ADDENDUM NO. 3
COVER SHEET

09/18/2025

CITY OF ROLLA
TAXIWAY A RECONSTRUCTION AND TAXIWAY CONNECTOR REHABILITATION
at
ROLLA NATIONAL AIRPORT (VIH)
VICHY, MO

MoDOT Project # 23-056A-1

CONTENTS

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TO: **All Plan-holders of Record**

The following addendum items supplement, clarify, modify, change, replace, delete from or add to, the requirements of the contract documents for this project. The articles contained in the addendum take precedence over the requirements of the previously published contract documents. Where any article of the contract specifications or any detail of the contract drawings is modified or any paragraph, subparagraph or clause thereof is modified or deleted by the articles contained in this addendum, the unaltered provisions of that article, paragraph, subparagraph or clause shall remain in effect.

PREPARED BY: Woolpert, Inc.
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CERTIFIED BY:

Laura Koonce, Project Manager

ADDENDUM BEGINS

PROJECT MANUAL UPDATES

1. **Page 11 of 396 – Approximate Quantities of Major Bid Items Table**

   Revision: Updated Item P-152a Unclassified Excavation.

   Justification: The item was changed from unclassified excavation to embankment in-place, and the quantities were updated for schedules I and III.

   Revision: Added Item P-152b Offsite Borrow Material.

   Justification: The line item was added to account for the fill material to be imported for this project.

2. **Page 80 of 396 – Schedule I – Taxiway A Reconstruction Bid Proposal Sheet**

   Revision: Updated Item P-152a Unclassified Excavation.

   Justification: The item was changed from unclassified excavation to embankment in-place, and the quantity was updated.

   Revision: Added Item P-152b Offsite Borrow Material.

   Justification: The line item was added to account for the fill material to be imported for this project.

3. **Page 82 of 396 – Schedule III – Taxiway A Underdrains Bid Proposal Sheet**

   Revision: Removed Item P-152a Unclassified Excavation.

   Justification: The item was removed due to the change from unclassified excavation to embankment in-place. Excavation is now incidental to embankment and will have no separate payment.

4. **Page 86 of 396 – Approximate Quantities of Major Bid Items Table**

   Revision: Updated Item P-152a Unclassified Excavation.

   Justification: The item was changed from unclassified excavation to embankment in-place, and the quantities were updated for schedules I and III.

   Revision: Added Item P-152b Offsite Borrow Material.

   Justification: The line item was added to account for the fill material to be imported for this project.

5. **Page 139 of 396 – Section 80, Subsection 80-07.1, Contract time based on calendar days and Subsection 80-08, Failure to complete on time**

   Revision: Added paragraph to end of Subsection 80-07.1.

   Justification: The addition addresses potential weather-related delays.

6. **Page 292 of 396 – Item P-152 Excavation, Subgrade, and Embankment**

   Revision: Updated method of measurement under Section 152-2.2 Excavation.

   Justification: Excavation will no longer be paid for, since embankment in-place and offsite borrow material will be the new pay items.

7. **Page 293 of 396 – Item P-152 Excavation, Subgrade, and Embankment**

   Revision: Updated method of measurement under Section 152-2.2 Excavation (Continued).

   Justification: Excavation will no longer be paid for, since embankment in-place and offsite borrow material will be the new pay items.

8. **Page 295 of 396 – Item P-152 Excavation, Subgrade, and Embankment**

   Revision: Updated method of measurement under Section 152-2.8 Formation of Embankments.

   Justification: Embankment in-place and offsite borrow material will be the new pay items.

9. **Page 297 of 396 – Item P-152 Excavation, Subgrade, and Embankment**

   Revision: Updated method of measurement and basis of payment sections.

   Justification: The specification was changed to pay for items under embankment in-place and offsite borrow material.

CONSTRUCTION DRAWING UPDATES

1. **Sheet G004 – Summary of Approximate Quantities (Sheet 4 of 54)**

   Revision: Updated Item P-152a Unclassified Excavation.

   Justification: The item was changed from unclassified excavation to embankment in-place, and the quantities were updated for schedules I and III.

   Revision: Added Item P-152b Offsite Borrow Material.

   Justification: The line item was added to account for the fill material to be imported for this project.

   Revision: Updated earthwork summary table.

   Justification: The earthwork was updated to reflect the accurate cut and fill quantities for the project. A note was also added to specify the shrink factor applied to the quantity calculation.

Revision: Updated Detail 1 Earthwork Calculations Detail (Excavation).

Justification: The detail was updated to reflect embankment, and whether items are paid or incidental to P-152a and P-152b.

CLARIFICATIONS / RFI RESPONSES

Q. ASR Testing for concrete used around the light cans was mentioned in the pre-bid, this testing cost will likely be more than the total cost of the concrete material used. With this being low quantity could that requirement be adjusted? The areas where this material is used will not be a surface that is driven on by planes or vehicles at any point in time.

A. See Addendum No. 1 to address this question. Since the CY is anticipated to be over 20 CY, the federal P-610 specification must be used. The ASR testing will be required as part of that specification.

Q. P-101A Pavement Removal – Full Depth - Does this incorporate the varying depths of asphalt as well as varying depths of concrete based on the soil borings? This would be an average depth of 9 3/4". When removing that material there will be certain areas that this removal does not go deep enough to allow for the 8" Rock & 4" Asphalt to reach final elevation. Other areas this will be significantly deeper than needed. What item is intended to include adding subgrade material and removing subgrade material?

A. The full depth pavement removal line item includes the varying depth removal of asphalt and concrete. The preparation for getting the subgrade to grade after pavement removal is considered to be incidental to P-152a embankment in place.

Q. P-152A Unclassified Excavation – It is understood that this item was intended to be used in the grading along the taxiway edges to bring the shoulders up or cut down to within 1.5" of the pavement elevation. Does the quantity also include removals of dirt material below the pavement removal as needed?

A. Per Addendum No. 3, the P-152a unclassified excavation has changed to embankment in-place. The work associated with cutting and filling the in-situ material beneath pavement as well as outside pavement is to be considered incidental to this line item.

Q. Is the subgrade intended to be balanced at completion with no haul off of subgrade materials?

A. With the addition of the material from off site, it is not anticipated that subgrade material will need to be hauled off site.

Q. Where will the additional material come from to fill in the areas where the taxiway width was reduced from 50' down to 35'. Once the pavement is removed over this 15' area it would require approximately 850 CY of material to fill in the 10" of pavement that was removed.

A. The additional material will need to come from an offsite borrow source as incidental to item P-152b Embankment from Off-Site.

Q. Addendum #1 increased the Liquidated Damages significantly from (Original $2,250 vs New $5,490 + incurred expenses). Will these be incurred on a phase-by-phase basis if one phase goes longer or are these intended to be used if the entire project exceeds the total duration. There are no weather days allowed in the phasing, this will put significant risk solely on the contractor.

A. The original bid document had omitted the actual construction manager/engineer daily rates and only had the sponsor's rate of $750/day. Addendum 1 included those previously omitted rates. Those rates are a maximum of $2,220 per day for the construction manager and $2,520 for each additional resident engineer, plus the $750/day for the sponsor. The liquidated damages will be assessed on a phase-by-phase basis for the sponsor's liquidated damage charge of $750/day. The project will be assessed as a whole for total calendar day count for the construction manager/resident engineer charges. An additional 25 days have been added to the project.

Q. The geotextile fabric quantity is approximately 700 SY more than the cement treated base. Does the added material include bringing the fabric up over the P-208 Layer? Does the qty also include the fabric that will encase the edge drains or is that material incidental to the drains?

A. The geotextile fabric quantity includes one foot of overbuild and contingency. The fabric and rock for the edge drains is considered incidental to Item D-705 Pipe Underdrains for Airports.

ADDENDUM ENDS

			SCHEDULE I TAXIWAY A RECONSTRUCTION	**SCHEDULE II TAXIWAY B REHABILITATION**	**SCHEDULE III TAXIWAY A UNDERDRAINS**
Item No.	**Item Description**	**Unit**	**Quantity**	**Quantity**	**Quantity**
C-100a	Contractor's Quality Control Program (CQCP)	LS	1	1	-
C-102a	Temporary Erosion Control	LS	1	-	-
C-105a	Mobilization	LS	1	1	1
P-101a	Pavement Removal - Full Depth	SY	11,580	-	-
P-101b	Asphalt Pavement Removal - Partial Depth	SY	400	5,180	-
P-101c	Joint and Crack Repair	LF	-	2500	-
P-152a	Embankment In-Place	CY	710	-	-
P-152b	Offsite Borrow Material	CY	1120	-	-
P-156a	Cement Treated Subgrade, 18 Inches	SY	8430	-	-
P-156b	Cement	TON	280	-	-
P-208a	Aggregate Base Course, 8 Inches	CY	2050	-	-
P-208b	Geotextile Fabric	SY	9130	-	-
P-401a	Asphalt Surface Course	TON	2090	760	-
P-603a	Bituminous Tack Coat	GAL	1340	760	-
P-620a	Temporary Airport Pavement Marking	SF	3480	640	-
P-620b	Permanent Airport Pavement Marking, Yellow	SF	2320	640	-

SCHEDULE I - TAXIWAY A RECONSTRUCTION						
Item No.	**Description**		**Units**	**Estimated Quantity**	**Unit Price**	**Total**
C-100a	Contractor's Quality Control Program (CQCP)	at the unit price of: _____ dollars and _____ cents.	LS	1	$	$
C-102a	Temporary Erosion Control	at the unit price of: _____ dollars and _____ cents.	LS	1	$	$
C-105a	Mobilization	at the unit price of: _____ dollars and _____ cents.	LS	1	$	$
P-101a	Pavement Removal - Full Depth	at the unit price of: _____ dollars and _____ cents.	SY	11,580	$	$
P-101b	Asphalt Pavement Removal - Partial Depth	at the unit price of: _____ dollars and _____ cents.	SY	400	$	$
P-152a	Embankment In-Place	at the unit price of: _____ dollars and _____ cents.	CY	710	$	$
P-152b	Offsite Borrow Material	at the unit price of: _____ dollars and _____ cents.	CY	1,120	$	$
P-156a	Cement Treated Subgrade, 18 Inches	at the unit price of: _____ dollars and _____ cents.	SY	8,430	$	$
P-156b	Cement	at the unit price of: _____ dollars and _____ cents.	TON	280	$	$
P-208a	Aggregate Base Course, 8 Inches	at the unit price of: _____ dollars and _____ cents.	CY	2,050	$	$
P-208b	Geotextile Fabric	at the unit price of: _____ dollars and _____ cents.	SY	9,130	$	$
P-401a	Asphalt Surface Course	at the unit price of: _____ dollars and _____ cents.	TON	2,090	$	$
P-603a	Bituminous Tack Coat	at the unit price of: _____ dollars and _____ cents.	GAL	1,340	$	$
P-620a	Temporary Airport Pavement Marking	at the unit price of: _____ dollars and _____ cents.	SF	3,480	$	$
P-620b	Permanent Airport Pavement Marking, Yellow	at the unit price of: _____ dollars and _____ cents.	SF	2,320	$	$
P-620c	Permanent Airport Pavement Marking, Black	at the unit price of: _____ dollars and _____ cents.	SF	1,440	$	$
T-901a	Seeding with Hydromulch	at the unit price of: _____ dollars and _____ cents.	AC	2.50	$	$
T-905a	Topsoil	at the unit price of: _____ dollars and _____ cents.	SY	11,010	$	$
L-108a	Install #8 AWG, L-824C, 5000 Volt Wire	at the unit price of: _____ dollars and _____ cents.	LF	5,100	$	$
L-108b	Install #6 AWG Bare Copper Counterpoise, Including Ground Rods	at the unit price of: _____ dollars and _____ cents.	LF	4,100	$	$
L-110a	Install 1-2" SCH 40 PVC Conduit, Direct Earth Buried (DEB)	at the unit price of: _____ dollars and _____ cents.	LF	3,900	$	$
L-110b	Install 1-2" SCH 40 HDPE Conduit, Directionally Bored	at the unit price of: _____ dollars and _____ cents.	LF	190	$	$
L-125a	Remove Stake Mounted Taxiway Edge Light, Complete	at the unit price of: _____ dollars and _____ cents.	EA	33	$	$
L-125b	Install L-861T LED Taxiway Edge Light, Complete	at the unit price of: _____ dollars and _____ cents.	EA	55	$	$

SCHEDULE I - TAXIWAY A RECONSTRUCTION					
Item No.	**Description**	**Units**	**Estimated Quantity**	**Unit Price**	**Total**

SCHEDULE I TOTAL $ _____

SCHEDULE III - TAXIWAY A UNDERDRAINS						
Item No.	**Description**		**Units**	**Estimated Quantity**	**Unit Price**	**Total**
C-105a	Mobilization	at the unit price of: _____ dollars and _____ cents.	LS	1	$	$
D-705a	Install 6-Inch Perforated Polyethylene Pipe	at the unit price of: _____ dollars and _____ cents.	LF	3,900	$	$
D-705b	Install 6-Inch Non-Perforated Polyethylene Pipe	at the unit price of: _____ dollars and _____ cents.	LF	900	$	$
D-751a	Install 6-Inch Underdrain Cleanout	at the unit price of: _____ dollars and _____ cents.	EA	20	$	$
D-751b	Install 18x18 Inch Inspection Pit	at the unit price of: _____ dollars and _____ cents.	EA	12	$	$

SCHEDULE III TOTAL $ _____

			SCHEDULE I TAXIWAY A RECONSTRUCTION	SCHEDULE II TAXIWAY B REHABILITATION	SCHEDULE III TAXIWAY A UNDERDRAINS
Item No.	**Item Description**	**Unit**	**Quantity**	**Quantity**	**Quantity**
C-100a	Contractor's Quality Control Program (CQCP)	LS	1	1	-
C-102a	Temporary Erosion Control	LS	1	-	-
C-105a	Mobilization	LS	1	1	1
P-101a	Pavement Removal - Full Depth	SY	11,580	-	-
P-101b	Asphalt Pavement Removal - Partial Depth	SY	400	5180	-
P-101c	Joint and Crack Repair	LF	-	2500	-
P-152a	Embankment In-Place	CY	710	-	-
P-152b	Offsite Borrow Material	CY	1120	-	-
P-156a	Cement Treated Subgrade, 18 Inches	SY	8430	-	-
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P-620a	Temporary Airport Pavement Marking	SF	3480	640	-
P-620b	Permanent Airport Pavement Marking, Yellow	SF	2320	640	-
P-620c	Permanent Airport Pavement Marking, Black	SF	1440	-	-

precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

80-07 Determination and extension of contract time. The number of calendar days shall be stated in the proposal and contract and shall be known as the Contract Time.

If the contract time requires extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

80-07.1 Contract time based on calendar days. Contract Time based on calendar days shall consist of the number of calendar days stated in the contract counting from the effective date of the Notice to Proceed and including all Saturdays, Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of the Sponsor's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

If the Contractor finds it impossible for reasons beyond their own control to complete the work within the contract time as specified, or as extended in accordance with the provisions of this paragraph, the Contractor may, at any time prior to the expiration of the contract time as extended, make a written request to the Sponsor for an extension of time setting forth the reasons which the Contractor believes will justify the granting of their own request. Requests for extension of time, caused by inclement weather, shall be supported with National Weather Bureau data showing the actual amount of inclement weather exceeded what could normally be expected during the contract period. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the supporting documentation justify the work was delayed because of conditions beyond the control and without the fault of the Contractor, the Sponsor may extend the time for completion by a change order that adjusts the contract time or completion date. The extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

80-08 Failure to complete on time. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 80-07, *Determination and extension of contract time*) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Sponsor should the Contractor fail to complete the work in the time provided in their contract.

Schedule	Liquidated Damages Cost	Allowed Construction Time
Sch I	$750.00 / calendar day(s)	45 calendar day(s)
Sch II	$750.00 / calendar day(s)	4 calendar day(s)
Sch III	$750.00 / calendar day(s)	8 calendar day(s)

The maximum construction time allowed for Schedules **I and II** will be the sum of the time allowed for individual schedules but not more than 57 days. Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a wavier on the part of the Sponsor of any of its rights under the contract.

152-2.2 Excavation. No excavation shall be started until the work has been staked out by the Contractor and the RPR has obtained from the Contractor, the survey notes of the elevations and measurements of the ground surface. The Contractor and RPR shall agree that the original ground lines shown on the original topographic mapping are accurate or agree to any adjustments made to the original ground lines.

Digital terrain model (DTM) files of the existing surfaces, finished surfaces, and other various surfaces were used to develop the design plans.

Volumetric quantities were calculated by comparing DTM files of the applicable design surfaces and generating Triangle Volume Reports. Electronic copies of DTM files and a paper copy of the original topographic map will be issued to the successful bidder.

Existing grades on the design cross sections or DTM's, where they do not match the locations of actual spot elevations shown on the topographic map, were developed by computer interpolation from those spot elevations. Prior to disturbing original grade, Contractor shall verify the accuracy of the existing ground surface by verifying spot elevations at the same locations where original field survey data was obtained as indicated on the topographic map. Contractor shall recognize that, due to the interpolation process, the actual ground surface at any particular location may differ somewhat from the interpolated surface shown on the design cross sections or obtained from the DTM's. Contractor's verification of original ground surface, however, shall be limited to verification of spot elevations as indicated herein, and no adjustments will be made to the original ground surface unless the Contractor demonstrates that spot elevations shown are incorrect. For this purpose, spot elevations which are within 0.1 foot (30 mm) of the stated elevations for ground surfaces, or within 0.04 foot (12 mm) for hard surfaces (pavements, buildings, foundations, structures, etc.) shall be considered "no change". Only deviations in excess of these will be considered for adjustment of the original ground surface. If Contractor's verification identifies discrepancies in the topographic map, Contractor shall notify the RPR in writing at least two weeks before disturbance of existing grade to allow sufficient time to verify the submitted information and adjust the design cross sections or DTM's. Disturbance of existing grade in any area shall constitute acceptance by the Contractor of the accuracy of the original elevations shown on the topographic map for that area.

All areas to be excavated shall be stripped of vegetation and topsoil. Topsoil shall be stockpiled for future use in areas designated on the plans or by the RPR. All suitable excavated material shall be used in the formation of embankment, subgrade, or other purposes **as** shown on the plans. All unsuitable material shall be disposed of as shown on the plans.

The grade shall be maintained so that the surface is well drained at all times.

When the volume of the excavation exceeds that required to construct the embankments to the grades as indicated on the plans, the excess shall be used to grade the areas of ultimate development or disposed as directed by the RPR. When the volume of excavation is not sufficient for constructing the embankments to the grades indicated, the deficiency shall be obtained from borrow areas.

a. Selective grading. When selective grading is indicated on the plans, the more suitable material designated by the RPR shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas until it can be placed. The more suitable material shall then be placed and compacted as specified. Selective grading shall be considered incidental to the work involved. The cost of stockpiling and placing the material shall be included in the various pay items of work involved.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turf shall be excavated to a minimum depth of 12 inches (300 mm) below the subgrade or to the depth specified by the RPR. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed off the airport. The cost is incidental to this item. The excavated area shall be backfilled with suitable

material obtained from the grading operations or borrow areas and compacted to specified densities. The necessary backfill will constitute a part of the embankment. Where rock cuts are made, backfill with select material. Any pockets created in the rock surface shall be drained in accordance with the details shown on the plans. Undercutting will be paid as unclassified excavation.

c. Over-break. Over-break, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the RPR. All over-break shall be graded or removed by the Contractor and disposed of as directed by the RPR. The RPR shall determine if the displacement of such material was unavoidable, and their own decision shall be final. Payment will not be made for the removal and disposal of over-break that the RPR determines as avoidable. Unavoidable over-break will be classified as "Unclassified Excavation."

d. Removal of utilities. Removal of utilities is not required.

152-2.3 Borrow excavation. There are no borrow sources within the boundaries of the airport property. The Contractor shall locate and obtain borrow sources, subject to the approval of the RPR. The Contractor shall notify the RPR at least 15 days prior to beginning the excavation so necessary measurements and tests can be made by the RPR. All borrow pits shall be opened to expose the various strata of acceptable material to allow obtaining a uniform product. Borrow areas shall be drained and left in a neat, presentable condition with all slopes dressed uniformly. Borrow areas shall not create a hazardous wildlife attractant.

152-2.4 Drainage excavation. Drainage excavation shall consist of excavating drainage ditches including intercepting, inlet, or outlet ditches; or other types as shown on the plans. The work shall be performed in sequence with the other construction. Ditches shall be constructed prior to starting adjacent excavation operations. All satisfactory material shall be placed in embankment fills; unsuitable material shall be placed in designated waste areas or as directed by the RPR. All necessary work shall be performed true to final line, elevation, and cross-section. The Contractor shall maintain ditches constructed on the project to the required cross-section and shall keep them free of debris or obstructions until the project is accepted.

152-2.5 Preparation of cut areas or areas where existing pavement has been removed. In those areas on which a subbase or base course is to be placed, the top 12 inches (300 mm) of subgrade shall be compacted to not less than 100 % of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D698. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

152-2.6 Preparation of embankment area. All sod and vegetative matter shall be removed from the surface upon which the embankment is to be placed. The cleared surface shall be broken up by plowing or scarifying to a minimum depth of 6 inches (150 mm) and shall then be compacted per paragraph 152-2.10.

Sloped surfaces steeper than one (1) vertical to five (5) horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When the subgrade is part fill and part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches (300 mm) and compacted as specified for the adjacent fill.

No direct payment shall be made for the work performed under this section. The necessary clearing and grubbing and the quantity of excavation removed will be paid for under the respective items of work.

152-2.7 Control Strip. The first half-day of construction of subgrade and/or embankment shall be considered as a control strip for the Contractor to demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of this specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches (300 mm) upon the Contractor's demonstration that approved equipment, and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

Compaction areas shall be kept separate, and no lift shall be covered by another lift until the proper density is obtained.

During construction of the embankment, the Contractor shall route all construction equipment evenly over the entire width of the embankment as each lift is placed. Lift placement shall begin in the deepest portion of the embankment fill. As placement progresses, the lifts shall be constructed approximately parallel to the finished pavement grade line.

When rock, concrete pavement, asphalt pavement, and other embankment material are excavated at approximately the same time as the subgrade, the material shall be incorporated into the outer portion of the embankment and the subgrade material shall be incorporated under the future paved areas. Stones, fragmentary rock, and recycled pavement larger than 4 inches (100 mm) in their greatest dimensions will not be allowed in the top 12 inches (300 mm) of the subgrade. Rockfill shall be brought up in lifts as specified or as directed by the RPR and the finer material shall be used to fill the voids forming a dense, compact mass. Rock, cement concrete pavement, asphalt pavement, and other embankment material shall not be disposed of except at places and in the manner designated on the plans or by the RPR.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in lifts of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in lifts not exceeding 2 feet (60 cm) in thickness. Each lift shall be leveled and smoothed with suitable equipment by distribution of spalls and finer fragments of rock. The lift shall not be constructed above an elevation 4 feet (1.2 m) below the finished subgrade.

Payment for compacted embankment will be made under embankment in-place and offsite borrow material, and no payment will be made for excavation.

152-2.9 Proof rolling. The purpose of proof rolling the subgrade is to identify any weak areas in the subgrade and not for compaction of the subgrade. Before start of embankment, and after compaction is completed, the subgrade area shall be proof rolled with a 20 ton (18.1 metric ton) Tandem axle Dual Wheel Dump Truck loaded to the legal limit with tires inflated to 100/150 psi (0.551 MPa/0.689 MPa/1.034 MPa) in the presence of the RPR. Apply a minimum of 50% coverage, or as specified by the RPR, under pavement areas. A coverage is defined as the application of one tire print over the designated area. Soft areas of subgrade that deflect more than 1 inch (25 mm) or show permanent deformation greater than 1 inch (25 mm) shall be removed and replaced with suitable material or reworked to conform to the moisture content and compaction requirements in accordance with these specifications. Removal and replacement of soft areas is incidental to this item.

152-2.10 Compaction requirements. The subgrade under areas to be paved shall be compacted to a depth of 12 inches (300 mm) and to a density of not less than 100 percent of the maximum dry density as determined by ASTM D698. The subgrade in areas outside the limits of the pavement areas shall be compacted to a depth of 12 inches (300 mm) and to a density of not less than 95 percent of the maximum density as determined by ASTM D698.

The material to be compacted shall be within ±2% of optimum moisture content before being rolled to obtain the prescribed compaction (except for expansive soils). When the material has greater than 30 percent retained on the ¾ inch (19.0 mm) sieve, follow the methods in ASTM D698. Tests for moisture content and compaction will be taken at a minimum of 1000 S.Y. of subgrade. All quality assurance testing shall be done by the RPR.

The in-place field density shall be determined in accordance with ASTM D1556.

Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

approved CSPP and shall not be placed on areas that subsequently will require any excavation or embankment fill. If, in the judgment of the RPR, it is practical to place the salvaged topsoil at the time of excavation or stripping, the material shall be placed in its final position without stockpiling or further re-handling.

Upon completion of grading operations, stockpiled topsoil shall be handled and placed as shown on the plans and as required in Item T-905. Topsoil shall be paid for as provided in Item T-905. No direct payment will be made for topsoil under Item P-152.

METHOD OF MEASUREMENT

152-3.1 Measurement for payment specified by the cubic yard (cubic meter) shall be computed by the comparison of digital terrain model (DTM) surfaces for computation of neat line design quantities. The end area is that bound by the original ground line established by field cross-sections and the final theoretical pay line established by cross-sections shown on the plans, subject to verification by the RPR.

152-3.2 The quantity of unclassified excavation shall be considered incidental to this item.

152-3.3 The quantity of embankment in-place to be paid for shall be the number of cubic yards (cubic meters) measured in its final position.

152-3.4 Offsite borrow material shall be paid for on the basis of the number of cubic yards (cubic meters) measured in its final position.

BASIS OF PAYMENT

152-4.1 Unclassified excavation payment shall be considered incidental to this item.

152-4.2 For embankment in-place, payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.3 Offsite borrow material shall be paid for on the basis of the number of cubic yards (cubic meters). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-152a Embankment In-Place - per cubic yard (cubic meter)

Item P-152b Offsite Borrow Material – per cubic yard (cubic meter)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method

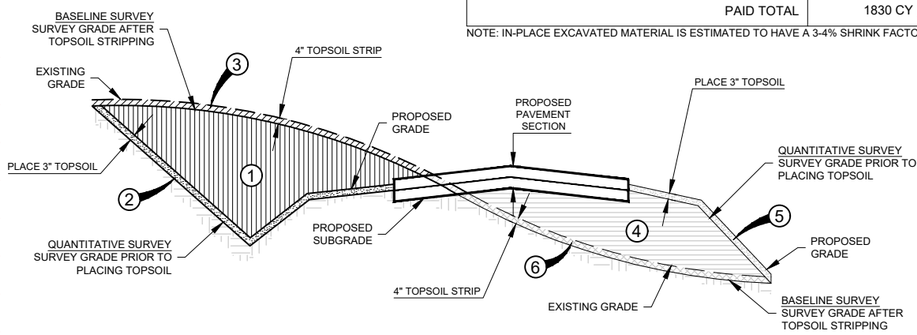
SUMMARY OF APPROXIMATE QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNITS	SCHEDULE I		SCHEDULE II		SCHEDULE III	
			ESTIMATE	AS BUILT	ESTIMATE	AS BUILT	ESTIMATE	AS BUILT
C-100a	Contractor's Quality Control Program (CQCP)	LS	1		1		0	
C-102a	Temporary Erosion Control	LS	1		0		0	
C-105a	Mobilization	LS	1		1		1	
P-101a	Pavement Removal - Full Depth	SY	11,580		0		0	
P-101b	Asphalt Pavement Removal - Partial Depth	SY	400		5,180		0	
P-101c	Joint and Crack Repair	LF	0		2,500		0	
P-152a	Embankment In-Place	CY	710		0		0	
P-152b	Offsite Borrow Material	CY	1,120		0		0	
P-156a	Cement Treated Subgrade, 18 Inches	SY	8,430		0		0	
P-156b	Cement	TON	280		0		0	
P-208a	Aggregate Base Course, 8 Inches	CY	2,050		0		0	
P-208b	Geotextile Fabric	SY	9,130		0		0	
P-401a	Asphalt Surface Course	TON	2,090		760		0	
P-603a	Bituminous Tack Coat	GAL	1,340		760		0	
P-620a	Temporary Airport Pavement Marking	SF	3,480		640		0	
P-620b	Permanent Airport Pavement Marking, Yellow	SF	2,320		640		0	
P-620c	Permanent Airport Pavement Marking, Black	SF	1,440		0		0	
P-620d	Pavement Marking Obliteration	SF	0		580		0	
D-705a	Install 6-Inch Perforated Polyethylene Pipe	LF	0		0		3,900	
D-705b	Install 6-Inch Non-Perforated Polyethylene Pipe	LF	0		0		900	
D-751a	Install 6-Inch Underdrain Cleanout	EA	0		0		20	
D-751b	Install 18x18 Inch Inspection Pit	EA	0		0		12	
T-901a	Seeding with Hydromulch	AC	2.50		0		0	
T-905a	Topsoil	SY	11,010		0		0	
L-108a	Install #8 AWG, L-824C, 5000 Volt Wire	LF	5,100		0		0	
L-108b	Install #6 AWG Bare Copper Counterpoise, Including Ground Rods	LF	4,100		0		0	
L-110a	Install 1-2" SCH 40 PVC Conduit, Direct Earth Buried (DEB)	LF	3,900		0		0	
L-110b	Install 1-2" SCH 40 HDPE Conduit, Directionally Bored	LF	190		0		0	
L-125a	Remove Stake Mounted Taxiway Edge Light, Complete	EA	33		0		0	
L-125b	Install L-861T LED Taxiway Edge Light, Complete	EA	55		0		0	

EARTHWORK SUMMARY

AREA DESCRIPTION	CUT (CY)	FILL (CY)
SCHEDULE I - TAXIWAY A RECONSTRUCTION		
TAXIWAY A - SOUTH	450	200
TAXIWAY A - NORTH	290	1525
SCHEDULE I SUBTOTAL	740	1725
SCHEDULE II - TAXIWAY B REHABILITATION		
TAXIWAY B	0	0
SCHEDULE II SUBTOTAL	0	0
SCHEDULE III - TAXIWAY A UNDERDRAINS		
UNDERDRAINS	80	0
SCHEDULE III SUBTOTAL	80	0
PROJECT TOTAL	820	1725
PAID TOTAL	1830 CY (FILL)	

NOTE: IN-PLACE EXCAVATED MATERIAL IS ESTIMATED TO HAVE A 3-4% SHRINK FACTOR.



TOTAL EXCAVATION

1. EXCAVATION INCIDENTAL TO P-152a EMBANKMENT IN-PLACE
2. TOPSOIL (PLACED) INCIDENTAL TO ITEM T-905a TOPSOIL
3. TOPSOIL (STRIPPED) PAID AS T-905a TOPSOIL

TOTAL EMBANKMENT

4. EMBANKMENT PAID AS P-152a EMBANKMENT IN-PLACE AND P-152b OFFSITE BORROW MATERIAL
5. TOPSOIL (PLACED) INCIDENTAL TO ITEM T-905a TOPSOIL
6. TOPSOIL (STRIPPED) PAID AS T-905a TOPSOIL

1 EARTHWORK CALCULATIONS DETAIL (EMBANKMENT)

NOT TO SCALE

NOTE: TOPSOIL ASSUMED TO BE STRIPPED AT 4 INCHES DEEP AND PLACED AT APPROX. 3 INCHES DEEP

ISSUED FOR BID

THESE DRAWINGS ARE FOR PURPOSES ONLY. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:

LAURA K. KOONCE	2022012014	08/05/2025
NAME	REG. NO.	DATE

FOR AND ON BEHALF OF WOOLPERT, INC.

WOOLPERT

ROLLA NATIONAL AIRPORT
CITY OF ROLLA, MISSOURI

DES: F.Z.D.
DR: N.B.B.
CH: C.L.G.
APP: L.K.K.

ISSUE RECORD

NO.	BY	DATE	DESCRIPTION
1	L.K.K.	08/05/2025	ISSUED FOR BID
2	L.K.K.	09/18/2025	ADDENDUM NO. 3

TAXIWAY A RECONSTRUCTION AND TAXIWAY CONNECTOR REHABILITATION

SUMMARY OF APPROXIMATE QUANTITIES

MoDOT PROJ. NO. 23-056A-1

WOOLPERT PROJ. NO. 10016991.00

SHEET NAME G004

SHEET NO. 4 of 54