2023 QCCS Workshop

RE Exception & Adjustments

1

DOCUMENT REVIEW REPORT SUPPORTING DOCUMENTATION: RESIDENT ENGINEER EXCEPTION EXPLANATION PROJECT MINE CONTINUED TRANSMITTED TO THE PROJECT OF THE PROJECT OF THE PROJECT ASSOCIATION TO THE PROJECT OF						
RESERT SCARLER CACCITION INC. MAJORITHEM REQUIRED ADJUSTMENT AMOUNT	25		SUPPORTING D			
RECEPTION NO. ADJUST NEW! CAUSE NEW! ADJUST NEW! ADJUST NEW	PROJECT NA	ME				
EXCEPTION BO. DANIELLEM PROGRADO ADJUSTMENT AMOUNT	CONTRACT	NO.		FEDERAL AID NO.		
Bid Nem Spec No. Bi Description NOTE: fast fam in to r/IAMC, please indicate if exception in the appropriate production, nits production or placement. See specific when itsertifying exactly what the exception appear in it is exception appear in its management of the exception of the excepti	RESIDENT E			1		
NO. No. BI Description Missing Documentation NOTE: If Set Rom is for Hald., please indicate if escaption is for aggregate production, not production or parament. Despects when itsentifying exactly performed, must all only write about an expression of parament. Despects when itsentifying exactly performed, must all only write about an expression or any leafing east missed. Explain why missing documentation could not be obtained: QUALITY DEFICIENCES TIWA What was the alternate method used to accept the muterial? COMBULTY DEFICIENCES N/A How was the quantity of the muterial verified? COMBULTATIONS (such exactly explained by the muterial verified?) COMBULTY DEFICIENCES N/A How was the quantity of the muterial verified? COMBULTY DEFICIENCES N/A How was the quantity of the muterial verified? COMBULTY DEFICIENCES N/A How was the quantity of the muterial verified? COMBULTY DEFICIENCES N/A How was the quantity of the muterial verified? COMBULTY DEFICIENCES N/A How was the quantity of the muterial verified? COMBULTY DEFICIENCES N/A How was the quantity of the muterial verified? COMBULTY DEFICIENCES N/A How was the quantity of the muterial verified? COMBULTY DEFICIENCES N/A How was the quantity of the muterial verified? COMBULTY DEFICIENCES N/A Affected Out N/A Affected Out N/A COMBULTY DEFICIENCES N/A Affected Out N/A Affected Out N/A COMBULTY DEFICIENCES N/A Affected Out N/A Affected Out N/A Affected Out N/A Affected Out N/A COMBULTY DEFICIENCES N/A Affected Out N/A Affected Out N/A COMBULTY DEFICIENCES N/A Affected Out N/A Affected Out N/A COMBULTY DEFICIENCES N/A Affected Out N/A COMBULTY	EXCEPTION	NO. NO.	ADJUSTMENT REQUIRED Yes No	ADJUSTMENT AMOUN	T	
Explain why missing documentation could not be obtained: Explain why missing documentation could not be obtained: GUALITY DEFICIENCIES NA What was the alternate method used to accept the material? GUALITY DEFICIENCIES NA How was the quantity of the material verified? CONSULTATIONS (Later) must correspondence)			BI Description	Missir	g Documentation	
	Explain wi QUALITY What was GUANTITY How was to CONSULT Specific Quantity Profess Consult Confided Accepted Accepted Contract Administration Contract Administration Contract Accepted	into of any way missing operations the afterna operations of the afterna operations of the afterna operation op	Afficiate the content of the content	Date: Date: Unit Price \$5.00 ATUREZEVEND Date: Depressing if not proce to Expressing Prepare Contract Ch Other (explain)	Affected Cost (Affected Clyx Unit Price) \$ 0.00 Transition, repaired are interchiption DATE DATE	

What is an exception and when do you use it?

- A <u>RE Exception</u> is a quality or quantity item that is being accepted by the RE in a method that differs from the normal procedures. Exceptions are deficiencies to the quality/quantity documentation that cannot be "resolved" in any other manner.
- If the payment is made due to an alternate method of measurement instead of what is specified in the Contract.

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RE Exception

 If the exception applies to a missing quality compliance certification or missing field tests, then an explanation of how the materials are being accepted needs to be included. This information is critical in making the determination of participation or nonparticipation on projects with federal funding.

• If there are any quality or quantity issues outstanding for which the RE is requesting an exception, the Documentation Review Report Supporting Documentation: RE Exception Explanation, form 734-2704 will need to be completed. The RE must also obtain, and attach to this form, written concurrence from the applicable Technical Resource (TR) and Professional of Record (POR). In addition, this form needs to be signed by both the RE and RAS, and submitted with the final Project documentation.

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RE Exception

- This form will be signed off by the Contract Administration Engineer (CAE) at the time of final documentation acceptance, and designated as "Accepted – Participating (federal funds)", "Accepted – Non-Participating", "Not Accepted (Return to RE) - Prepare CCO", or "Not Accepted (Return to RE) - Other". Refer to Chapter 37 – Submittal of Final Project Documentation.
- Mark as "CCO Required". This will require the RE to handle the Exception as a CCO, at which point it would be removed from the DRR.

Do I need an Exception or a CCO

- A CCO or Exception is NOT required when:
 - There are no changes to the Contract Documents.
 - The Standard price adjustments (6000 series) are being applied (Concal, Stat Spec, Adjustment)

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RE Exception

• A CCO is required when:

There are changes to the requirements, specifications or design.

There are changes in testing requirements.

Money is due to ODOT

Money is due to the contractor.

When there is a zero net cost and a change has been made.

Accepting a reduced quality product.

Allowing Non-Specification material to remain in place.

• An Exception Letter/Form is required when:

Acceptance of the material is done by an alternate means

Examples are:

Missisng QC Tests, Missing Scale Certs, Missing Check Weights, Missing Tare Weights, Missing Weigh Backs for payment, Missing Verification Tests.

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RE Exception

Acceptability of the documents, documentation, or Materials that may need an alternate acceptance method such as an exception or Contract Change Order [Refer to Exception vs. CCO guidance document].

There are limitations as to what is considered an exception. [Refer to Exception vs. CCO guidance document.]

The RAS will list the following on the final DRR:

Any quantity or quality items that pertain to a RE exception.

The RE must also attempt to obtain the concurrence to use the Exception method of acceptance from the Technical Resource (TR) and Professional of Record (POR). If the TR or POR does not respond, attach the email request that was not responded to.

The Technical Resource List includes both the general specifications (00110 - 00199) and technical specifications (00205 - 03020).

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					AL RESOURC	E LIST					w of Industry Cor	icems
UP	PDATED 09-28-2022		TECHNICAL	RESOURCES			STAKEHO (Indials in correspondence se	LDER B Territal Reserve)	Questions? E-mat: QDOT SPECIFICATIONS	Concern Resolu	Son if both agree	Concern Resolution
Section	Section Title	Primary Responsible Unit	Resource Position	Resource Name	Phone Number	Measurement and Payment Resource	Stakeholder Position	Stakeholder Name	Remarks	Construction and Materials Engineer	Discipline Section Manager	Chief Engineer
	For spedification sect	ions not listed, cort act	GDOT Specifications									
00110	Organization, Conventions, Abbreviations, and Definitions	Project Letting	Specifications Engineer *	Dan Anderson	(503) 986-3777	NA			 Specifications Engineer before Award. Contract Administration Engineer after Award. 	Chris Bucher	Mile Kintinger	Mke Kiránger
00120	Bidding Requirements and Procedures	Project Letting	Specifications Engineer*	Dan Anderson	(503) 986-3777	NA			* Specifications Engineer before Award. Contract Administration Engineer after Award.	Chris Bucher	Mile Kintinger	Mke Kinlinger
00130	Award and Execution of Contract	Project Letting	Specifications Engineer*	Dan Anderson	(503) 986-3777	N/A			* Specifications Engineer before Award. Contract Administration Engineer after Award.	Chris Bucher	Mile Kimlinger	Mke Kiminger
00140	Scope of Work	Project Letting	Specifications Engineer*	Dan Anderson	(503) 986-3777	NA			 Specifications Engineer before Award. Contract Administration Engineer after Award. 	Chris Bucher	Mite Kintinger	Mike Kimlinger
00150	Control of Work	Project Letting	Specifications Engineer*	Dan Anderson	(503) 986-3777	NA			 Specifications Engineer before Award. Contract Administration Engineer after Award. 	Chris Bucher	Mike Kimlinger	Mke Kminger
00160	Source of Materials	Project Letting	Specifications Engineer*	Dan Anderson	(503) 986-3777	NA			* Specifications Engineer before Award. Contract Administration Engineer after Award.	Chris Bucher	Mike Kimlinger	Mke Kiminger
00165	Quality of Materials	Project Letting	Specifications Engineer*	Dan Anderson	(503) 986-3777	NA	Quality /eaurance Engineer	Larry Rg	* Specifications Engineer before Award. Construction QA lingineer after Award.	Chris Bucher	Mike Kimlinger	Mke Kiminger
00170	Legal Relations and Responsibilities	Project Letting	Specifications Engineer*	Dan Anderson	(503) 986-3777	NA			* Specifications Engineer before Award. Contract Administration Engineer after Award.	Chris Bucher	Mike Kimlinger	Mke Kirdinger
00180	Prosecution and Progress	Project Letting	Specifications Engineer*	Dan Anderson	(503) 986-3777	NA			* Specifications Engineer before Award. Contract Administration Engineer after Award.	Chris Bucher	Mike Kintinger	Mke Kirdinger
00190	Measurement of Pay Quantities	Project Letting	Specifications Engineer*	Dan Anderson	(503) 986-3777	NA	Contract Administration Engineer	Mosturament Daymont	* Specifications Engineer before Award. Contract Administration Engineer after Award.	Chris Bucher	Mile Kintinger	Mke Kirrlinger
00195	Payment,	Project Letting	Specifications Engineer*	Dan Anderson	(503) 986-3777	NA	Contract Administration	Measurement.	* Specifications Engineer before Award.	Chris Bucher	Mike Kintinger	Mke Kirdinger
00196	Payment for Extra Work	Project Letting	Specifications Engineer*	Dan Anderson	(503) 986-3777	NA	Engineer	Payment	Contract Administration Engineer after Award. * Specifications Engineer before Award. Contract Administration Engineer after Award.	Chris Bucher	Mike Kintinger	Mko Kimlinger
00197	Payment for Force Account	Project Letting	Specifications Engineer *	Dan Anderson	(503) 986-3777	N/A			* Specifications Engineer before Award.	Chris Bucher	Mike Kintinger	Mke Kiminger
00199	Work. Disagreements, Protests and	Project Letting	Specifications Engineer*	Dan Anderson	(503) 986-3777	NA.			Contract Administration Engineer after Award. * Specifications Engineer before Award.	Chris Bucher	Mile Kimlinger	Mke Kiminger
00205	Claims Field Laboratory, Weighhouse,	Quality Assurance	Quality Assurance Engineer	Laryto	(503) 966-3072	Massurement			Contract Administration Engineer after Award.	Chris Bucher	Mile Kintinger	Mike Kiminger
00210	Mobilization	Contract Administration	Contract Administration Emineer	Measurement	(503) 986-3012	Paymort. NA				Chris Bucher	Mile Kintimer	Mke Kiminger
00220	Accommodations for Public	Administration Traffic Standards	State Traffic Work Zone	Justin King	(503) 986-3584	Massurement				Chris Bucher	Mike Kintinger	Mke Kiminger
00221	Traffic Common Provisions for Work	Traffic Standards	Engineer State Traffic Work Zone	Justin King	(503) 986-3584	Massurement				Chris Bucher	Mile Kintinger	Mke Kiralnger
00222	Zone Traffic Control Temporary Traffic Control	Traffic Standards	Engineer State Traffic Work Zone	Justin Kling	(503) 986-3584	Massurement				Chris Bucher	Mike Kimlinger	Mke Kiminger
00223	Signs Work Zone Traffic Control	Traffic Standards	Engineer State Traffic Work Zone	Justin Kling	(503) 986-3584	Measurement.				Chris Bucher	Mile Kintinger	Mke Kiminger
00224	Labor and Vehicles Temporary Traffic Channelizing	Traffic Standards	Engineer State Traffic Work Zone	Justin King	(503) 986-3584	Payment Measurement				Chris Bucher	Mile Kintinger	Mke Kiminger
00225	Devices Temporary Payement Marking	Traffic Standards	Engineer State Traffic Work Zone	Justin King	(503) 986-3584	Payment Measurement				Chris Bucher	Mile Kintinger	Mke Kirdinger
00225	Temporary Roadside Barriers	Traffic Disordants	Engineer State Traffic Work Zone	Justin King	(503) 986-3584	Payment Messurement				Chris Bucher	Mile Kimlinger	Mko Kiminger
00227	and Impact Attenuators Temporary Traffic Signals and	Traffic Standards	Engineer State Traffic Work Zone	Justin King	(503) 986-3584	Payment Massurement						
00227	Humination Temporary Pedestrian and	Traffic Standards	Engineer State Traffic Work Zone	Justin King	(503) 986-3584	Payment Messurement				Chris Bucher Chris Bucher	Mike Kintinger Mike Kintinger	Mke Kirnlinger Mke Kirnlinger
00229	Bicylist Routing Smart Work Zone Systems	Traffic Standards	Engineer State Traffic Work Zone	Justin King	(503) 986-3584	Payment Massurement				Chris Rucher	Mike Kimilmon	Mke Kiralnger
00229	Smart work zone systems	Harric Standards	Engineer	JOSE NIEG	(003) 300-3004	Payment Measurement	State Traffic Work Zone	Justin Man		Chris Bucher	John Reasch	Mks Kintroor
00230	Temporary Roadbed and	Geotechnical	State Geotechnical Engineer	Curran Mohney	(503) 986-3490	Payment Measurement	Engineer Pavement Design	Paul Burch	Stand-Alone Special Provision	Lond Supplie	acon resech	Mks Kiminger
Jul 200	Surfading	Engineering	Own Grown Rei Ergriner	Janes Horney	(AMA) AND 0450	Payment Messurement	Engineer Engineering Geology	Curran Mohney	CONTROL OFFICE - 104/18/01			Mks Kintroor
00221	Temporary Access Road	Geotechnical	State Geotechnical Engineer	Queen Mohney	(503) 986-3490	Payment Measurement Payment	Program Lead	Same Motory	Stand-Alone Special Provision	Chris Bucher	John Rassch	Mks Kirskness
-	Temporary Access Road Apency Provided Material	Engineering Geotedhnical				Paymont Mass more	Engineering Geology		Service was was to service as a			
00235	Sources	Engineering and lingineering Geology	Material Source Program Leader	Quris Elviers	(541)388-6093	Payment	Program Lead	Curren Mohney	Stand-Alone Special Provision	Chris Bucher	John Reasch	Mike Kimlinger
00236	Agency Provided Disposal Sites	Geotechnical Engineering and	Material Source Program Leader	Quris ENers	(541)388-6093	Massurement Payment	Engineering Geology	Quiran Mohney	Stand-Alone Special Provision	Chris Bucher	John Raasch	Mke Kirdinger
00237		Geotedynical		Ouris ENers	(541)388-6093	Management .	Program Lead Engineering Geology			Chris Bucher		Mks Kiminosr
	Agency Provided Staging Areas	Engineering and Engineering Geology Hydraulin	Material Source Program Leader		4-3	Payment Mass remort	Program Lead	Curren Mohney	Stand-Alone Special Provision		John Resech	
00240	Temporary Drainage Facilities	Engineering	Senior Stormwater Hydraulis Engineer Senior Culvett Maintenance	Lu Saechao	(503) 986-3365	Payment				Chris Bucher	Paul Wids	Mike Kimlinger
00245	Temporary Water Management	Hydraulic Engineering	Hydraulic Engineer	Wade Holeday	(503) 986-4046	Payment	Aquatics Biology Program Leader	Tom Loynes	Stand Alone Special Provision	Chris Busher	Paul Wirts	Mke Kiminger
00250	Diversion Bridges (Contractor Provided)	Bridge Engineering	Steel Standards Engineer	Alex Lim	(971) 283-5518	Payment			Stand-Alone Special Provision	Chris Bucher	Ray Bottenberg	Mke Kiminger
00251	Agency Provided Temporary Bridges	Bridge Engineering	Steel Standards Engineer	Alex Lim	(971) 283-5518	Payment			Stand Alone Special Provision	Chris Bucher	Ray Bottenberg	Mke Kimlinger
00252	Temporary Work Bridges	Bridge Engineering	Steel Standards Engineer	Alex Lim	(971) 283-5518	Payment			Stand-Alone Special Provision	Chris Bucher	Ray Botterboro	Mks Kinfinger

http://www.oregon.gov/ODOT/HWY/SPECS/Pages/manuals for ms etc.aspx#Guides

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RE Exception

Items that require an Exception to the general specifications (00110 – 00199) will also need concurrence from the applicable Technical Resource (TR).

Items that require an Exception to the measurement (.80) or payment (.90) subsections of the technical specifications will only need concurrence from the CAU Technical Resource.

- Once the RE has obtained concurrence from the TR and POR to use an Exception, the RE should:
- Send the draft to the RAS to ensure the Exception form addresses the issues on the DRR prior to submitting it to the TR and POR.
- Attach the TR's and POR's written concurrence to the RE Exception Explanation form prior to submittal.

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RE Exception

- $^{\circ}$ Note the names of the TR and POR and the date of when the TR and POR provided concurrence.
- Attach any additional supporting documentation to the Exception form.
 - $\,^{\circ}$ Sign and date the form.
- If all the above items have been completed, the RAS will review the Exception form and all the supporting documents, and then sign and date the form.

DOCUMENT REVIEW REPORT SUPPORTING DOCUMENTATION RESIDENT ENGINEER EXCEPTION EXPL	N:
PROJECT NAME CONTINET NO. FEGERAL AD NO. 5245(013) RESIDENT ENGINEER	
EXCEPTION NO. NO. ADJUSTMENT REQUIRED ADJUSTMENT AMOUNT N/A Yes No NA	
Bid Item No. Spec No. BI Description Missing Document 1010 1040 Topsoil Lab Report	
NOTE: If bit item is for IMMC, please induste if exception is for aggregate production, mis production or placement. Be specific what the exception applies to if the exception applies to if if the exception applies to in incising verification test, please indicate how many tests were require performed, results of any verification less collabered, and why testing was missed. Explain why missing documentation could not be obtained:	ed, and how many tests were
Original passing lab report that was submitted by the Contractor was tested under a different, this material was representable of what was placed on our project ste, the OOOT material to the lab report to our project. Another sample of soil was obtained from the same supplier, ow placed the toposit on our project, an effort to get a passing lab report to close out the paper report failed. Since the current stockpiles of topsoil from this supplier do not accurately reprevail and the project did not make sense to attempt to obtain any more samples.	ab would not transfer er a year after we rwork. This lab
QUALITY DEFICIENCIES \(\subseteq \text{IVA} \) What was the alternate method used to accept the material? The platning and execting establishment window is now complete and the results have been determine QUANTITY DEFICIENCIES \(\subseteq \text{IVA} \) NA	ed to be acceptable.
How was the quantity of the material verified?	
CONSULTATIONS (attach email correspondence) Specification Technical Owner Name: Robert Marshall Date: 927/2 Professional of Record Name: Russ Norton Date: 928/2	
2 CuYd 2.00 \$66.40	Affected Cost lected day x Unit Price) \$ 132.80 coss, right-cos and seed upsize
PROJECT RESIDENT ENGINEER (Type Name and wet sign if not processed through Doc Express) Steven Schultz DATE (Type Name and wet sign if not processed through Doc Express)	OATE
CONTRACT ADMINISTRATION ACTION Accepted (Return to RE) Participating Pepare Contract Change Ord Not Participating Other (explain)	der
contract Administration Engineer Signature Date	modelTRuchousey, Page 1 of 1

Explain why missing documentation could not be obtained:

Original passing lab report that was submitted by the Contractor was tested under a different project. Although this material was representative of what was placed on our project site, the ODOT material lab would not transfer the lab report to our project. Another sample of soil was obtained from the same supplier, over a year after we placed the topsoil on our project, in an effort to get a passing lab report to close out the paperwork. This lab report failed. Since the current stockpiles of topsoil from this supplier do not accurately represent the topsoil that was placed on our project it did not make sense to attempt to obtain any more samples.

QUALITY DEFICIENCIES N/A

What was the alternate method used to accept the material?

The planting and seeding establishment window is now complete and the results have been determined to be acceptable.

QUANTITY DEFICIENCIES N/A

How was the quantity of the material verified?

CONSULTATIONS (attach email correspondence)

 ∑ Specification Technical Owner Name: Robert Marshall Professional of Record Name: Russ Norton Date: 9/27/22

 Date: 9/27/22

Γ		Quantity of Material		Affected Cost
L	Quantity of Material Incorporated	Affected	Unit Price	(Affected Qty x Unit Price)
Γ	2 CuYd	2.00	\$66.40	\$ 132.80

To calculate, right-click and select Update

SUPPORTING D	EVIEW REPORT OCUMENTATION: XCEPTION EXPLANATION	
PROJECT NAME CONTRACT NO. RESIDENT ENGINEER	FEDERAL AID NO. 035(019)	
EXCEPTION NO. 1 ADJUSTMENT REQUIRED 1 Yes No		
Bid Item Spec No. BI Description	Missing Documentation Tare Masses 6/27/2019, P.M. Tares	
NOTE: If bid item is for HIMAC, please indicate if exception is for aggregate production, what the exception applies to. If the exception applies to a missing verification test; please performed, results of any verification tests obtained, and why testing was missed.	mix production or placement. Be specific when identifying exactly se indicate how many tests were required, and how many tests were	
Explain why missing documentation could not be obtained: Material Supplier forgot to provide Daily listing of Tare Masses a QUALITY DEFICIENCIES MIA What was the alternate method used to accept the material?	and only tared the trucks in the morning	
What was the alternate method used to accept the material: N/A QUANTITY DEFICIENCIES N/A How was the quantity of the material verified?		
How was the quantity of the material verified? The Quantity affected is 5 loads after noon of this shift, with a total qua to account for changes in the haul unit during the shift. Agg Base does would be due to fuel consumption. The potential Cost discrepency is vio Accept the materials off the tare weight that was recorded at the bey	n't usually build up in the bed, so in this case changes ery low. The alternate means of Quantity verification is	
CONSULTATIONS (attach email correspondence) ☑ Specification Technical Owner ☑ Professional of Record Name: <u>Jason Kelly</u> , <u>PE</u>	Date: <u>June 1, 2021</u> Date: <u>June 9, 2021</u>	
Quantity of Material Incorporated Affected 237.15 79.69	Affected Cost Unit Price (Affected Cty x Unit Price) \$50.00 \$3,984.50 To cacular, reprecis and seed update	
(Type Name and wet sign if not processed (Type Name	ATURE/REVIEWED a and wet sign if not processed be Express)	
Participating	pted (Return to RE) Prepare Contract Change Order Other (explain)	
Contract Administration Engineer Signature Date 734-0704 (10020020)	Fage 1 of 1	

Explain why missing documentation could not be obtained: Material Supplier forgot to provide Daily listing of Tare Masses and only tared the trucks in the morning QUALITY DEFICIENCIES MI/A What was the alternate method used to accept the material? QUANTITY DEFICIENCIES N/A How was the quantity of the material verified? The Quantity affected is 5 loads after noon of this shift, with a total quantity of 79.69 delivered after noon. Mid shift Tares are to account for changes in the haul unit during the shift. Agg Base doesn't usually build up in the bed, so in this case changes would be due to fuel consumption. The potential Cost discrepency is very low. The alternate means of Quantity verification is to Accept the materials off the tare weight that was recorded at the beginning of the shift. CONSULTATIONS (attach email correspondence) Specification Technical Owner
 Professional of Record Date: June 1, 2021 Date: June 9, 2021 Name: Gene Wilborn, PE Name: Jason Kelly, PE Quantity of Material Affected Cost Quantity of Material Incorporated Unit Price Affected (Affected Qty x Unit Price) 237.15 79.69 \$50.00 \$3,984.50 To calculate, right-click and select Update

	DOCUMENT REVIEW REPORT SUPPORTING DOCUMENTATION: RESIDENT ENGINEER EXCEPTION EXPLANATION						
CONTRAC	PROJECT ANALE						
EXCEPTION 1	ON NO. NO.	ADJUSTMENT REQUIRED Yes No	ADJUSTMENT AMOUNT \$4399.50				
Bid Iten No.	n Spec No.	BI Description	Missing Docum	nentation			
0360	0330	General Excavation	Quality Control and Quality A	ssurance Testing			
NOTE: If what the e performed	bid item is for HM exception applies t , results of any ve	(AC, please indicate if exception is for aggregate production, to. If the exception applies to a missing verification test, pleas erification tests obtained, and why testing was missed.	nix production or placement. Be specifi e indicate how many tests were require	ic when identifying exactly id, and how many tests were			
The cor part of t under it The pro shoulde	Explain why missing documentation could not be obtained: The contractor failed to get the required Quality Control (QC) and Quality Assurance (QA) testing for a significant part of the original ground on the project. When we discovered this, they started testing the excavation area under the shoulder for deflection with QC. About 30% of the shoulder excavation area was tested for deflection. The project is limited to shoulder (40%) and sciewals (60%) excavation. Total affected area is 70% of the would have been required. So up to the work of the project						
What w The defi	ection testing g underlying s	CIES N/A ate method used to accept the material? that was done met the specification requirements tructural problems. The missed testing resulted	. There were also no signs in the in a penalty to the contractor, b	ne existing pavements lased on hourly rates			
QUANT! How wa	ITY DEFICIENT IS the quantity	NCIES N/A y of the material verified?					
CONSU	LTATIONS (a cification Tech essional of Re		Date: <u>12/5/2</u> Date: <u>12/2/2</u>	22			
Quai	ntity of Materia 2744.4	Quantity of Material	\$43.50	Affected Cost ected Qty x Unit Price) \$33,426.71			
(Type Nar through D	PROJECT RESIDENT ENGINEER (Type Name and wet sign if not processed (Type Name and wet sign if not processed) (Type Name and wet sign if n						
Accep		ng E	oted (Return to RE) Prepare Contract Change Ord Other (explain)	der			
Contract Adm	ninistration Engine	eer Signature Date	_	Page 1 of 2			

Explain why missing documentation could not be obtained:

The contractor failed to get the required Quality Control (QC) and Quality Assurance (QA) testing for a significant part of the original ground on the project. When we discovered this, they started testing the excavation area under the shoulder for deflection with QC. About 30% of the shoulder excavation area was tested for deflection. The project is limited to shoulder (40%) and sidewalk (60%) excavation. Total affected area is 70% of the shoulder. This quantity would be just over the Small Quantity requirements outlined in the MFTP. One QA test would have been required.

QUALITY DEFICIENCIES N/A

What was the alternate method used to accept the material?

The deflection testing that was done met the specification requirements. There were also no signs in the existing pavements indicating underlying structural problems. The misssed testing resulted in a penalty to the contractor, based on hourly rates for technicians.

QUANTITY DEFICIENCIES N/A

How was the quantity of the material verified?

CONSULTATIONS (attach email correspondence)

Specification Technical Owner Name: Curran Mohney Date: 12/5/22 Professional of Record Name: Carl Deaton Date: 12/2/22

		Quantity of Material		Affected Cost
ı	Quantity of Material Incorporated	Affected	Unit Price	(Affected Qty x Unit Price)
	2744.40	768.43	\$43.50	\$33,426.71

To calculate, right-click and select Update

DOCUMENT REVIEW REPORT SUPPORTING DOCUMENTATION: RESIDENT ENGINEER EXCEPTION EXPLANATION
PROJECT NAME CONTRACT NO. FEDERAL AID NO. SO47(120)
EXCEPTION NO. ADJUSTMENT REQUIRED ADJUSTMENT AMOUNT 1 Yes No
Bid Intem No. Spec No. BI Description Missing Documentation 4003B 00442 CLSM Compressive strength test
NOTE: If bid item is for HMAC, please indicate if exception is for aggregate production, mis production or placement. Be specific when identifying exactly what the exception applies to if the exception applies to if the exception applies to if it is exception applies to it is exception applies to it is exception applies to a missing various applies to a missing various applies to a missing various applies to the exception applies to a missing various applies applies to a missing various applies to a missing various applies applies applies applies applies applies applies applies applie
Explain why missing documentation could not be obtained: Contractor did not test CLSM per MFTP. Work added through CCO. Small quantity used to fill observed void at bridge bent however, small quuantity accetance not allowable per MFTP. This RE Exception waives the testing requirements.
OUALITY DEFICIENCIES NA What was the alternate method used to accept the material? Visual
OUAITITY DEFICIENCIES N/A How was the quantity of the material verified? Batch ticket
CONSULTATIONS (attach email correspondence) Specification Technical Owner Name: David Dobson. P.E. Date: November 28, 2022 Name: Paul Tappana, P.E. Date: May 31, 2022
Quantity of Material Incorporated Affected Unit Price (Affected Qly x Unit Price) 7,00 CUYD 7.00 \$0.00 \$0.00 \$0.00 \$1.00
PROJECT RESIDENT ENGINEER (Type Name and stign if not processed through Doc Express) Jayson Burchholz. November 28, 2022
CONTRACT ADMINISTRATION ACTION Accepted Not Accepted (Return to RE) Participating Prepare Contract Change Order Not Participating Other (explain)
Contract Administration Engineer Signature Date Tak-titles larger ges/000714610004175,CT104446,Gestland stort Tak-titles larger ges/0007146100446,Gestland stort Tak-titles larger ges/000714610046,Gestland stort Tak-titles larger ges/00071461004,Gestland stort Tak-titles larger ges/00071461004,Gest

Contractor did not test CLSM per N bridge bent however, small quuant requirements.			
QUALITY DEFICIENCIES N/A			
What was the alternate method use Visual	d to accept the material?		
QUANTITY DEFICIENCIES N/A How was the quantity of the material Batch ticket	al verified?		
CONSULTATIONS (attach email cor ☑ Specification Technical Owner ☑ Professional of Record	respondence) Name: <u>David Dobson, P.E.</u> Name: <u>Paul Tappana, P.E.</u>		Date: November 28, 2022 Date: May 31, 2022
			Affected Cook
Quantity of Material Incorporated	Quantity of Material Affected	Unit Price	Affected Cost (Affected Qty x Unit Price)

Quality Price Adjustment

The Contractor must furnish Materials and perform the required Work in a manner that closely conforms to Contract requirements. As stated in Section 00150.25, if the Materials furnished or the Work performed are not in close conformance, the Resident Engineer (RE) may order the Materials or Work to be removed and replaced or may allow the Materials or Work to remain in place at a reduction in payment.

25

Adjustments

Some Contracts also allow the Contractor to receive a premium price adjustment (bonus) for Work or Materials that meet the requirements for such an adjustment. To assess an adjustment and modify the Pay Item price, the RE will need to enter the amount of each adjustment in the 6000 series of the Contract Payment System (CPS), including a reference to the Pay Item.

The RE must also address the issue of Quality of Materials and workmanship when completing the required Prime Contractor Performance Evaluation. [Refer to Chapter 34 - Contractor Performance Evaluation.]

Adjustments

Materials and Work that are in close conformance with the Contract requirements are paid at the full price.

Materials or Work that are not in close conformance with the requirements, but are considered suitable for the intended purpose, may be approved for use with an appropriate adjustment (reduction) in price. The RE must consult with the Professional of Record (POR) for the Work when determining whether the Material or Work is suitable for the intended purpose.

27

Adjustments

Materials or Work that are not in close conformance with the Contract requirements, and are not considered suitable for the intended purpose, shall be rejected and not incorporated into the finished Work unless the defects are corrected in a manner acceptable to the RE.

A Contract Change Order (CCO) is not required if one of the standard price adjustments listed in Section 12C-2 is used. A CCO is required whenever a non-standard adjustment is made allowing no specification Material to remain in place.

Adjustments

If you have any questions regarding whether or not a CCO is required, contact the Region Assurance Specialist (RAS) or Contract Administration Unit (CAU) for guidance.

Agency will pay a bonus for Materials (normally Materials used in surfacings) or workmanship (including compaction of asphalt concrete or smoothness of pavement) that exceeds the specified Contract requirements.

Refer to the Specification for particular Materials to determine whether the Contractor may be eligible to receive a bonus payment.

29

Adjustments

All premium price adjustments must be listed on the Final Materials Certification (form 734-1979) when the final Project documentation is compiled for submittal at the completion of the Project. [Refer to Chapter 12B Quality and Chapter 37 – Submittal of Final Project Documentation.]

Materials that are not in close conformance with Contract requirements but are suitable for the intended purpose, the RE must assess a price adjustment if the Materials are to remain in place.

Adjustments

Items for Price Adjustment are, but not limited to:

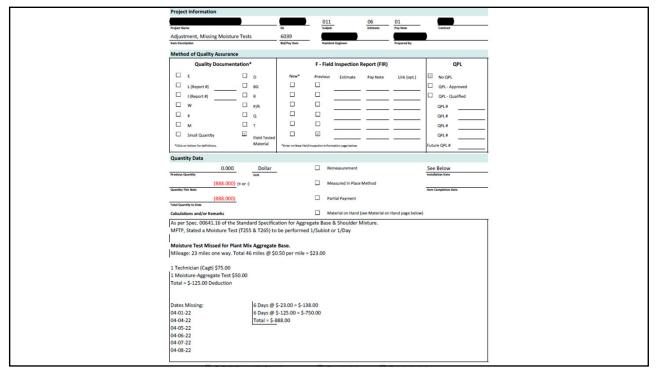
- Geotextile Products
- Flexible Bituminous Adhesives
- Failing PG Asphalt Cement
- Failing Emulsified Asphalt
- Failing Bituminous Mixtures
- Failing Density, ACP
- Failing Aggregate Test

31

Adjustments

- Failing Aggregate Test
- Failing Concrete
- Stat Spec
- Smoothness Bonus
- Missing Process Control test and Missing Reports

CONSTRUCTION MATERIAL TESTING SERVICES Costs based on testing services from each region.						
TEST NAME	DESIGNATION	Cost per Test or Hour				
Mileage (per mile)	NA	\$0.75				
Minimum Charge	NA NA	\$100.00				
Technician - CCT/QCT	NA	\$100.00				
Technician (Cat 1, CagT, CDT)	NA	\$100.00				
Engineer-hourly	NA.	\$125.00				
AGGREGATE TESTS						
Sand Equivalent	AASHTO T 176	\$141.00				
Liquid Limit	AASHTO T 89	\$63.00				
Plastic Limit	AASHTO T 90	\$77.00				
Unit Weight	AASHTO T 19	\$59.00				
Fine Bulk Gravity	AASHTO T 84	\$98.00				
Coarse Bulk Gravity	AASHTO T85	\$77.00				
Dry Gradation	AASHTO T 27	\$81.00				
Washed Grading	AASHTO T27/T11	\$121.00				
% Fracture	AASHTO T 335	\$59.00				
Wood Waste	ODOT TM 225	\$40.00				
Cleanness Value	ODOT TM 227	\$106.00				
Elongated Pieces 5:1	ODOT TM 229	\$63.00				
Moisture-aggr	AASHTO T 255	\$59.00				
SOILS TESTS	<u> </u>	•				
Sand Equivalent	AASHTO T 176	\$141.00				
Liquid Limit	AASHTO T 89	\$63.00				
Plastic Limit	AASHTO T 90	\$77.00				
Moisture-Density Method A (5.5 lb)	AASHTO T 99	\$367.00				
Moisture-Density Method D (5.5 lb)	AASHTO T 99	\$367.00				
Moisture-Density Method A (10 lb)	AASHTO T 180	\$500.00				
Moisture-Density Method D (10 lb)	AASHTO T 180	\$500.00				
Moisture Content	AASHTO T 265	\$21.00				
BITUMINOUS TESTS						
% AC by Incineration	AASHTO T 308	\$300.00				
Calibration Factor for T-308	ODOT TM 323	\$1200.00				
Moisture-bit mix	AASHTO T 329	\$1200.00				
Bulk Gravity- DG Compacted mix	AASHTO T 166	\$167.00				
Maximum Specific Density-rice	AASHTO T 209	\$100.00				
Tensile Strength Ratio (TSR)	AASHTO T 283	\$500.00				
CONCRETE TESTS						
Cylinder Compressive Strength-per cylinder	AASHTO T 22	\$57.00				
Grout Cube Compressive Str-per cube	AASHTO T 106	\$57.00				
If total of tests missed does no	charge is \$100.00. It equal \$100.00, you must s	still charge				
•						
construction materials testing fees.docx 10-31-2019						



Pro	rojec	t Information							-
Proje	ject Na	me		EA	0 sub	11 job	21 Estimate No.	O1 Pay Note No.	Contract No.
Pri Term	nice /	Adjustment		6002 Bid Pay Rem No	o. Rec	Ident Engineer		Prepared by	
Me	etho	d of Quality Assura	nce				□ No	Quality Docum	entation Required
Sup Not	ippor	ting Documents Provide lick on letters for definiti	d as Part of Pay ion)			d Inspection I	Report (FIR	:)	QPL
		E	□ o	New*	Previously Submitted		Pay Note No.	Link	No QPL
		L (Number)	□ BG						O QPL - Approved
		I (Number)	R						O QPL - Qualified
		W	□ P/R						QPL No.
		P	□ Q						QPL No.
		М	□ т	"Enter on New Fiel	id Inspection Inf	ormation Page below.			QPL No.
		Small Quantity							QPL No.
Qu	uant	ity Data							
Prev	wlous (0.00	Unit	-		Remeasurement		Installation Date	1-Mar-21
Quan	antity T	(162.00) ((+ or -)			Measured in Place	Method	Bid fem/Pay fem	n Completion Date
Total	al Qua	(162.00)				Partial Payment			
						Material on Hand		See Material on i	Hand Page below
		ations and/or Remark Adjustment for Missin							
		e: \$0.50 per mile. 12 echnician = \$75.00	mile one way, 24	miles round	d trip. 24*5	\$0.50 = \$12 .00)		
Су	ylind	er Compressive Strer			er cylinder	(3) 3*25.00 =	\$75.00		
То	otal =	= \$-12.00 +\$-75.00 +\$	\$-75.00 = \$-162.0	10					
L								Photos Attack	hed
							_		

Oregon Department of Transportation PRICE REDUCTION COMPUTATIONS FOR LOW STRENGTH NON-STATISTICAL CONCRETE Concal Version 4.0, Use for concrete placement after 1997
Section Name: Section Mix Design No. 98-123456
SPECIFIED CLASS OF CONCRETE (fc)
ACTUAL 28 DAY CONCRETE STRENGTH (fcc)
PERCENT ACTUAL VS SPECIFIED STRENGTH
PRICE REDUCTION FACTOR (PRF) = (((f'c - fcc) / (0.15 f'c)) ^2) [report as percerr 100.00 %
TYPE OF UNIT (cubic meter, square meter, cubic yard, square yard, each, etc.) cubic yards
QUANTITY REPRESENTED (QR) (cubic meter, sq meter, cubic yard, sq yard, eact 20
INVOICE PRICE PER UNIT (PPU)
This box only applies if the Contractor and Supplier refuse to provide an invoice price, document attempts
THEORETICAL UNIT PRICE(TUP)(bid amount / special provision quantity)
COST REDUCTION FACTOR (CRF) (85% When reinforcement is not paid separately, 100% when reinforcement is a separate pay item)
COMPUTED THEORETICAL UNIT PRICE(PPU) (TUP)**(CRF
MINIMUM ALLOWED THEORETICAL UNIT PRICE(PPU).(\$100 Minimum)
PRICE REDUCTION = (PRF/100) * OR * PPU **REJECTED "CALL ENGINEER OF RECORD TO DETERMINE ACCEPTABILITY OF MATERIALS PER SECTION 00150 25. CALL ARE REGARDING PRICE ADJUSTMENT
PREPARED BY: January 23, 2023
REGION REVIEWER:
ENTER THIS CONCAL PRICE ADJUSTMENT ON THE FINAL MATERIALS CERTIFICATION FORM 734-1979

	Oregon Department of Trans PRICE REDUCTION COMPU FOR LOW STRENGTH NON-STATIST Concal Version 4.0, Use for concrete p	TATIONS TICAL CONCRETE		
Section Name: Prime Contractor Project Manager Data Sheet No. Concrete used for	US97 @ 1st Street (LaPine) Project High Desert Robert Townsend Sidewalks	Mix Design No. County Contract No. Lab Number	Commercial Deschutes C14761	
SPECIFIED CLASS	OF CONCRETE (fc)		. 300	0 <u>0</u> psi
ACTUAL 28 DAY C	ONCRETE STRENGTH (fcc)		285	<u>57</u> psi
PERCENT ACTUA	L VS SPECIFIED STRENGTH		. 95.2	23 %
PRICE REDUCTIO	N FACTOR (PRF) = (((fc - fcc) / (0.15 fc)) ^2)	[report as percent]	10.1	10 %
TYPE OF UNIT (cu	bic meter, square meter, cubic yard, square ya	rd, each, etc.)	Square yar	rds
QUANTITY REPRE	SENTED (QR) (cubic meter, sq meter, cubic y	ard, sq yard, each, etc.)	. <u>57.3</u>	<u>36</u>
	ER UNIT (PPU) upplier refuse invoice request, use 0 and theore			00
This box only applie	s if the Contractor and Supplier refuse to provi	de an invoice price, docu	ment attempts	
THEORETICAL UN	IIT PRICE(TUP)(bid amount / special provision	quantity)	. <u>\$49.5</u>	<u>50</u>
	N FACTOR (CRF) (85% When reinforcement lly, 100% when reinforcement is a separate page	y item)	<u>85.00</u>	<u>196</u>
COMPUTED THEC (assumes concrete	RETICAL UNIT PRICE(PPU).(TUP)*(CRF)*30 value is 30%)	%	\$12.6	32
MINIMUM ALLOWE	ED THEORETICAL UNIT PRICE(PPU).{\$100 M	/linimum}	\$100.0	00
	N = (PRF/100) * QR * PPU EER OF RECORD TO DETERMINE ACCEPTABILITY O CALL RAS REGARDING PRICE AD	F MATERIALS PER SECTION	\$579.24 100150.25.	4
	PREPARED BY:		January 30, 20	023
	REGION REVIEWER:			
ENTER TH	HIS CONCAL PRICE ADJUSTMENT ON THE FINAL MAT	ERIALS CERTIFICATION FO	RM 734-1979	

REPARD BY		DATE	REGION ASSURAN	ICE SPECIALIST	REVIEW DATE	PROJECT NAME (S	ECTION)		CONTRAC	CONTRACT NO.		
EVIEWED BY PROJECT MANA	AGER	DATE	REVIEWED BY CO	NSTRUCTION	DATE	MATERIAL			BID ITEM NUMBER			
DATE OF SAMPLE TEST		NUCLEAR DENSITY % OUT SPECS. (A)	4 X (A) % (B)	QUANTITY REPRESENTED BY TEST Tons (C)	MIXTURE PRICE PER Ton WITH CEMENT (D)	PRICE ADJUSTMEN (B)% X (C) X			REMARKS	3		
				TOTAL AD	JUSTMENT							
MIXTURE PRICE	C	MIX FORMULA EMENT %		ALT CEMENT RICE PER TON =	CEMENT PRICE F		MIXTURE BID E PER TON	(F)	MIXTURE (E)+(F)=PRICE PER T	(D)		
DETERMINATION	ON		x	=								

PREPARED E	BY .					DATE		REGION	ASSURA	NCE SPECIA	LIST REVIE	W	DATE		PROJECT NAME	(SECTION	N)		CONTRACT N	0.
REVIEWED B	Y PROJEC	CT MANAC	BER			DATE		REVIEW	ED BY CO	ONSTRUCTIO	N		DATE		MATERIAL				BID ITEM NO.	
DATE OF SAMPLE	TEST NO.	2 in. % OUT SPECS	1-1/2 In. OR 25 % OUT SPECS	12.5 % OUT SPECS	(6)	SPECS	No. 4 % OUT SPECS	SPECS	SPECS	2X SUM OF (D) TO (G)	No. 200 % OUT SPECS	5X(H)	MOIS- TURE % OUT SPECS	5X(I)%	ASPHALT % OUT SPECS	%	QUANTITY REPRESENTED BY TEST (Ton)	MIXTURE PRICE PER TON	% TOTAL ADJUSTMENT SUM OF (1) TO (5)	PRICE ADJUUSTME
	+	(A)	(B)	(C)	(1)	(D)	(E)	(F)	(G)	(2)	(H)	(3)	(1)	(4)	(1)	(5)	(6)	(7)	(8)	(6) X (7) X (8
	+																			
	\vdash																			
	ADJUSTM RMINATIO			(K) IS GREA Adjustmen			RICE		JANTITY Mg		X 15 %			(L)	TOTAL FAILING MATERIAL	(K)		TOTAL ADJUSTMENT	(\$)	
	URE PRIC			RMULA ENT %	x	ASPI CEMEI PRICE P	NT BID	-		T PRICE PER F MIXTURE	(M)		URE BID		MIXTURE (M) PRICE PER		(7)			
DETE	RMINATIO	N			X	\$		•												

PREPARED BY			DATE	REGION ASSURANCE	SPECIALIST		REVIEW DATE	PROJECT NAME	E (SECTION)		CONTRACT NO.
REVIEWED BY P	ROJECT MGR		DATE	REVIEWED BY CONST	RUCTION		DATE	MATERIAL		BID ITEM NUMBER	
DATE OF SAMPLE	SAMPLE NO. AND/OR SUBLOT NO.	LAB REPORT NO.	REDUCTION FACTOR (A)	MACMP for Project (B)	LOT QUANTITY (tons) (C)	MIX MOISTURE % (D)	AC % (E)	RAP CONTENT % (F)	VIRGIN AC QUANTITY (SEE NOTE #1 BELOW) (G)	PRICE ADJUSTMENT A'B'G	REMARKS
28-Dec-88	88-888	88-888	0.25	\$630.00	1000	0.51	6.31	30.00	43.95	\$6,921.48	
				culated as follows:		FINAL PROJEC	T DOCUMEN	ITATION			
			tepresented is ca $)*\left(1-\left(\frac{1}{1}\right)\right)$								

PREPARED BY Stuart Co REVIEWED BY	bine		DATE	Region Robert Pete			REVIEW DATE	US97: W	/illowdale - M	C15197 BIO ITEM NUMBER	
William N	lartin		DATE	Chris Duma			10/14/20	McCall F	PG 64-28	46 / 6042	
DATE OF SAMPLE	SAMPLE NO. AND/OR SUBLOT NO.	LAB REPORT NO.	REDUCTION FACTOR (A)	MACMP for Project (B)	LOT QUANTITY (tons) (C)	MIX MOISTURE % (D)	AC % (E)	RAP CONTENT % (F)	VIRGIN AC QUANTITY (SEE NOTE #1 BELOW) (G)	PRICE ADJUSTMENT A'B'G	REMARKS
1-Sep-20	7-9	20-002352	0.30	\$410.00	1000	0.19	5.38	28.10	38.61	\$4,748.89	
1-Sep-20	7-10	20-002317	0.30	\$410.00	1000	0.17	5.25	28.70	37.37	\$4,596.38	
1-Sep-20	8-1	20-002318	0.30	\$410.00	1000	0.15	5.31	28.10	38.12	\$4,688.97	
2-Sep-20	8-2	20-002353	0.30	\$410.00	1000	0.19	5.38	28.40	38.45	\$4,729.07	
2-Sep-20	8-3	20-002354	0.30	\$410.00	1000	0.12	5.31	28.10	38.13	\$4,690.38	
2-Sep-20	8-4	20-002355	0.30	\$410.00	1000	0.17	5.50	27.90	39.59	\$4,869.29	
3-Sep-20	8-5	20-002319	0.30	\$410.00	1000	0.11	5.37	28.30	38.46	\$4,730.65	
3-Sep-20	8-6	20-002356	0.50	\$410.00	1000	0.20	5.61	27.90	40.37	\$8,275.31	This is under the reject category, See CCO
8-Sep-20	8-7	20-002357	0.30	\$410.00	1000	0.17	5.47	28.20	39.21	\$4,822.58	
9-Sep-20	8-8	20-002358	0.30	\$410.00	1000	0.12	5.29	28.70	37.67	\$4,633.72	
9-Sep-20	8-10	20-002320	0.30	\$410.00	1000	0.16	5.44	28.90	38.62	\$4,749.84	
10-Sep-20	9-1	20-002321	0.30	\$410.00	1000	0.16	5.46	28.00	39.25	\$4,827.65	
											Total = \$60,362.73
NOTE #1 - Vi	gin Asphalt Ce	ment Quanity R	epresented is ca	Si lculated as follows:	UBMIT WITH	FINAL PROJEC	T DOCUMEN	TATION		\$60,362.73	

EPARED BY	rtment ansporta		DATE		REGION A	SSURANCE			I OF	REVIEW D					N AG	GREGAT	_		TCONTRACT NO.
										PROJECT NAME (SECTION)									
VIEWED BY PRO	UECTMGR	DATE RE			REVIEWE	BY CONST	RUCTION		DATE			MATERIAL							BID ITEM NUMBER
		PAGG 75 THRO	00 75 THROUGH 6.3		PA00 2 IN	SUM OF (A) to (D)	PAGG NO. 2	PAGG NO.	SUM OF (E) + (F)	PA00 NO. 100	3 X (5)	SAND	4 X (H)	(H) CEMENT	ENT 11 X	QUANTITY REPRESENTED	MIXTURE PRICE	% TOTAL ADJUST-	PRICE
DATE OF SAMPLE	TEST NO.	% OUT SPECS	% OUT OPECO	% OUT OPECO	6.3 % OUT		% OUT	40 % OUT	X2	% OUT		% OUT		% OUT		BY TEOT (Ton)	PER Ton	MENT SUM OF (1) to (5)	ADJUSTMENT
		(A)	(8)	(C)	OPECS (D)	(1)	OPECS (E)	OPECS (F)	(2)	OPECS (G)	(3)	SPECO (H)	(4)	OPECO (I)	(5)	(6)	(7)	(8)	(6) X (7) X (8) %
		_		_					1									-	
																		_	
						PHO	0ECT						TOTAL						
PRICE ADJUST DETERMINAT	TION	A PRICE		EATER THE ENT IS CO	MPUTED	QUAI (Ti	NTITY on)	10,0	00.00		1,500.00	(J)	FAILING MATERIAL		(K)		TOTAL ADJUSTME		
ств		MASS WITH CEMENT AND MOISTURE	(÷1	00% +	FOR MOIST	MULA URE %) ÷ (1	00% +	FOR	MULA BNT %) X	FORMULA CEMENT %	X	PER TON		PER TON OF (L) MIXTURE	BIO PRI	MIXTURE ICE (M) I TON	MIXTURE PRICE (L) * (M) = PER TON (7)
MIXTUR PRICE		1 TON	÷				÷				X		X		=		\$		\$
DETERMINA		1 TON	+				+				Х		X		=		\$		\$

