many tests we are going to need

Ps x Stockpile % = Tons

1/2" - #4 ACP Aggregate =
 $32,045 \times 0.22 = 7,050$ Tons

#4 - #8 ACP Aggregate =
 $32,045 \times 0.12 = 3,845$ Tons

#4 - 0 ACP Aggregate =
 $32,045 \times 0.36 = 11,536$ Tons

RAP in ACP =
 $32,045 \times 0.30 = 9,614$ Tons

0990	0745-0322000M LEVEL 3, 1/2 INCH LIME TREATED ACP	TON	33,000.00	23.00	759,000.00
1000	0745-0334000M LEVEL 3, 1/2 INCH LIME TREATED ACP IN LEVELING	TON	1,200.00	25.00	30,000.00

Stockpile Information

Stockpile Size	1/2" - #4	#4 - #8	#4 - 0	RAP
Stockpile Source	09-099-4	09-099-4	09-099-4	Project
Stockpile Percentage	22.0	12.0	36.0	30.0
Bulk Specific Gravity (Gsb)	2.664	2.700	2.743	2.761

Let's double check our numbers by adding them up and comparing to the Design

$7,050 + 3,845 + 11,536 + 9,614 = 32,045$

26

Level 4, 1/2" Lime Treated ACP

11,500 tons of ACP
 To determine the Percent stone (Ps) we need Percent binder (Pb) from the design
 $100 - Pb = PS \quad 100 - 6.7 = 93.3$
 $11,500 \times .933 = 10,730$ Tons of Agg and Rap
 Let's figure how many tests we are going to need
Ps x Stockpile % = Tons
 1/2" - #4 ACP Aggregate =
 $10,730 \times 0.25 = 2,682$ Tons
 #4 - #8 ACP Aggregate =
 $10,730 \times 0.15 = 1,610$ Tons
 #4 - 0 ACP Aggregate =
 $10,730 \times 0.40 = 4,292$ Tons
 RAP in ACP =
 $10,730 \times 0.20 = 2,146$ Tons

Let's double check our numbers by adding them up and comparing to the Design
 $2,682 + 1,610 + 4,292 + 2,146 = 10,730$

1010	0745-0422000M	TON	11,500.00	25.00	287,500.00
------	---------------	-----	-----------	-------	------------

Stockpile Size	1/2" - #4	#4 - 8	#4 - 0	RAP
Stockpile Source	00-000-4	00-000-4	00-000-4	SP
Stockpile Percentage	25.0	15.0	40.0	20.0
Bulk Specific Gravity (Gsb)	2.663	2.699	2.743	2.761

27

<u>Material Size</u>	<u>Level 3 ACP</u>	<u>Level 4 ACP</u>	<u>Total Aggregate for ACP</u>
1/2" - #4	7,050	2,682	9,732
#4 - #8	3,845	1,610	5,455
#4 - 0	11,536	4,292	15,828
RAP	9,614	2,146	11,760

28

REGION 1 AC AGGREGATE SOURCES TESTING FREQUENCIES

Revised 10-15-18

ODOT REGION	SOURCE NUMBER	SOURCE NAME	TESTING FREQUENCY	TYPE OF SOURCE
1	OR-26-102-1	Kalama River to Kelley Pt.	1-5,000 Ton	GRAVEL
1	OR-26-104-1	I-205 Br to Sandy River	1-5,000 Ton	GRAVEL
1	OR-34-080-1	Baker Rock	1-5,000 Ton	QUARRY
1	OR-34-089-2	Tonquin	1-5,000 Ton	QUARRY
1	OR-34-101-1	Hayden	1-10,000 Ton	QUARRY

Sources not listed in the tables shall be sampled and tested at the frequency of **once per 5,000 Tons** produced. When enough data has been collected to show that the source consistently meets specifications. The ODOT Pavement Section will determine if the sampling frequency can be changed.

29

Total Aggregate for ACP	Compliance	Minimum QC Tests	Minimum QA Tests			
				FIELD TESTED MATERIALS ACCEPTANCE GUIDE		
<p>½"-#4 = 9,732</p> <p>#4-#8 = 5,455</p> <p>#4-0 = 15,828</p> <p>RAP = 11,760</p>			<p>Same Frequency for all Tests (Minimums)</p> <p>Contractor Quality Control</p> <p>Project Manager</p> <p>Region Quality Assurance</p> <p>Materials Laboratory</p>			
				Aggregate Production		
				RAS Production (Reclaimed Asphalt Shingles)		
				Preproduced Aggregate		
				Compliance of aggregates produced and stockpiled before the award date or notice to proceed of this contract will be determined by the following:		
				1. Continuing production records meeting the above requirements of Section 00745.10 Aggregate Production.		
				2. Furnish records of testing for the entire stockpile according to Section 00745.10 Aggregate Production except change the sampling frequency to the following:		
				a. One Per 5 sublots means "One Set of Tests Per 5000 Tons".		
				b. One Per sublot means "One Set of Tests Per 1000 Tons" with a minimum of 3 sets of Sieve Analysis tests per project.		
				c. Provide one stockpile sample for each set of tests required above.		

30

Asphalt Concrete Pavement - Stat Spec		745			
Aggregate Production				Sublot = 1,000 tons or minimum 1/shift	
	Soundness		T104	QC: See Section 4(a) PM: Submit to Mat Lab	
	Abrasion		T96		
	Degradation		TM208		
	Lightweight Pieces		T113		
	Placticity Index		T90		
	Sampling		T2	QC: 1/Sublot & Start of Production QA: 1/10 Sublots REMEMBER <i>Minimum of 1 test per shift Regardless of Sublot Tonnage</i>	
	Reducing		R76		
	Sieve Anlysis (minimum 3 tests, Coarse Agg, Fine Agg)		T27/T11		
	Sand Equivalent (QAC may waive after 5 Sublots/Shifts, Fine Agg)		T176		
	Elongated Pieces (QAC may waive after 5 Sublots/Shifts, Coarse Agg)		TM229		
	Fracture Face - Method 2 (Coarse Agg, Fine Agg)		T335		
	Wood Particles (QAC may waive after 5 Sublots/Shifts, Coarse Agg)		TM225		
					Minimum Required
					1/2"-#4 = 11 QC Tests & 1 QA Test
					#4-#8 = 7 QC Tests & 1 QA Test
				#4-0 = 17 QC Tests & 2 QA Tests	

31

Mixture Acceptance - Level 3, 1/2" Lime Treated ACP	Tons	33000.00		Sublot = 1,000 Tons	
Gradation					
	Calibrate Incinerator		TM323	1/JMF & Each Calendar Year	1 QC & 1 QA FC Test
	Sampling		T168		33 QC Tests
	Reducing		R47	QC: 1/Sublot; QA: 1/10 Sublots	4 QA Tests
	Sieve Analysis		T30		
Asphalt Content					
	Calibrate Incinerator		TM323	1/JMF & Each Calendar Year	1 QC & 1 QA FC Test
	Sampling		T168		33 QC Tests
	Reducing		R47	QC: 1/Sublot or Min 1/day; QA: 1/10 Sublots	4 QA Tests
	Asphalt Content		T308		
Meter Method - Required for ACP even when acceptance is by Ignition Method					
	Readings backed by Tank Measure		TM321		
	Production Records Daily (Required at start of production and if meters fail to meet specification)		TM322	QC: Daily Production	Daily
	RAP Percentage		TM321 & TM322		33 QC Tests
	RAP Moisture		T329	QC: 1/Sublot or Min 1/day; QA: 1/10 Sublots	4 QA Tests
	Cold Feed Moisture		T255/T265		
Mix Design Verification (MDV) Testing					
	Gyratory Specimen		TM326	QC: 1/Sublot & According to Section 00745.16 (b)-1-d; QA: 1/10 Sublots	33 QC Tests
	Maximum Specific Gravity-Gmm (Max Density Test)		T209		4 QA Tests
	Bulk Specific Gravity-Gmb		T166		
	Asphalt Mix Moisture		T329	QC: 1/sublot	
	Max. Specific Gravity		T209	QC: 1st Sublot Daily or Min 1/day	
	MAMD		T305	Daily	Daily
	Tensile Strength Ratio (TSR)		T283	QC: 1/JMF See Section 745.16(b)-1-f	1 Production Test
Compaction					
	Core Correlation		TM327 & T355	QC&QA: 1 per Lift over 2,500 tons	3 Expected
	Control Strip		TM306	QC: Develop Rolling Pattern See Specs	1 Minimum
	Nuclear Density - See T355 YellowSheet for Density Test Locations		T355	QC: Average 5 tests per sublot or min 1/day See Section 745.49(b)-2; QA: 1/10 Sublots	165 QC Tests 20 QA Tests
Asphalt Content					
	Compliance		R66	QC: 1/sublot; QA: 1/10 Sublots	33 QC Tests 4 QA Tests
Smoothness					
	Certification of Profiler Equipment		TM769		Wearing Coarse 1 Per Project
	Determining Profile Index		TM770	QC: See Special Provisions	Retest as Necessary
	Determining International Roughness Index		TM772		

32

Mixture Acceptance - Level 4, 1/2" Lime Treated ACP	Tons	11500.00			Sublot = 1,000 Tons	
Gradation						
Calibrate Incinerator				TM323	1/JMF & Each Calendar Year	1 QC & 1 QA FC Test
Sampling				T168		12 QC Tests
Reducing				R47	QC: 1/Sublot; QA: 1/10 Sublots	2 QA Tests
Sieve Analysis				T30		
Asphalt Content						
Calibrate Incinerator				TM323	1/JMF & Each Calendar Year	1 QC & 1 QA FC Test
Sampling				T168		12 QC Tests
Reducing				R47	QC: 1/Sublot or Min 1/day; QA: 1/10 Sublots	2 QA Tests
Asphalt Content				T308		
Meter Method - Required for ACP even when acceptance is by Ignition Method						
Readings backed by Tank Measure				TM321	QC: Daily Production	Daily
Production Records Daily (Required at start of production and if meters fail to meet specification)				TM322		
RAP Percentage				TM321 & TM322		12 QC Tests
RAP Moisture				T329	QC: 1/Sublot or Min 1/day; QA: 1/10 Sublots	2 QA Tests
Cold Feed Moisture				T255/T265		
Mix Design Verification (MDV) Testing						
Gyratory Specimen				TM326	QC: 1/Sublot & According to Section 00745.16 (b)-1-d; QA: 1/10 Sublots	12 QC Tests
Maximum Specific Gravity-Gmm (Max Density Test)				T209		2 QA Tests
Bulk Specific Gravity-Gmb				T166	QC: 1/sublot	
Asphalt Mix Moisture				T329	QC: 1st Sublot Daily or Min 1/day	Daily
Max. Specific Gravity				T209	Daily	1 Production Test
MAMD				T305		
Tensile Strength Ratio (TSR)				T283	QC: 1/JMF See Section 745.16(b)-1-f	
Compaction						
Core Correlation				TM327 & T355	QC&QA: 1 per Lift over 2,500 tons	3 Expected
Control Strip				TM306	QC: Develop Rolling Pattern See Specs	1 Minimum
Nuclear Density - See T355 Yellowsheet for Density Test Locations				T355	QC: Average 5 tests per sublot or min 1/day See Section 745.49(b)-2; QA: 1/10 Sublots	60 QC Tests 10 QA Tests
Asphalt Content						
Compliance				R66	QC: 1/sublot; QA: 1/10 Sublots	12 QC Tests 2 QA Tests
Smoothness						
Certification of Profiler Equipment				TM769		Wearing Coarse 1 Per Project
Determining Profile Index				TM770	QC: See Special Provisions	Retest as Necessary
Determining International Roughness Index				TM772		

33



34

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1																		
2	320	2300	CU YDS Embankment			Certs: Tech	-->	CDT	<input type="checkbox"/>	Lab Tech	<input type="checkbox"/>			Other: Random Numbers for Testing Locations				
3		5	QC compaction testing	4.6		Gauge	<input type="checkbox"/>							Testing not applicable under 3500 CU YDS for Existing Ground and Excavations.				
4		5	QC Deflection - 1 per 3' in depth			Lab	<input type="checkbox"/>											
5		1	QC Density Curve - 1 per soil type															
6		1	QA Density Curve - 1 per project															
7		1	QA Compaction - 10%	0.46		Small Quantity is 500 CU YDS												
8																		
9	590	7500	Tons Base Aggregate			Certs: Tech	-->	CDT	<input type="checkbox"/>	CAGT	<input type="checkbox"/>			Other: Random Numbers for Gradation Testing and Compaction				
10		4	QC gradation testing - 1/2000 Tons	3.75		Gauge	<input type="checkbox"/>							Stat Spec Required				
11		1	QA gradation testing - 10%	0.375		Lab	<input type="checkbox"/>											
12		1	Check Weights (or every 10 days)	0.75		Scale	-->	Truck	<input type="checkbox"/>	Check	<input type="checkbox"/>							
13		4	QC compaction sublots -5/sublot	3.75														
14		1	QA compaction - 10%	0.375		Product Compliance: Annually (to Salem)												
15		1	Density Curve - Each Size per Source															
16		1	QA Curve Verification	1		Small Quantity is 2000 Ton												
17																		
18	600	165	Tons Tack			Small Quantity is 50 Ton												
19		4	Product Compliance (to Salem) - 1/50 Tons	3.3														
20																		
21	610	84500	Tons 745 Level 3,4 ACP			Certs: Tech	-->	CAT II	<input type="checkbox"/>	CMDT	<input type="checkbox"/>	CAT I	<input type="checkbox"/>	CAGT	<input type="checkbox"/>			Other: 1 TSR per JMF
22		85	QC testing mix	84.5		Gauge	<input type="checkbox"/>							1 Control Strip per JMF (+CAT II Reconciliation)				
23		85	Binder samples (to Salem)	84.5		Lab	<input type="checkbox"/>							Random Numbers for Mix Testing and Compaction				
24		10	Check weights (or every 10 days)	8.45		Scale	-->	Truck	<input type="checkbox"/>	Hopper	<input type="checkbox"/>			1 Incinerator Calibration per JMF (each year)				
25		85	QC compaction sublots -5/sublot	84.5										Smoothness Bonus				
26		9	QA Verifications - 10%	8.45		Product Compliance: Each Stockpile per MFTP (to Salem)												
27			QC Testing Gradation-Daily or 1/1000 Tons											Plant Calibration prior to starting				
28			QA Gradation - every 10,000 Tons			Small Quantity is 2500 Ton												
														Approved Mix Design				
														Stat Spec Required for Rock Production and Mix				

35

Test #	Date	STA	Width	YD2	Tested	Note
130	128	72050	41	2506	X	N Line
131	129	72750	28	778	X	S Line
132	130	72050	14	793		N Line
133	131	76550	9	610		S Line
134	131	77495	9	120		S Line

111888	SY	Required Tests	37.30
		Tests Taken	39

36

Concrete Data.xlsx - Excel

Structural Grade Concrete

Project: US97 S Century Dr. to USFS Boundary
Contract #: C15212

DATE	TEST/SET	BI	AIR/OZ	SLUMP	TEMP	UNIT WT	W/C RATIO	YD3	YD3	YD3	YD3	5	7	28	28	28	Average	Break on?
Design Limits			0 4.7	0.5 5 Max	50-90 50-90		+/-3.0 +/-0.03	20-CM0697 4000 psi	20-CM0696 3300 psi	HPC 4500 psi								
2/9/2021	1	69	5.2	4.75	70	139.8	0.45	70.00					5590	7060	7030	6980	7020	3/9/2021
0/14-C	69	6.8	5.25	70	141.7	0.45							5270	5680	5900	5900	6490	
0/1-V	69	6.8	5.50	71	140.4	0.45							4970	5760	6130	5630		
3/10/2021	2	69	5.2	3.50	74	143.2	0.39	18.00					4690	5990	6000	5920	5970	4/7/2021
4/20/2021	3	69	5.5	4.25	80	141.6	0.46	21.00					4400	5310	5230	5430	5320	5/18/2021
6/23/2021	0-DV2	68	4.3	4.00	75	144.3	0.41						6320	6290	6200	6300	7/21/2021	
6/23/2021	0-DV2	68	4.8	4.00	74	146.3	0.41						5780	5860	5750	5800		
6/23/2021	4	68	4.5	5.00	70	144.3	0.42	90.00					6360	6070	6140	6190		
7/7/2021	1	71	6.25	4.30	73	146.8	0.43	90.00					4220	6380	6510	6180	6360	8/4/2021
7/7/2021	2	71	6.2	6.50	80	143.1	0.43	20.00					4100	5990	6150	5940	6030	
7/7/2021	1	73	5.6	5.00	78	142.9	0.49	13.00					3710	5440	5690	5360	5500	8/4/2021
7/13/2021	0-DV3	73	5	3.50	69	142.5	0.46						3660					8/10/2021
0-DV3	73	5.4	3.50	68	143	0.46							3310	5190	5370	5140	5230	8/10/2021
1	73	5.3	5.00	67	141.9	0.47												8/10/2021
Total =								111.00	43.00	216.00								

39

OR62: Corridor Solutions Unit 2 Phase 1
C14786
Aggregate Base

Date	Tons Placed	Check Weight Performer	Tons since test	Days over 50 tons deliver	Total Tons	Bid Item Number	Moisture	Compaction	Description/Placement	NOTE
5/25/16	315.83	X	0.00	0	315.83	2460	X	X		
5/26/16	415.29		415.29	1	731.12	2460	X	X		
7/9/16	562.33		977.62	2	1293.45	2460	X		SBB 11 - SBB 17	Temporary Widening
7/11/16	205.72		1183.34	3	1499.17	2460	X		TC2S2 24 - TC2S2 26	Temporary Widening
7/26/16	48.06		1231.40	3	1547.23	2460	X			
7/27/16	81.93		1313.33	4	1629.16	2460	X			
9/19/16	1511.86		2825.19	5	3141.02	2460	X	X	RR3 320 - 343	1st Lift
9/20/16	1591.99		4417.18	6	4733.01	2460	X	X	RR3 320 - 344+79	2nd Lift
9/21/16	99.66		4516.84	7	4832.67	2460	X	X		
9/21/16	809.51	X	0.00	0	5642.18	2460	X	X	RR3 303+10 to 344+79	Top Lift
9/22/16	331.35		331.35	1	5973.53	2460	X	X	RR3 303+10 to 344+79	Top Lift + Finish Grade
9/29/16	165.77		497.12	2	6139.30	2460	X	X		
9/30/16	75.01		572.13	3	6214.31	2460	X			
10/4/16	129.00		701.13	4	6343.31	2460	X		NBB 115 - 118	
10/11/16	691.33		1392.46	5	7034.64	2460	X	X	RR2 Line Cul-de-sac	No stationing
10/12/16	686.52		2088.98	6	7731.16	2460	X	X	Midway Bioretention Pond Access	No stationing
1/31/17	49.43		2138.41	6	7780.59	2460	X		EX 2301+50 to 2302+50	
2/1/17	112.07		2250.48	7	7892.66	2460	X		NBB 138+90 Lt	
2/1/17	17.87		2268.35	7	7910.53	2460			EX 2301+50 Lt	
2/1/17	29.62		2297.97	7	7940.15	2460			B 2282+77 to 2283+63 Lt	Sportsman's Lot above Wall backfill
2/2/17	190.23		2488.20	8	8130.38	2460	X		NBB 142+00 to 147+00 Lt	Widening
2/3/17	212.80		2701.00	9	8343.18	2460	X		NBB 140+00 to 146+50 Lt	Widening
2/3/17	264.98		2965.98	9	8608.16	2460		X	NBB 139+00 to 141+70 Lt	Widening
2/4/17	206.75		3172.73	10	8814.91	2460	X	X	NBB 136+00 Lt, 3 Lifts	Widening
2/6/17	23.04		3195.77	10	8837.95	2460	X		B 2283+63 to 2284+75 Lt	Sportsman's Lot above Wall backfill
2/7/17	11.47		3207.24	10	8849.42	2460			B 2283+63 to 2284+75 Lt	Sportsman's Lot above Wall backfill
2/8/17	393.56		3600.80	11	9242.98	2460	X	X	NBB 135+00 to 137+50 Lt	Widening
2/10/17	0.00	X	0.00	0	9242.98				GSB for wall 21633	Same source material and scales as 2460

40

BI 2490, Level 3, 1/2" Dense HMAC

DATE	TON	Lot 1	Lot 2	Lot 3	Lot 4	Lot 5	Lot 6	SCALE	CH WT	GRAND
		Temp	64-22	76-22	NDT 64-22	NDT 76-22				TOTAL
	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
7/12/16	445.44	445.44								445.44
7/29/16	166.73	166.73						1 & 2		612.17
10/3/16	883.64		883.64							1465.91
10/4/16	200.27	200.27								1696.08
4/18/17	1269.36			1136.87	132.49				X	2965.44
4/20/17	1159.69			1159.69						4125.11
4/26/17	499.74			499.74						4624.87
4/27/17	421.32		421.32							5046.19
5/4/17	105.69			105.69						5151.88
5/14/17	111.92			111.92						5263.80
5/14/17	140.02			140.02						5403.82
5/25/17	103.85			103.85						5507.67
7/21/17	985.04		985.04							6492.71
8/10/17	20.11			20.11						6512.82
10/23/17	1728.67			1728.67					X	8241.49
10/24/17	1733.01			1733.01						9974.50
1/3/18	856.84			856.84						10831.34
1/4/18	685.81			685.81						11517.15
1/6/18	91.14	91.14								11608.29
1/16/18	368.33		368.33							11976.62
4/10/18										
4/11/18										
4/13/18										
4/24/18										
5/6/18										
5/7/18										
5/9/18										
5/10/18										
Totals	18301.65	903.58	2824.94	13646.29	481.59	445.25	0.00			18301.65

41

Date	Tons Place	Check w/Instr. Performance	Tons since test	Days over 50 tons deliv	Total Yc	Bid Item Number	Description/Placement	NOTE
7/12/16	445.44		445.44	1	445.44	2490	Detour SB from TC2S2 23+0-29+0	Phase 1
7/29/16	166.73		612.17	2	612.17	2490	Detour SB from TC2S2 23+0-29+0	Phase 2
10/3/16	883.64		1495.81	3	1495.81	2490	RR3 305+75 - 341+30	
10/4/16	200.27		1696.08	4	1696.08	2490	TC3S 217-218	
4/18/17	1269.36	X	0.00	0	2965.44	2490	L3 Base Paving	
4/20/17	1159.69		1159.69	1	4125.13	2490	L3 Base Paving	
4/26/17	499.74		1659.43	2	4624.87	2490	Open-grade repair	
4/27/17	421.32		2080.75	3	5046.19	2490	Texas Roadhouse Patch	
5/2/18	880.89		2961.64	4	5927.08	2500		
5/3/18	365.82		3327.46	5	6292.90	2500		
5/3/17	105.69		3433.15	6	6398.59	2490		
7/12/16	445.44		3545.07	7	6510.51	2490		
7/29/16	166.73		3685.09	8	6650.53	2490	Level 3 Driveways	Acco Orley's, All RV Needs
10/3/16	883.64		3788.94	9	6754.38	2490		
10/4/16	200.27		3788.94	9	6754.38	2490		
4/18/17	1269.36		4773.98	10	7739.42	2490	Level 3 C line	
4/20/17	1159.69		4794.09	10	7759.53	2490	L3 Guardrail Flares on C Line	
4/26/17	499.74		0.00	0	9488.20	2490		
4/27/17	421.32	X	1733.01	1	11221.21	2490		
5/2/18	880.89		2589.85	2	12078.05	2490		
5/3/18	365.82		3275.66	3	12763.86	2490		
5/4/17	111.92		3366.80	4	12855.00	2490		
5/14/18	140.02		3735.13	5	13223.33	2490		
5/25/17	103.85		4357.15	6	13845.35	2490		
7/21/17	985.04		6373.90	7	15862.10	2490		
8/10/17	20.11		7569.93	8	17058.13	2490		
10/23/17	1728.67		0.00	0	18134.92	2490		
10/24/17	1733.01		1238.76	1	19373.68	2500		
1/3/18	856.84		1651.27	2	19786.19	2490	W, SBB Line, Slope Paving	
1/4/18	685.81		1802.76	3	19937.68	2500	W, SBB Line	
1/6/18	91.14		1955.99	3	20090.91	2490	SBB 4-10	Pavement Repair (Delta Waters)
1/16/18	368.33		2190.24	4	20325.16	2490	SBB 40+00 to 43+44, NBB 149-155	1.5" Inlay (Rut Removal)
4/10/18	2016.75		0.00	0	21748.60	2500	SB/SBB 17+75 to 51+00	
4/11/18	1196.03		1050.53	1	22799.13	2500	SBB 18-52, NBB 147-156	
4/13/18	1076.79	X	0.00	0	23850.68	2500	SBB 30-51, NBB 136-155	
4/14/18	1238.76		671.54	1	24522.22	2500	NB 34.43, NBB 137, Bullock Int	
4/14/18	1238.76							
4/24/18	412.51							
4/25/18	151.49							
4/25/18	153.23							
5/6/18	234.25							
5/7/18	1423.44							
5/8/18	1050.53							
5/9/18	1051.55	X						
5/10/18	671.54							

42



43