APRON EXPANSION

FOR THE WARSAW MUNICIPAL AIRPORT
MoDOT PROJECT NO. 22-023A-1
ADDENDUM NO. 1

June 14, 2024

Addendum No. 1 consists of the following clarifications, changes, additions, etc.

Attachments:

- Attachment 1: Prebid Meeting Minutes and Sign In Sheet (4 pages)
- Revised Notice to Bidders pages 1 through 3
- Revised Proposal Form pages 1 through 3
- Updated Federal Wage Rates
- Technical Specification MO-401S
- Geotechnical Exploration Report
- Revised Plan Sheets: CVR, G-001, G-002, G-003, G-100, G-101, G-500, CG101, CP502, CM500

Bidding Questions: The following are questions that have been submitted to the Burns & McDonnell project manager, in writing via email, with their subsequent responses.

1. Can you provide additional details on the aircraft rated 5x5 manhole structures and the casting that is to be used?
   RESPONSE: The detail "PRECAST MANHOLE" on drawing CP502 requires the manhole and casting to be rated for HS20 loading. These manholes shall be a delegated design that is sealed by a registered Professional Engineer in the State of Missouri. A note has been added to this detail on drawing CP502 as per this Addendum No. 1.

2. On the predetermined waste area, will this area be required to be stripped of topsoil, respread, and seeded? Or can the contractor just stockpile and seed over existing conditions?
   RESPONSE: Yes, the areas designated for stockpiles must be stripped of topsoil, material stockpiled, and then seeded. Also, note additional stockpile location to the north as per this Addendum No. 1.

3. The existing airport entrance road was discussed at the pre-bid meeting that it was in subpar condition. Just verifying that the contractor is not responsible for repairs to the existing airport entrance road.
   RESPONSE: The Contractor will not be responsible for repairs of the existing airport entrance road within the footprint of the designated Contractor Access Route as identified in the plans. The Contractor should video the existing conditions prior to the start of construction.

4. Please clarify that the whole unbound spec book is to be turned in with the bid as discussed at the pre bid.
   RESPONSE: The proposal must be made on the forms provided within the bound project manual as identified on page 1-5 of the Notice to Bidders.

5. If the anticipated start of Summer/Fall of 2024 does not happen, is the contractor responsible for covering additional costs such as winter conditions, 2025 price increases, etc.? Or will pricing be adjusted due to the schedule being changed via matters outside of our control?
   RESPONSE: No price adjustments will be allowed even if the project does not start in 2024.

6. Due to the limited availability of the P403 mix in the area of this project we would like to propose a change in specification. The area that this mix is being used for is temporary and will be removed after the project is completed. We would like to propose using a MODOT BP-1 or BP-2 mix to be used in lieu of the P403 mix.
   RESPONSE:
   Specification P-403 has been deleted in its entirety and replaced with Specification MO-401S as per this Addendum No. 1.

7. There is a note on CM500 that states that all panels where aircraft tie-downs are located are to be reinforced but the pavement layout plan doesn't appear to show that. Please clarify.
   RESPONSE:
   Detail "AIRCRAFT TIE-DOWN" Note 4 regarding reinforced panels is deleted as per this Addendum No. 1.

8. I don't see a bid bond form within the project manual for this project? Are you going to supply one via Addendum or should we use a standard form?
   RESPONSE:
   See Section 20-10 BID GUARANTY for bid bond requirements.

9. Just clarifying that DBE goal is 0% on the project. But, if a DBE subcontractor or supplier is used on the project, then that pertinent information needs to be filled out in the bid form?
   RESPONSE:
   Correct, there is no DBE goal but if a contractor is a DBE then FAA/MoDOT wants to track that utilization.

10. Is there a geotechnical report that is available for this project?
    RESPONSE:
    The geotechnical report for this project has been included in this Addendum No. 1.

Project Manual Changes:

Front Ends

Replace Section 1 – Notice to Bidders -1 through 3 with the attached revised Section 1 – Notice to Bidders – 1 through 3.

Replace Proposal Form – Pages PF-1 through PF-3 with the attached revised PF-1 through PF-3.

Replace all references in the Project Manual for the City Hall address from:
181 W. Harrison to 201 W. Main.

Federal Wage Rates

Replace the Federal Wage Rates with the attached updated Federal Wage Rates.

Technical Specifications

Delete Technical Specification P-403 in its entirety and replace with the attached Technical Specification MO-401S.

Geotechnical Report

See attached Geotechnical Exploration Report as prepared by TSi Geotechnical dated May 19, 2023.

Plans:

Replace Sheet CVR with the attached revised Sheet CVR.

Replace Sheet G-001 with the attached revised Sheet G-001.

Replace Sheet G-002 with the attached revised Sheet G-002.

Replace Sheet G-003 with the attached revised Sheet G-003.

Replace Sheet G-100 with the attached revised Sheet G-100.

Replace Sheet G-101 with the attached revised Sheet G-101.

Add new attached Sheet G-500.

Replace Sheet CG101 with the attached revised Sheet CG101.

Replace Sheet CP502 with the attached revised Sheet CP502.

Replace Sheet CM500 with the attached revised Sheet CM500.

Acknowledge receipt and acceptance of this addendum in the appropriate space below.

Ryan Lorton, PE
Project Manager
Burns & McDonnell

_____
Name of Firm

_____
Signature of Authorized Person of Above Firm

_____
Title

_____
Date

Meeting Minutes

BURNS McDONNELL

Meeting Subject: WARSAW MUNICIPAL AIRPORT PREBID CONFERENCE
Meeting Date: June 4, 2024
Meeting Start Time: 10:00 AM
Project Name: Apron Expansion
MoDOT No.: 22-023A-1
BMcD No.: 152252

Meeting comments denoted in italics.

1. **Introductions**
   A. City of Warsaw Staff
   B. MoDOT Aviation Staff
   C. Burns & McDonnell
   D. Attendees

2. **Scope of Work**
   A. Description of the work:
      a. Base Bid: Apron Expansion to the north
      b. Bid Alternate 1: Apron Expansion to the south
   B. Review contract time:
      a. Base Bid: 60 calendar days
      b. Bid Alternate 1: additional 15 calendar days
   C. Phasing (see sheet G-100):
      a. Phase 1: 5 calendar days
         - Construction of temporary asphalt taxiplane
      b. Phase 2: 55 calendar days
         - Construction of north apron expansion
         - *If Bid Alternate No. 1 is awarded an additional 15 calendar days will be awarded for a total of 70 calendar days for Phase 2.*
   D. Liquidated damages: $1,500/calendar day *as identified in Section 80-08.*

3. **Bidding of Project**
   A. Bid Opening: Publicly opened and read on June 18, 2024, 2:00 P.M. at the City Council Chambers, City Hall, 201 W Main, Warsaw, Missouri 65355.
   B. Anticipated Notice-To-Proceed: summer/fall 2024. Bids may be held up to 120 days from the Bid Opening.
   C. Award of project is contingent upon the Owner receiving Federal funding assistance.
   D. A Bid Guarantee in the amount of 5% of the Bid is required at the time of the Bid submittal.

4. **Federal & State Wage Rates**

5. **DBE Participation**
   A. Goal for Contract: 0.0%
   B. Good Faith Effort: Bidder must demonstrate that they made good faith efforts to achieve

participation with DBE firms. This requires that the bidder show that it took all necessary and reasonable steps to secure participation by certified DBE firms.

Actions constituting evidence of good faith efforts are described in Appendix A to 49 CFR Part 26.

6. Buy American Certification

A. Bidder must comply with Title 49 U.S.C., Section 50101.

7. Operational Safety & Security

A. Construction limits on access & safety plans
B. Safety & object free areas
C. Impacts to airport and tenant operations
D. Vehicle operation on the AOA (runway incursions)
E. Staging areas and haul routes
F. Equipment heights (15-feet)
G. Air spacing
    a. 7460s have been filed and FAA response has been received.
H. FOD & dust control
I. Security (none provided by Airport)
J. Non-compliance (removal/suspension of work from project)

8. Air traffic Operations

A. Runway closure during Phase 1 work for construction of temporary taxilane for five (5) calendar days.

9. Issuing NOTAMS

A. Airport to issue NOTAMs (72-hours prior)

10. Keys to Bidding

A. Bids submitted to City
B. Phasing
C. Temporary Taxilane – See Specification C-105 Mobilization
D. Operational Safety: CSPP included as an Appendix in Project Manual
E. Coordination with Owner, Engineer *and MoDOT Aviation*
Quality Assurance (QA) is the responsibility of the Owner (Owner's Consultant team.)
Quality Control is the responsibility of the Contractor.
F. Coordination with Airport Operations / NOTAMs
G. P-501 Aggregate and Aggregate Testing
H. Construction Start Up
I. Final Cleanup
J. Mobilization is set at a maximum of 10% of the total project bid amount.

11. Contract Modification Process

A. Point of Contact is Construction Observer
B. City of Warsaw *and MoDOT Aviation* approval is required for any change orders or additional work performed.

12. Utilities

A. Locates required prior to start of construction

13. Environmental Permits

A. Stormwater – > 1 acre. MDNR permit (MORA26393) has been issued.
B. Erosion control – check after every rain event
C. SWPPP – Contractor is responsible to update and abide by for the duration of the project.

14. Keys to Construction

A. Timely processing of Submittals.
    i. Successfully obtaining the necessary proper P-501 and P-610 Alkali Silica Reactivity testing documentation in a timely manner.
    ii. All test results need to be current within 6 months of time of submittal unless otherwise indicated in the specifications.
B. Coordination with Owner and Engineer.
C. Contractor prepared Safety Plan Compliance Document (SPCD).
E. Adherence to Schedule and Phasing.
    i. Prompt schedule updates.
F. Protection of Pavements
G. Paving Operations.
H. Final Clean Up.
I. Safety: Safety is the highest priority for this project. All the Contractor's and subcontractor's employees shall be familiar with the CSPP and SPCD prior to working at the airport.

15. Miscellaneous

A. All questions or requests for clarifications must be submitted in writing (via email) to BMCD:

Attn: Ryan Lorton
Project Manager
Ph: 816-447-9822
Email: rblorton@burnsmcd.com
All questions requests for information shall be submitted to BMCD no later than 5:00 P.M. June 12, 2024 (CT).

16. Open Discussion

Question: Is there a potential for the start of the project to be delayed until 2025?
Answer: It is the intent for this project to be completed in 2024.

Comment: The existing airport entrance road is in poor condition which is part of the access route shown on the drawings.
Response: The Owner acknowledged that the existing condition of the airport entrance road is in poor condition.

Meeting Attendance Sheet

BURNS McDONNELL

Meeting Subject: WARSAW MUNICIPAL AIRPORT PREBID CONFERENCE
Meeting Date: June 4, 2024 Meeting Start Time: 10:00 AM
Project Name: Apron Expansion
MoDOT No.: 22-023A-1
BMcD No.: 152252

Name	Organization Name	Phone Number	E-Mail Address
RYAN LORTON	BURNS & McDONNELL	816-447-9922	rblorton@burnsmcd.com
Bryan Eichler	Do-Rite Construction	660-281-4833	bryan@do-riteconstruction.com
Joe Klein	Septagon Construction	660-827-~~[illegible]~~5955	jklein@septagon.com
Andy Killen	Phillips Hardy	660-216-8659	aKillen@hardyholdinggroup.com
Bryant Vessell	Emery Sapp & Sons, Inc.	573-445-8331	bryant.vessell@emerysapp.com
WAYNE SMITH	TRI SMITH CONSTRUCTI	816-809-7938	tscmissouri@gmail.com
Bradley Blankenship	City of Warsaw	660-596-5695	brad.blankenship@welcometowarsaw.com
Randy Pogue	City of Warsaw	660-438-5522	r.pogue@welcometowarsaw.com
THOMAS POWERS	MoDOT	(573)395-6278	thomas.powers@modot.mo.gov
Chas Perkins	Chasaero LLC	6606414506	chasaerollc@gmail.com

SECTION 1
NOTICE TO BIDDERS

CITY OF WARSAW, MISSOURI
WARSAW MUNICIPAL AIRPORT
State Block Grant Project No. **22-023A-1**
BMcD Project No. 152252

Sealed bids subject to the conditions and provisions presented herein will be received until **2:00 PM (CST) Tuesday, June 18th, 2024,** and then publicly opened and read at **City Council Chambers, City Hall, 201 W. Main, Warsaw, Missouri**, 65355 for furnishing all labor, materials, equipment and performing all work necessary for the **Apron Expansion** project.

Copies of the bid documents including project drawings and technical specifications are on file and may be inspected at:

City of Warsaw, Missouri (OWNER)
201 W. Main
Warsaw, Missouri 65355

Burns & McDonnell Engineering Company, Inc. (Engineer)
9400 Ward Parkway
Kansas City, Missouri 64114
P: 816.333.9400

Drexel Technologies
10840 W. 86TH Street
Lenexa, KS 66214
913-371-4430
info@drexeltech.com

A complete set of bid documents may be obtained from Drexel Technologies for a fee. Checks should be made payable to "Drexel Technologies." The payment for Drawings and Specifications will not be refunded and the Drawings and Specifications need not be returned.

A prebid conference for this project will be held at **10:00 AM (CST), Tuesday June 4th, 2024, at the Warsaw Municipal Airport, 19321 Airport Lane, Warsaw, Missouri 65355.**

Contract Work Items. This project will involve the following work items and estimated quantities. Prospective bidders are hereby advised that the quantities indicated herein are approximate and are subject to change.

BASE BID (APRON EXPANSION TO THE NORTH)

ITEM NO.	SPEC. ITEM NO.	DESCRIPTION OF WORK	UNITS	ESTIMATED QUANTITY
1	SP-1-2.1	TRAFFIC CONTROL	LS	1.00
2	C-100-14.1	CONTRACTOR QUALITY CONTROL PROGRAM (CQCP)	LS	1.00
3	C-102-5.1a	INSTALLATION AND REMOVAL OF SILT FENCE	LF	1,750.00
4	C-102-5.1b	INSTALLATION AND REMOVAL OF COMPOST FILTER SOCK	EA	15.00
5	C-105-6.1a	MOBILIZATION	LS	1.00
6	C-105-6.1b	TEMPORARY APRON ACCESS TAXILANE	LS	1.00
7	P-101-5.1	PAVEMENT REMOVAL	SY	30.00
8	P-101-5.2	REMOVAL OF 18" FLARED END SECTION	EA	2.00
9	P-101-5.3	REMOVAL OF UNDERDRAIN PIPE	LF	60.00
10	P-101-5.4	INSTALLATION OF AIRCRAFT TIE DOWN IN RIGID PAVEMENT	EA	18.00

11	P-101-5.5	REMOVAL OF RUNWAY HOLD SIGN AND CONCRETE FOUNDATION, AND RELOCATION OF SIGN TO NEW CONCRETE FOUNDATION	EA	1.00
12	P-152-4.1	UNCLASSIFIED EXCAVATION	CY	7,650.00
13	P-152-4.2	UNSUITABLE EXCAVATION	CY	300.00
14	P-155-8.1	12" LIME-TREATED SUBGRADE	SY	3,340.00
15	P-155-8.2	LIME	TON	110.00
16	P-209-5.1	CRUSHED AGGREGATE BASE COURSE (6")	SY	3,280.00
17	P-501-8.1	CONCRETE PAVEMENT (6")	SY	3,050.00
18	P-501-8.2	REINFORCED CONCRETE PAVEMENT (6")	SY	170.00
19	P-605-5.1	COLD-APPLIED JOINT SEAL	LF	4,700.00
20	P-620-5.1a	SURFACE PREPARATION	SF	1,550.00
21	P-620-5.1b	REFLECTORIZED PAVEMENT MARKING (YELLOW)	SF	700.00
22	P-620-5.1c	NONREFLECTORIZED PAVEMENT MARKING (BLACK)	SF	850.00
23	D-701-5.1	18-INCH DIAMETER REINFORCED CONCRETE PIPE (CLASS IV)	LF	104.00
24	D-701-5.2	18-INCH FLARED END SECTION (CLASS IV)	EA	2.00
25	D-705-5.1	4-INCH PERFORATED PVC UNDERDRAIN PIPE	LF	670.00
26	D-705-5.2	4-INCH NON-PERFORATED PVC UNDERDRAIN OUTLET PIPE	LF	35.00
27	D-705-5.3	PCC SLAB, FRAME, COVER FOR CLEANOUT ON PROPOSED UNDERDRAIN	EA	5.00
28	D-705-5.4	SPLASH PAD FOR UNDERDRAIN OUTLET	EA	1.00
29	D-705-5.5	CONNECT TO EXISTING UNDERDRAIN SYSTEM	EA	4.00
30	D-705-5.6	CONNECT TO EXISTING STORM PIPE	EA	1.00
31	D-751-5.1	5' X 5' AIRCRAFT RATED MANHOLE	EA	2.00
32	T-901-5.1	SEEDING	AC	3.00
33	T-904-5.1	SODDING	SY	240.00
34	T-905-5.1	4-INCH TOPSOIL	SY	7,300.00
35	T-908-5.1	MULCHING	AC	3.00
36	L-108-5.1	TRENCHING FOR DIRECT-BURIED CABLE, 18-INCH MINIMUM DEPTH	LF	310.00
37	L-108-5.2	NO. 8 AWG, 5 kV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK, OR CONDUIT	LF	1,240.00
38	L-108-5.3	NO. 6 AWG, 600V CABLE, INSTALLED IN TRENCH, DUCT BANK, OR CONDUIT	LF	620.00
39	L-108-5.4	TEMPORARY JUMPERS	LF	1,800.00
40	L-108-5.5	CABLE MARKERS	EA	2.00
41	L-110-5.1	CONCRETE ENCASED ELECTRICAL DUCT BANK, 3 WAY, 2-INCH	LF	230.00
42	L-125-5.1	RELOCATED TAXIWAY EDGE LIGHT ON NEW BASE CAN WITH NEW ISOLATION TRANSFORMER	EA	1.00
43	L-125-5.2	L-867 JUNCTION CAN	EA	1.00

BID ALTERNATE 1 (APRON EXPANSION TO THE SOUTH)

ITEM NO.	SPEC. ITEM NO.	DESCRIPTION OF WORK	UNITS	ESTIMATED QUANTITY
1	C-102-5.1a	INSTALLATION AND REMOVAL OF SILT FENCE	LF	150.00
2	C-102-5.1b	INSTALLATION AND REMOVAL OF COMPOST FILTER SOCK	EA	7.00
3	P-101-5.1	PAVEMENT REMOVAL	SY	30.00

4	P-101-5.4	INSTALLATION OF AIRCRAFT TIE DOWN IN RIGID PAVEMENT	EA	9.00
5	P-152-4.1	UNCLASSIFIED EXCAVATION	CY	950.00
6	P-152-4.2	UNSUITABLE EXCAVATION	CY	40.00
7	P-155-8.1	12" LIME-TREATED SUBGRADE	SY	1,280.00
8	P-155-8.2	LIME	TON	50.00
9	P-209-5.1	CRUSHED AGGREGATE BASE COURSE (6")	SY	1,250.00
10	P-501-8.1	CONCRETE PAVEMENT (6")	SY	1,050.00
11	P-501-8.2	REINFORCED CONCRETE PAVEMENT (6")	SY	180.00
12	P-605-5.1	COLD-APPLIED JOINT SEAL	LF	1,900.00
13	P-620-5.1a	SURFACE PREPARATION	SF	140.00
14	P-620-5.1b	REFLECTORIZED PAVEMENT MARKING (YELLOW)	SF	140.00
15	T-901-5.1	SEEDING	AC	0.30
16	T-904-5.1	SODDING	SY	110.00
17	T-905-5.1	4-INCH TOPSOIL	SY	1,400.00
18	T-908-5.1	MULCHING	AC	0.30

Contract Time. The owner has established a contract performance time of **sixty (60) Calendar Days** from the date of the Notice-to-Proceed for the **Base Bid** and an additional **fifteen (15) Calendar Days** will be provided if **Bid Alternate 1** is awarded. All project work shall be substantially completed within the stated timeframe. This project is subject to liquidated damages as prescribed in the project manual.

Bid Security. No bid will be considered unless accompanied by a certified check or cashier's check on any bank or trust company insured by the Federal Deposit Insurance Corporation, payable to **Warsaw, Missouri** for not less than five (5) percent of the total amount of the bid, or by a bid bond secured by an approved surety or sureties, payable to the owner, for not less than five (5) percent of the total amount of the bid.

Bonding Requirements. The successful bidder will be required to furnish separate performance and payment bonds each in an amount equal to 100% of the contract price at the time of contract execution.

Award of Contract. All proposals submitted in accordance with the instructions presented herein will be subject to evaluation. Bids may be held by the **Warsaw, Missouri** for a period not to exceed **one hundred and twenty (120) calendar days** from the date of the bid opening for the purpose of conducting the bid evaluation.

Award of contract will be based on the lowest aggregate sum proposal submitted from those bidders that are confirmed as being responsive and responsible. The Bidder shall bid on the Base Bid and Bid Alternate 1. The owner reserves the right to select any one of the combinations of the base bid(s) and bid alternate(s), which in the judgment of the owner, best serves the owner's interest. The right is reserved, as the **Warsaw, Missouri** may require, to reject any bid and all bids.

Award of contract is contingent upon the owner receiving Federal-funding assistance under the State Block Grant Program.

Federal Provisions. This project is subject to the following Federal provisions, statutes and regulations:

Equal Employment Opportunity - Executive Order 11246 and 41 CFR Part 60: The Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth within the supplementary provisions. The successful Bidder shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin.

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity:

PROPOSAL FORM
CITY OF WARSAW, MISSOURI
State Block Grant Project No. **22-023A-1**

TO: City of Warsaw

The undersigned, in compliance with the request for bids for construction of the following Project:

APRON EXPANSION
WARSAW MUNICIPAL AIRPORT
WARSAW, MISSOURI

hereby proposes to furnish all labor, permits, material, machinery, tools, supplies and equipment to faithfully perform all work required for construction of the Project in accordance with the project manual, project drawings and issued Addenda within the specified time of performance for the following prices:

Base Bid (Apron Expansion To The North)

BID ITEM	FAA SPEC.	ITEM DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE		EXTENSION	
					DOLLARS	CTS	DOLLARS	CTS
1	SP-1-2.1	TRAFFIC CONTROL	LS	1.00				
2	C-100-14.1	CONTRACTOR QUALITY CONTROL PROGRAM (CQCP)	LS	1.00				
3	C-102-5.1a	INSTALLATION AND REMOVAL OF SILT FENCE	LF	1,750.00				
4	C-102-5.1b	INSTALLATION AND REMOVAL OF COMPOST FILTER SOCK	EA	15.00				
5	C-105-6.1a	MOBILIZATION	LS	1.00				
6	C-105-6.1b	TEMPORARY APRON ACCESS TAXILANE	LS	1.00				
7	P-101-5.1	PAVEMENT REMOVAL	SY	30.00				
8	P-101-5.2	REMOVAL OF 18" FLARED END SECTION	EA	2.00				
9	P-101-5.3	REMOVAL OF UNDERDRAIN PIPE	LF	60.00				
10	P-101-5.4	INSTALLATION OF AIRCRAFT TIE DOWN IN RIGID PAVEMENT	EA	18.00				
11	P-101-5.5	REMOVAL OF RUNWAY HOLD SIGN AND CONCRETE FOUNDATION, AND RELOCATION OF SIGN TO NEW CONCRETE FOUNDATION	EA	1.00				
12	P-152-4.1	UNCLASSIFIED EXCAVATION	CY	7,650.00				
13	P-152-4.2	UNSUITABLE EXCAVATION	CY	300.00				
14	P-155-8.1	12" LIME-TREATED SUBGRADE	SY	3,340.00				
15	P-155-8.2	LIME	TON	110.00				
16	P-209-5.1	CRUSHED AGGREGATE BASE COURSE (6")	SY	3,280.00				
17	P-501-8.1	CONCRETE PAVEMENT (6")	SY	3,050.00				
18	P-501-8.2	REINFORCED CONCRETE PAVEMENT (6")	SY	170.00				
19	P-605-5.1	COLD-APPLIED JOINT SEAL	LF	4,700.00				

20	P-620-5.1a	SURFACE PREPARATION	SF	1,550.00				
21	P-620-5.1b	REFLECTORIZED PAVEMENT MARKING (YELLOW)	SF	700.00				
22	P-620-5.1c	NONREFLECTORIZED PAVEMENT MARKING (BLACK)	SF	850.00				
23	D-701-5.1	18-INCH DIAMETER REINFORCED CONCRETE PIPE (CLASS IV)	LF	104.00				
24	D-701-5.2	18-INCH FLARED END SECTION (CLASS IV)	EA	2.00				
25	D-705-5.1	4-INCH PERFORATED PVC UNDERDRAIN PIPE	LF	670.00				
26	D-705-5.2	4-INCH NON-PERFORATED PVC UNDERDRAIN OUTLET PIPE	LF	35.00				
27	D-705-5.3	PCC SLAB, FRAME, COVER FOR CLEANOUT ON PROPOSED UNDERDRAIN	EA	5.00				
28	D-705-5.4	SPLASH PAD FOR UNDERDRAIN OUTLET	EA	1.00				
29	D-705-5.5	CONNECT TO EXISTING UNDERDRAIN SYSTEM	EA	4.00				
30	D-705-5.6	CONNECT TO EXISTING STORM PIPE	EA	1.00				
31	D-751-5.1	5' X 5' AIRCRAFT RATED MANHOLE	EA	2.00				
32	T-901-5.1	SEEDING	AC	3.00				
33	T-904-5.1	SODDING	SY	240.00				
34	T-905-5.1	4-INCH TOPSOIL	SY	7,300.00				
35	T-908-5.1	MULCHING	AC	3.00				
36	L-108-5.1	TRENCHING FOR DIRECT-BURIED CABLE, 18-INCH MINIMUM DEPTH	LF	310.00				
37	L-108-5.2	NO. 8 AWG, 5 kV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK, OR CONDUIT	LF	1,240.00				
38	L-108-5.3	NO. 6 AWG, 600V CABLE, INSTALLED IN TRENCH, DUCT BANK, OR CONDUIT	LF	620.00				
39	L-108-5.4	TEMPORARY JUMPERS	LF	1,800.00				
40	L-108-5.5	CABLE MARKERS	EA	2.00				
41	L-110-5.1	CONCRETE ENCASED ELECTRICAL DUCT BANK, 3 WAY, 2-INCH	LF	230.00				
42	L-125-5.1	RELOCATED TAXIWAY EDGE LIGHT ON NEW BASE CAN WITH NEW ISOLATION TRANSFORMER	EA	1.00				
43	L-125-5.2	L-867 JUNCTION CAN	EA	1.00				

TOTAL BASE BID

(Numerical Format)..... $_____._____

TOTAL BASE BID

(Written Format)..... _____

Bid Alternate 1 (Apron Expansion To The South)

BID ITEM	FAA SPEC.	ITEM DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE		EXTENSION	
					DOLLARS	CTS	DOLLARS	CTS
1	C-102-5.1a	INSTALLATION AND REMOVAL OF SILT FENCE	LF	150.00				
2	C-102-5.1b	INSTALLATION AND REMOVAL OF COMPOST FILTER SOCK	EA	7.00				
3	P-101-5.1	PAVEMENT REMOVAL	SY	30.00				
4	P-101-5.4	INSTALLATION OF AIRCRAFT TIE DOWN IN RIGID PAVEMENT	EA	9.00				
5	P-152-4.1	UNCLASSIFIED EXCAVATION	CY	950.00				
6	P-152-4.2	UNSUITABLE EXCAVATION	CY	40.00				
7	P-155-8.1	12" LIME-TREATED SUBGRADE	SY	1,280.00				
8	P-155-8.2	LIME	TON	50.00				
9	P-209-5.1	CRUSHED AGGREGATE BASE COURSE (6")	SY	1,250.00				
10	P-501-8.1	CONCRETE PAVEMENT (6")	SY	1,050.00				
11	P-501-8.2	REINFORCED CONCRETE PAVEMENT (6")	SY	180.00				
12	P-605-5.1	COLD-APPLIED JOINT SEAL	LF	1,900.00				
13	P-620-5.1a	SURFACE PREPARATION	SF	140.00				
14	P-620-5.1b	REFLECTORIZED PAVEMENT MARKING (YELLOW)	SF	140.00				
15	T-901-5.1	SEEDING	AC	0.30				
16	T-904-5.1	SODDING	SY	110.00				
17	T-905-5.1	4-INCH TOPSOIL	SY	1,400.00				
18	T-908-5.1	MULCHING	AC	0.30				

TOTAL BID ALTERNATE 1
(Numerical Format)..... $_____.____

TOTAL BID ALTERNATE 1
(Written Format)..... _____

TOTAL BASE BID + BID ALTERNATE 1
(Numerical Format)..... $_____.____

TOTAL BASE BID + BID ALTERNATE 1
(Written Format)..... _____

"General Decision Number: MO20240001 05/24/2024

Superseded General Decision Number: MO20230001

State: Missouri

Construction Types: Heavy and Highway

Counties: Missouri Statewide.

HEAVY AND HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least $12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/05/2024
1	01/19/2024
2	02/23/2024

3	03/08/2024
4	04/19/2024
5	05/24/2024

CARP0002-002 05/01/2023

ST. LOUIS COUNTY AND CITY

	Rates	Fringes
Carpenters.....	$ 40.34	21.25

CARP0005-006 05/01/2023

CASS (Richards-Gebauer AFB ONLY), CLAY, JACKSON, PLATTE AND RAY COUNTIES

	Rates	Fringes
Carpenters:		
CARPENTERS & LATHERS.....	$ 43.28	21.25
MILLWRIGHTS & PILEDRIVERS...	$ 43.28	21.25

CARP0011-001 05/01/2023

	Rates	Fringes
Carpenter and Piledriver		
ADAIR, AUDRAIN (West of Hwy 19), BOONE, CALLAWAY, CHARITON, COLE, COOPER, HOWARD, KNOX,LINN, MACON, MILLER, MONITEAU,MONROE, OSAGE, PUTNAM, RANDOLPH, SCHUYLER, SHELBY AND SULLIVAN COUNTIES.....	$ 34.31	21.25
ATCHISON, ANDREW, BATES, CALDWELL, CARROLL,DAVIESS, DEKALB,GENTRY, GRUNDY, HARRISON, HENRY, HOLT, LIVINGSTON, MERCER, NODAWAY,ST. CLAIR, SALINE AND WORTH COUNTIES.....	$ 32.64	21.25
AUDRAIN (East of Hwy.19), RALLS, MARION, LEWIS, CLARK AND SCOTLAND COUNTIES.	$ 34.31	21.25
BARRY, BARTON, CAMDEN, CEDAR, CHRISTIAN, DADE, DALLAS, DOUGLAS, GREENE, HICKORY,JASPER, LACLEDE, LAWRENCE, MCDONALD, NEWTON, OZARK, POLK, STONE, TANEY, VERNON, WEBSTER AND WRIGHT COUNTIES.	$ 32.20	21.25
BENTON, MORGAN AND PETTIS...	$ 32.69	21.25
BOLLINGER, BUTLER, CAPE GIRARDEAU, DUNKLIN, MISSISSIPPI, NEW MADRID, PEMISCOT, PERRY, STE. GENEVIEVE, SCOTT, STODDARD AND WAYNE COUNTIES.....	$ 34.15	21.25
BUCHANAN, CLINTON, JOHNSON AND LAFAYETTE COUNTIES.....	$ 33.43	21.25
CARTER, HOWELL, OREGON AND		

RIPLEY COUNTIES	$ 32.99	21.25
CRAWFORD, DENT, GASCONADE, IRON, MADISON, MARIES, MONTGOMERY, PHELPS, PULASKI, REYNOLDS, SHANNON AND TEXAS COUNTIES	$ 34.14	21.25
FRANKLIN COUNTY	$ 37.93	21.25
JEFFERSON AND ST. CHARLES COUNTIES	$ 40.34	21.25
LINCOLN COUNTY	$ 36.21	21.25
PIKE, ST. FRANCOIS AND WASHINGTON COUNTIES	$ 35.01	21.25
WARREN COUNTY	$ 36.69	21.25

ELEC0001-002 07/17/2022

BOLLINGER, BUTLER, CAPE GIRARDEAU, CARTER, DUNKLIN, FRANKLIN, IRON, JEFFERSON, LINCOLN, MADISON, MISSISSIPPI, NEW MADRID, PEMISCOT, PERRY,REYNOLDS, RIPLEY, ST. CHARLES, ST. FRANCOIS, ST. LOUIS (City and County), STE. GENEVIEVE, SCOTT, STODDARD, WARREN, WASHINGTON AND WAYNE COUNTIES

	Rates	Fringes
Electricians	$ 43.56	29.10

ELEC0002-001 09/04/2022

ADAIR, AUDRAIN, BOONE, CALLAWAY, CAMDEN, CARTER, CHARITON, CLARK, COLE, COOPER, CRAWFORD, DENT, FRANKLIN, GASCONADE, HOWARD, HOWELL, IRON, JEFFERSON, KNOX, LEWIS, LINCON, LINN, MACON, MARIES, MARION, MILLER, MONITEAU, MONROE, MONTGOMERY, MORGAN, OREGON, OSAGE, PERRY, PHELPS, PIKE, PULASKI, PUTNAM, RALLS, RANDOLPH, REYNOLDS, RIPLEY, ST. CHARLES, ST. FRANCOIS, ST. LOUIS (City and County), STE. GENEVIEVE, SCHUYLER, SCOTLAND, SHANNON, SHELBY, SULLIVAN, TEXAS, WARREN AND WASHINGTON COUNTIES

	Rates	Fringes
Line Construction:		
Equipment Operator	$ 44.16	23.14
Groundman & Truck Driver	$ 33.74	19.34
Lineman & Cable Splicer	$ 51.45	25.81

ELEC0053-004 01/01/2024

	Rates	Fringes
Line Construction: (ANDREW, ATCHINSON, BARRY, BARTON, BUCHANAN, CALDWELL, CEDAR, CHRISTIAN, CLINTON, DADE, DALLAS, DAVIES,, DEKALB, DOUGLAS, GENTRY, GREENE, GRUNDY, HARRISON, HICKORY, HOLT, JASPER, LACLEDE, LAWRENCE, LIVINGSTON, MCDONALD, MERCER, NEWTON, NODAWAY, OZARK, POLK, ST. CLAIR, STONE, TANEY, VERNON, WEBSTER, WORTH AND WRIGHT COUNTIES)		

Groundman Powderman	$ 35.71	1.5%+9.04
Groundman	$ 32.32	1.5%+18.25
Lineman Operator	$ 48.73	1.5%+23.33
Lineman	$ 54.02	1.5%+25.08
Line Construction; (BATES, BENTON, CARROLL, CASS, CLAY, HENRY, JACKSON, JOHNSON, LAFAYETTE, PETTIS, PLATTE, RAY AND SALINE COUNTIES)		
Groundman Powderman	$ 33.58	18.34
Groundman	$ 31.33	17.60
Lineman Operator	$ 45.60	22.48
Lineman	$ 50.31	24.11

ELEC0095-001 09/01/2023

BARRY, BARTON, CEDAR, DADE, JASPER, LAWRENCE, MCDONALD, NEWTON, ST CLAIR, AND VERNON COUNTIES

	Rates	Fringes
Electricians:		
Cable Splicers	$ 25.40	12.19
Electricians	$ 30.20	16.56

ELEC0124-007 08/28/2023

BATES, BENTON, CARROLL, CASS, CLAY, COOPER, HENRY, JACKSON, JOHNSON, LAFAYETTE, MORGAN, PETTIS, PLATTE, RAY AND SALINE COUNTIES:

	Rates	Fringes
Electricians	$ 47.37	25.89

ELEC0257-003 03/01/2024

AUDRAIN (Except Cuivre Township), BOONE, CALLAWAY, CAMDEN, CHARITON, COLE, CRAWFORD, DENT, GASCONADE, HOWARD, MARIES, MILLER, MONITEAU, OSAGE, PHELPS AND RANDOLPH COUNTIES

	Rates	Fringes
Electricians:		
Cable Splicers	$ 30.42	16.085
Electricians	$ 38.50	17.515

ELEC0350-002 12/01/2023

ADAIR, AUDRAIN (East of Highway 19), CLARK, KNOX, LEWIS, LINN, MACON, MARION, MONROE, MONTGOMERY, PIKE, PUTNAM, RALLS, SCHUYLER, SCOTLAND, SHELBY AND SULLIVAN COUNTIES

	Rates	Fringes
Electricians	$ 36.60	20.96

ELEC0453-001 09/01/2023

	Rates	Fringes

Electricians:
CHRISITAN, DALLAS,
DOUGLAS, GREENE, HICKORY,
HOWELL, LACLEDE, OREGON,
OZARK, POLK, SHANNON,
WEBSTER and WRIGHT COUNTIES.$ 36.08 17.91
PULASKI and TEXAS COUNTIES..$ 36.08 17.91
STONE and TANEY COUNTIES....$ 26.62 17.11

ELEC0545-003 06/01/2023

ANDREW, BUCHANAN, CLINTON, DEKALB, ATCHISON, HOLT, MERCER, GENTRY, HARRISON, DAVIESS, GRUNDY, WORTH, LIVINGSTON, NODAWAY, AND CALDWELL COUNTIES

	Rates	Fringes
Electricians:.....$	36.75	20.40

ELEC0702-004 01/01/2024

BOLLINGER, BUTLER, CAPE GIRARDEAU, DUNKLIN, MADISON, MISSISSIPPI, NEW MADRID, PEMISCOT, SCOTT, STODDARD AND WAYNE COUNTIES

	Rates	Fringes
Line Construction:		
Groundman - Class A.....$	36.89	30%+8.60
Groundman-Equipment Operator Class II (all other equipment).....$	44.92	30%+8.60
Heavy-Equipment Operator Class I (all crawler type equipment D-4 and larger)...$	50.37	30%+8.60
Lineman.....$	63.30	30%+8.60

ENGI0101-001 05/01/2020

ANDREW, ATCHISON, BATES, BENTON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, COOPER, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HENRY, HOLT, HOWARD, JOHNSON, LAFAYETTE, LINN, LIVINGSTON, MERCER, NODAWAY, PETTIS, SALINE, SULLIVAN AND WORTH COUNITES

	Rates	Fringes
Power equipment operators:		
GROUP 1.....$	34.73	18.20
GROUP 2.....$	34.33	18.20
GROUP 3.....$	32.33	18.20

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Asphalt roller operator, finish; asphalt paver and spreader; asphalt plant operator; auto grader or trimmer or sub-grader; backhoe; blade operator (all types); boilers - 2; booster pump on dredge; bulldozer operator; boring machine (truck or crane mounted); clamshell operator; concrete mixer paver; concrete plant operator; concrete pump operator; crane operator; derrick or derrick trucks; ditching machine; dragline operator; dredge engineman;

dredge operator; drill cat with compressor mounted (self-contained) or similar type self- propelled rotary drill (not air tract); drilling or boring machine (rotary-self-propelled); finishing machine operator; greaser; high loader-fork lift-skid loader (all types); hoisting engineer (2 active drums); locomotive operator (standard guage); mechanics and welders (field and plants); mucking machine operator; pile drive operator; pitman crane or boom truck (all types); push cat; quad track; scraper operators (all types); shovel operator; sideboom cats; side discharge spreader; skimmer scoop operators; slip form paver operator (CMI, Rex, Gomeco or equal); la tourneau rooter (all tiller types); tow boat operator; truck crane; wood and log chippers (all types).

GROUP 2: A-frame truck operator; articulated dump truck; back filler operator; boilers (1); chip spreader; churn drill operator; compressor; concrete mixer operator, skip loader; concrete saws (self-propelled); conveyor operator; crusher operator; distributor operator; elevating grader operator; farm tractor (all attachments); fireman rig; float operator; form grade operator; hoisting engine (one drum); maintenance operator; multiple compactor; pavement breaker, self-propelled hydra-hammer (or similar type); paymill operator; power shield; pumps; roller operator (with or without blades); screening and washing plant; self-propelled street broom or sweeper; siphons and jets; straw blower; stump cutting machine; siphons and jets; tank car heater operator (combination boiler and booster); welding machine; vibrating machine operator (not hand held); welding machine.

GROUP 3: (a) Oiler;
(b) Oiiler driver
(c) Mechanic.

HOURLY PREMIUMS:
THE FOLLOWING CLASSIFICATIONS SHALL RECEIVE ($ .25) ABOVE GROUP 1 RATE: Dragline operator - 3 yds. & over; shovel 3 yds. & over; clamshell 3 yds. & over; Crane, rigs or piledrivers, 100' of boom or over (incl. jib.), hoist - each additional active drum over 2 drums

THE FOLLOWING CLASSIFICATIONS SHALL RECEIVE ($ .50) ABOVE GROUP 1 RATE: Tandem scoop operator; crane, rigs or piledrivers 150' to 200' of boom (incl. jib.)

THE FOLLOWING CLASSIFICATIONS SHALL RECEIVE ($ .75) ABOVE GROUP 1 RATE: Crane rigs, or piledrivers 200 ft. of boom or over (including jib.)

ENGI0101-005 04/01/2022

CASS, CLAY, JACKSON,PLATTE AND RAY COUNTIES

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 38.42	20.44
GROUP 2	$ 37.38	20.44
GROUP 3	$ 32.91	20.44
GROUP 4	$ 36.26	20.44

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Asphalt roller operator, finish; asphalt paver and spreader; asphalt plant operator; auto grader or trimmer or sub-grader; backhoe; blade operator (all types); boilers-2; booster pump on dredge; boring machine (truck or crane mounted); bulldozer operator; clamshell operator; concrete cleaning decontamination machine operator; concrete mixer paver; concrete plant operator; concrete pump operator; crane operator; derrick or derrick trucks; ditching machine; dragline operator; dredge engineman; dredge operator; drillcat with compressor mounted (self-contained) or similar type self propelled rotary drill (not air tract); drilling or boring machine (rotary - self-propelled); finishing machine operator; greaser; heavy equipment robotics operator/mechanic; horizontal directional drill operator; horizontal directional drill locator; loader-forklift - skid loader (all types); hoisting engineer (2 active drums); locomotive operator (standard guage); master environmental maintenance mechanic; mechanics and welders (field and plants); mucking machine operator; piledrive operator; pitman crane or boom truck (all types); push cat; quad-track; scraper operators (all types); shovel operator; side discharge spreader; sideboom cats; skimmer scoop operator; slip-form paver (CMI, REX, Gomaco or equal); la tourneau rooter (all tiller types); tow boat operator; truck crane; ultra high perssure waterjet cutting tool system operator/mechanic; vacuum blasting machine operator/mechanic; wood and log chippers (all types)

GROUP 2: ""A"" Frame truck operator; back filler operator; boilers (1); chip spreader;churn drill operator; concrete mixer operator, skip loader; concrete saws (self-propelled); conveyor operator; crusher operator; distributor operator; elevating grader operator; farm tractor (all attachments); fireman rig; float operator; form grader operator; hoisting engine (1 drum); maintenance operator; multiple compactor; pavement breaker, self-propelled hydra- hammer (or similar type); power shield; paymill operator; pumps; siphons and jets; stump cutting machine; tank car heater operator (combination boiler and booster); compressor; roller operator (with or without blades); screening and washing plant; self-propelled street broom or sweeper; straw blower; tank car heater operator (combination boiler and booster); vibrating machine operator (not hand held)

GROUP 3: Oilers

GROUP 4: Oiler Driver (All Types)

FOOTNOTE:
HOURLY PREMIUMS FOLLOWING CLASSIFICATIONS SHALL RECEIVE ($1.00) ABOVE GROUP 1 RATE:
Clamshells - 3 yd. capacity or over; Cranes or rigs, 80 ft. of boom or over (including jib); Draglines, 3 yd. capacity or over;
Piledrivers 80 ft. of boom or over (including jib);
Shovels & backhoes, 3 yd. capacity or over.

ENGI0101-022 05/01/2019

BARRY, BARTON, CAMDEN, CEDAR, CHRISTIAN, DADE, DALLAS, DOUGLAS, GREENE, HICKORY, JASPER, LACLEDE, LAWRENCE, MCDONALD, NEWTON,

OZARK, POLK, ST. CLAIR, STONE, TANEY, VERNON, WEBSTER AND
WRIGHT COUNTIES and CITY OF SPRINGFIELD

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 31.72	14.88
GROUP 2	$ 31.37	14.88
GROUP 3	$ 31.17	14.88
GROUP 4	$ 29.12	14.88

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Asphalt finishing machine & trench widening spreader; asphalt plant console operator; autograder; automatic slipform paver; backhoe; blade operator - all types; boat operator - tow; boilers-2; central mix concrete plant operator; clamshell operator; concrete mixer paver; crane operator; derrick or derrick trucks; ditching machine; dozer operator; dragline operator; dredge booster pump; dredge engineman; dredge operator; drill cat with compressor mounted on cat; drilling or boring machine rotary self-propelled; highloader; hoisting engine - 2 active drums; launch hammer wheel; locomotive operator; - standard guage; mechanic and welders; mucking machine; off-road trucks; piledriver operator; pitman crane operator; push cat operator; quad trac; scoop operator - all types; shovel operator; sideboom cats; skimmer scoop operators; trenching machine operator; truck crane.

GROUP 2: A-frame; asphalt hot-mix silo; asphalt plant fireman (drum or boiler); asphalt plant man; asphalt plant man; asphalt plant mixer operator; asphalt roller operator; backfiller operator; barber-greene loader; boat operator (bridges and dams); chip spreader; concrete mixer operator - skip loader; concrete plant operator; concrete pump operator; crusher operator; dredge oiler; elevating grader operator; fork lift; greaser-fleet; hoisting engine - 1; locomotive operator - narrow gauge; multiple compactor; pavement breaker; powerbroom - self-propelled; power shield; rooter; side discharge concrete spreader; slip form finishing machine; stumpcutter machine; throttle man; tractor operator (over 50 h.p.); winch truck.

GROUP 3: Boilers - 1; chip spreader (front man); churn drill operator; clef plane operator; concrete saw operator (self-propelled); curb finishing machine; distributor operator; finishing machine operator; flex plane operator; float operator; form grader operator; pugmill operator; roller operator, other than high type asphalt; screening & washing plant operator; siphons & jets; sub-grading machine operator; spreader box operator, self-propelled (not asphalt); tank car heater operator (combination boiler & booster); tractor operator (50 h.p. or less); Ulmac, Ulric or similar spreader; vibrating machine operator, not hand;

GROUP 4: Grade checker; Oiler; Oiler-Driver

HOURLY PREMIUMS:

The following classifications shall receive $ .25 above GROUP 1 rate:
Clamshells - 3 yds. or over; Cranes - Rigs or Piledrivers, 100 ft. of boom or over (including jib);

Draglines - 3 yds. or over; Hoists - each additional active drum over 2 drums; Shovels - 3 yds. or over;

The following classifications shall receive $ .50 above GROUP 1 rate:
Tandem scoop operator; Cranes - Rigs or Piledrivers, 150 ft. to 200 ft. of boom (including jib); Tandem scoop.

The following classifications shall receive $ .75 above GROUP 1 rate:
Cranes - Rigs or Piledrivers, 200 ft. of boom or over (including jib.).

ENGI0513-004 05/03/2023

FRANKLIN, JEFFERSON, LINCOLN, ST CHARLES, AND WARREN COUNTIES

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 41.01	29.63
GROUP 2	$ 41.01	29.63
GROUP 3	$ 39.71	29.63
GROUP 4	$ 39.26	29.63

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Backhoe, Cable; Backhoe, Hydraulic (2 cu yds bucket and under regardless of attachment, one oiler for 2 or 3, two oilers for 4 through 6); Backhoe, Hydraulic over 2 cu yds; Cableway; Crane, Crawler or Truck; Crane, Hydraulic - Truck or Cruiser mounted, 16 tons and over; Crane, Locomotive; crane with boom including jib over 100 ft from pin to pin; Crane using rock socket tool; Derrick, Steam; Derrick Car and Derrick Boat; Dragline, 7 cu yds and over; Dredge; Gradall, Crawler or tire mounted; Locomotive, Gas, Steam & other powers; Pile Driver, Land or Floating; Scoop, Skimmer; Shovel, Power (Electric, Gas, Steam or other powers); Shovel, Power (7 cu yds and over); Switch Boat; Whirley; Air Tugger with air compressor; Anchor Placing Barge; Asphalt Spreaker; Athey Force Feeder Loader, self-propelled; Backfilling Machine; Boat Operator - Push Boat or Tow Boat (job site); Boiler, High Pressure Breaking in Period; Boom Truck, Placing or Erecting; Boring Machine, Footing Foundation; Bullfloat; Cherry Picker; Combination Concrete Hoist and Mixer (such as Mixermobile); Compressor, Two 125 CFM and under; Compressor, Two through Four over 125 CFM; Compressor when operator runs throttle; Concrete Breaker (Truck or Tractor mounted); Concrete Pump (such as Pumpcrete machine); Concrete Saw (self-propelled); Concrete Spreader; Conveyor, Large (not selfpropelled) hoisting or moving brick and concrete into, or into and on floor level, one or both; Crane, Cimbing (such as Linden); Crane, Hydraulic - Rough Terrain, self-propelled; Crane, Hydraulic - Truck or Cruiser mounted - under 16 tons; Drilling machine - Self-powered, used for earth or rock drilling or boring (wagon drills and any hand drills obtaining power from other souces including concrete breakers, jackhammers and Barco equipmnet no engineer required); Elevating Grader; Engine Man, Dredge; Excavator or Powerbelt Machine; Finishing Machine, self- propelled oscillating screed; Forklift; Generators, Two through Six 30 KW or over; Grader, Road with power blade; Greaser; Highlift; Hoist, Concrete and Brick (Brick cages or concrete skips operating

or on tower, Towermobile, or similar equipment); Hoist, Three or more drums in use; Hoist, Stack; Hydro-Hammer; Lad-A-Vator, hoisting brick or concrete; Loading Machine such as Barber-Greene; Mechanic on job site

GROUP 2: Air Tugger with plant air; Boiler (for power or heating shell of building or temporary enclosures in connection with construction work); Boiler, Temporary; Compressor, One over 125 CFM; Compressor, truck mounted; Conveyor, Large (not self- propelled); Conveyor, Large (not self- propelled) moving brick and concrete (distributing) on floor level; Curb Finishing Machine; Ditch Paving Machine; Elevator (outside); Endless Chain Hoist; Fireman (as required); Form Grader; Hoist, One Drum regardless of size (except brick or concrete); Lad-A-Vator, other hoisting; Manlift; Mixer, Asphalt, over 8 cu ft capacity; Mixer, one bag capacity or less; Mixer, without side loader, two bag capacity or more; Mixer, with side loader, regardless of size, not Paver; Mud Jack (where mud jack is used in conjenction with an air compressor, operator shall be paid $ .55 per hour in addition to his basic hourly rate for covering both operations); Pug Mill operator; Pump, Sump - self powered, automatic controlled over 2""; Scissor Lift (used for hoisting); Skid Steer Loader; Sweeper, Street; Tractor, small wheel type 50 HP and under with grader blade and similar equipment; Welding Machine, One over 400 amp; Winch, operating from truck

GROUP 3: Boat operator - outboard motor, job site; Conveyors (such as Con-Vay-It) regardless of how used; Elevator (inside); Heater operator, 2 through 6; Sweeper, Floor

GROUP 4: Crane type

HOURLY PREMIUMS:

Backhoe, Hydraulic 2 cu yds or less without oiler - $2.00;
Crane,climbing (such as Linden) - $.50;
Crane, Pile Driving and Extracting - $ .50
Crane with boom (including job) over
100 ft from pin to pin - add $.01 per foot
to maximum of $4.00);
Crane, using rock socket tool - $ .50;
Derrick, diesel, gas or electric hoisting material
and erecting steel (150 ft or more above ground) - $ .50;
Dragline, 7 cu yds and over - $ .50;
Hoist, Three or more drums in use - $ .50;
Scoop, Tandem - $.50;
Shovel, Power - 7 cu yds and over - $ .50;
Tractor, Tandem Crawler - $ .50;
Tunnel, man assigned to work in tunnel or
tunnel shaft - $ .50;
Wrecking, when machines are working on
second floor or higher - $ .50

ENGI0513-006 05/01/2022

ADAIR, AUDRAIN, BOLLINGER, BOONE, BUTLER, CALLAWAY, CAPE GIRARDEAU, CARTER, CLARK, COLE, CRAWFORD, DENT, DUNKLIN, GASCONADE, HOWELL, IRON, KNOX, LEWIS, MACON, MADISON, MARIES, MARION, MILLER, MISSISSIPPI, MONITEAU, MONROE, MONTGOMERY, MORGAN, NEW MADRID, OREGON, OSAGE, PEMISCOT, PERRY, PHELPS, PIKE, PULASKI, PUTNAM, RALLS, RANDOLPH, REYNOLDS, RIPLEY, ST. FRANCOIS, STE. GENEVIEVE, SCHUYLER, SCOTLAND, SCOTT, SHANNON,

SHELBY, STODDARD, TEXAS, WASHINGTON, AND WAYNE COUNTIES

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 33.24	28.75
GROUP 2	$ 32.89	28.75
GROUP 3	$ 32.69	28.75
GROUP 4	$ 29.04	28.75

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Asphalt finishing machine & trench widening spreader, asphalt plant console operator; autograder; automatic slipform paver; back hoe; blade operator - all types; boat operator tow; boiler two; central mix concrete plant operator; clam shell operator; concrete mixer paver; crane operator; derrick or derrick trucks; ditching machine; dozer operator; dragline operator; dredge booster pump; dredge engineman; dredge operator; drill cat with compressor mounted on cat; drilling or boring machine rotary self-propelled; highloader; hoisting engine 2 active drums; launchhammer wheel; locomotive operator standrad guage; mechanics and welders; mucking machine; piledriver operator; pitman crane operator; push cat operator; guad-trac; scoop operator; sideboom cats; skimmer scoop operator; trenching machine operator; truck crane, shovel operator.

GROUP 2: A-Frame; asphalt hot-mix silo; asphalt roller operator asphalt plant fireman (drum or boiler); asphalt plant man; asphalt plant mixer operator; backfiller operator; barber-greene loader; boat operator (bridge & dams); chip spreader; concrete mixer operator skip loader; concrete plant operator; concrete pump operator; dredge oiler; elevating graded operator; fork lift; grease fleet; hoisting engine one; locomotive operator narrow guage; multiple compactor; pavement breaker; powerbroom self-propelled; power shield; rooter; slip-form finishing machine; stumpcutter machine; side discharge concrete spreader; throttleman; tractor operator (over 50 hp); winch truck; asphalt roller operator; crusher operator.

GROUP 3: Spreader box operator, self-propelled not asphalt; tractor operator (50 h.p. or less); boilers one; chip spreader (front man); churn drill operator; compressor over 105 CFM 2-3 pumps 4"" & over; 2-3 light plant 7.5 KWA or any combination thereof; clef plane operator; compressor maintenance operator 2 or 3; concrete saw operator (self-propelled); curb finishing mancine; distributor operator; finishing machine operator; flex plane operator; float operator; form grader operator; pugmill operator; riller operator other than high type asphalt; screening & washing plant operator; siphons & jets; subgrading machine operator; tank car heater (combination boiler & booster); ulmac, ulric or similar spreader; vibrating machine operator; hydrobroom.

GROUP 4: Oiler; grout machine; oiler driver; compressor over 105 CFM one; conveyor operator one; maintenance operator; pump 4"" & over one.

FOOTNOTE: HOURLY PREMIUMS

Backhoe hydraulic, 2 cu. yds. or under Without oiler - $2.00
Certified Crane Operator - $1.50;
Certified Hazardous Material Operator $1.50;
Crane, climbing (such as Linden) - $0.50;
Crane, pile driving and extracting - $0.50;
  Crane, with boom (including jib) over 100' from pin to pin
  add $0.01 per foot to maximum of $4.00;
Crane, using rock socket tool - $0.50;
  Derrick, diesel, gas or electric, hoisting material and
  erecting steel (150' or more above the ground) - $0.50;
Dragline, 7 cu. yds, and over - $0.50;
  Hoist, three or more drums in use - $0.50; Scoop, Tandem -
  $0.50;
Shovel, power - 7 cu. yds. or more - $0.50;
Tractor, tandem crawler - $0.50;
  Tunnel, man assigned to work in tunnel or tunnel shaft -
  $0.50;
  Wrecking, when machine is working on second floor or higher -
  $0.50;

ENGI0513-007 05/03/2023

ST. LOUIS CITY AND COUNTY

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 41.01	29.63
GROUP 2	$ 41.01	29.63
GROUP 3	$ 39.71	29.63
GROUP 4	$ 39.26	29.63

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

  GROUP 1: Backhoe, cable or hydraulic; cableway; crane
  crawler or truck; crane, hydraulic-truck or cruiser mounted
  16 tons & over; crane locomotive; derrick, steam; derrick
  car & derrick boat; dragline; dredge; gradall, crawler or
  tire mounted; locomotive, gas, steam & other powers; pile
  driver, land or floating; scoop, skimmer; shovel, power
  (steam, gas, electric or other powers); switch boat;
  whirley.

  GROUP 2: Air tugger w/air compressor; anchor-placing barge;
  asphalt spreader; athey force feeder loader (self-
  propelled); backfilling machine; backhoe-loader; boat
  operator-push boat or tow boat (job site); boiler, high
  pressure breaking in period; boom truck, placing or
  erecting; boring machine, footing foundation; bull- float;
  cherry picker; combination concrete hoist & mixer (such as
  mixer mobile); compressor (when operator runs throttle);
  concrete breaker (truck or tractor mounted); concrete pump,
  such as pump-crete machine; concrete saw (self-propelled),
  concrete spreader; conveyor, large (not self-propelled),
  hoisting or moving brick and concrete into, or into and on
  floor level, one or both; crane, hydraulic-rough terrain,
  self-propelled; crane hydraulic-truck or cruiser
  mounted-under 16 tons; drilling machines, self-powered use
  for earth or rock drilling or boring (wagon drills nd any
  hand drills obtaining power from other sources including
  concrete breakers, jackhammers and barco equipment-no
  engineer required); elevating grader; engineman, dredge;
  excavator or powerbelt machine; finishing machine,
  self-propelled oscillating screed; forklift; grader, road

with power blade; highlift. greaser; hoist, stack, hydro-hammer; loading machine (such as barber-greene); machanic, on job site; mixer, pipe wrapping machines; plant asphalt; plant, concrete producing or ready-mix job site; plant heating-job site; plant mixing-job site; plant power, generating-job site; pumps, two through six self-powered over 2""; pumps, electric submersible, two through six, over 4""; quad-track; roller, asphalt, top or sub-grade; scoop, tractor drawn; spreader box; sub-grader; tie tamper; tractor-crawler, or wheel type with or without power unit, power take-offs and attachments regardless of size; trenching machine; tunnel boring machine; vibrating machine automatic, automatic propelled; welding machines (gasoline or diesel) two through six; well drilling machine

GROUP 3: Conveyor, large (not self-propelled); conveyor, large (not self-propelled) moving brick and concrete distributing) on floor level; mixer two or more mixers of one bag capacity or less; air tugger w/plant air; boiler, for power or heating on construction projects; boiler, temporary; compressor (mounted on truck; curb finishing machine; ditch paving machine; elevator; endless chain hoist; form grader; hoist, one drum regardless of size; lad-a-vator; manlift; mixer, asphalt, over 8 cu. ft. capacity, without side loader, 2 bag capacity or more; mixer, with side loader, regardless of size; pug mill operator; pump, sump-self-powered, automatic controlled over 2"" during use in connection with construction work; sweeper, street; welding machine, one over 400 amp.; winch operating from truck; scissor lift (used for hoisting); tractor, small wheel type 50 h.p. & under with grader blade & similar equipment; Oiler on dredge and on truck crane.

GROUP 4: Boat operator-outboard motor (job site); conveyor (such as con-vay-it) regardless of how used; sweeper, floor

HOURLY PREMIUMS:

Backhoe, hydraulic 2 cu. yds. or under without oiler	$2.00
Certified Crane Operator	1.50
Certified Hazardous Material Operator	1.50
Crane, climbing (such as Linden)	.50
Crane, pile driving and extracting	.50
Crane, with boom (including jib) over 100' (from pin to pin) add $.01 per foot to maximum of	4.00
Crane, using rock socket tool	.50
Derrick, diesel, gas or electric, hoisting material and erecting steel (150' or more above ground)	.50
Dragline, 7 cu. yds. and over	.50
Hoist, three (3) or more drums in use	.50
Scoop, Tandem	.50
Shovel, power - 7 cu. yds. or more	.50
Tractor, tandem crawler	.50
Tunnel, man assigned to work in tunnel or tunnel shaft	.50
Wrecking, when machine is working on second floor or higher	.50

IRON0010-012 04/01/2024

	Rates	Fringes

Ironworkers:
ANDREW, BARTON, BENTON,
CAMDEN, CEDAR, CHARITON,
CHRISTIAN, COOPER, DADE,
DALLAS, DAVIESS, DE KALB,
GENTRY, GREENE, GRUNDY,
HARRISON, HICKORY, HOLT,
HOWARD, LACLEDE, LINN,
LIVINGSTON, MERCER,
MONITEAU, MORGAN, NODAWAY,
PETTIS, POLK, PUTNAM,
RANDLOPH, ST. CLAIR,
SULLIVAN, TANEY, VERNON,
WEBSTER, WRIGHT and WORTH
Counties and portions of
ADAIR, BOONE, MACON,
MILLER and RANDOLPH
Counties.....$ 35.00 33.56
ATCHISON, BATES, BUCHANAN,
CALDWELL, CARROLL, CASS,
CLAY, CLINTON, HENRY,
JACKSON, JOHNSON,
LAFAYETTE, PETTIS, PLATTE,
SALINE, AND RAY COUNTIES....$ 38.00 33.56

IRON0321-002 08/01/2023

DOUGLAS, HOWELL and OZARK COUNTIES

	Rates	Fringes
Ironworker	$ 27.00	20.96

IRON0396-004 08/02/2023

ST. LOUIS (City and County), ST. CHARLES, JEFFERSON, IRON, FRANKLIN, LINCOLN, WARREN, WASHINGTON, ST. FRANCOIS, STE. GENEVIEVE, and REYNOLDS Counties; and portions of MADISON, PERRY, BOLLINGER, WAYNE, and CARTER Counties

	Rates	Fringes
Ironworker	$ 40.37	30.55

IRON0396-009 08/02/2023

AUDRAIN, CALLAWAY, COLE, CRAWFORD, DENT, GASCONADE, MARIES, MONTGOMERY, OSAGE, PHELPS, PIKE, PULASKI, TEXAS and WRIGHT Counties; and portions of BOONE, CAMDEN, DOUGLAS, HOWELL, LACLEDE, MILLER, MONROE, OREGON, SHANNON and RALLS Counties

	Rates	Fringes
Ironworker	$ 40.37	30.55

IRON0577-005 06/01/2023

ADAIR, CLARK, KNOX, LEWIS, MACON, MARION, MONROE, RALLS, SCHUYLER, SCOTLAND, AND SHELBY COUNTIES

	Rates	Fringes

Ironworker.....$ 31.55 25.05

IRON0584-004 06/01/2023

BARRY, JASPER, LAWRENCE, MCDONALD, NEWTON AND STONE Counties

	Rates	Fringes
Ironworkers:	$ 29.00	16.20

IRON0782-003 08/01/2023

CAPE GIRARDEAU, MISSISSIPPI, NEW MADRID, SCOTT, & STODDARD Counties; and portions of BOLLINGER, BUTLER, CARTER, DUNKLIN, MADISON, PEMISCOT, PERRY, RIPLEY, and WAYNE Counties

	Rates	Fringes
Ironworkers:		
Locks, Dams, Bridges and other major work on the Mississippi and Ohio River only	$ 38.77	29.51
All Other Work	$ 33.47	24.12

LABO0042-003 03/01/2023

ST. LOUIS (City and County)

	Rates	Fringes
LABORER		
Plumber Laborer	$ 36.65	17.12

LABO0042-005 03/01/2023

ST. LOUIS (City and County)

	Rates	Fringes
LABORER		
Dynamiter, Powderman	$ 36.65	17.12
Laborers, Flaggers	$ 36.65	17.12
Wrecking	$ 36.65	17.12

LABO0110-005 05/01/2023

Jefferson and Washington Counties

	Rates	Fringes
LABORER (Jefferson County)		
GROUP 1	$ 35.49	15.62
GROUP 2	$ 36.09	15.62
LABORER (Washington County)		
GROUP 1	$ 32.98	15.62
GROUP 2	$ 32.98	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders; salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggie man;

material batch hopper man; spreader on asphalt machine; material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzleman; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cabelee tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutement and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men or brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft. high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

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LABO0579-005 05/01/2023

	Rates	Fringes
LABORER (ANDREW, ATCHISON, BUCHANAN, CALDWELL, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LIVINGSTON, MERCER, NODAWAY and WORTH COUNTIES.)		
GROUP 1	$ 29.04	16.59
GROUP 2	$ 29.39	16.59
LABORER (BARRY, BARTON, BATES, BENTON, CAMDEN, CARROLL, CEDAR, CHRISTIAN, DADE, DALLAS, DOUGLAS, GREENE, HENRY. HICKORY, JASPER, JOHNSON, LACLEDE, LAWRENCE, MCDONALD, MORGAN, NEWTON, OZARK, PETTIS, POLK, ST.CLAIR, SALINE, STONE, TANEY, VERNON, WEBSTER and		

WRIGHT COUNTIES)

GROUP 1	$ 28.23	15.60
GROUP 2	$ 28.78	15.60

LABORER (LAFAYETTE COUNTY)

GROUP 1	$ 29.78	15.85
GROUP 2	$ 30.13	15.85

LABORERS CLASSIFICATIONS

GROUP 1: General Laborers - Carpenter tenders; salamander tenders; loading trucks under bins; hoppers & conveyors; track men & all other general laborers; air tool operator; cement handler-bulk or sack; dump man on earth fill; georgie buggie man; material batch hopper man; material mixer man (except on manholes); coffer dams; riprap pavers - rock, block or brick; signal man; scaffolds over ten feet not self-supported from ground up; skipman on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoline, oil drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator, all work in connection with hydraulic or general dredging operations; puddlers (paving only); straw blower nozzleman; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material or materials (where special protection is required); rubbing concrete; topper of standing trees; batter board man on pipe and ditch work; feeder man on wood pulverizers; board and willow mat weavers and cable tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 feet where compressed air is not used; abutment and pier hole men working six (6) feet or more below ground; men working in coffer dams for bridge piers and footings in the river; ditchliners; pressure groutmen; caulker; chain or concrete saw; cliffscalers working from scaffolds, bosuns' chairs or platforms on dams or power plants over (10) feet above ground; mortarmen on brick or block manholes; toxic and hazardous waste work.

GROUP 2: Skilled Laborers - Head pipe layer on sewer work; laser beam man; Jackson or any other similar tamp; cutting torch man; form setters; liners and stringline men on concrete paving, curb, gutters; hot mastic kettleman; hot tar applicator; sandblasting and gunite nozzlemen; air tool operator in tunnels; screed man on asphalt machine; asphalt raker; barco tamper; churn drills; air track drills and all similar drills; vibrator man; stringline man for electronic grade control; manhole builders-brick or block; dynamite and powder men; grade checker.

LABO0660-004 05/01/2023

Clark, Knox, Lewis, Marion, Pike, Ralls, Scotland, Shelby Counties

	Rates	Fringes
LABORER		
GROUP 1	$ 32.98	15.62
GROUP 2	$ 32.98	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders; salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggie man; material batch hopper man; spreader on asphalt machine; material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzleman; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cabelee tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutement and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men or brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft. high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

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LABO0660-006 03/01/2023

Lincoln, Montgomery, St Charles and Warren Counties

	Rates	Fringes
LABORER (Common or General).....	$ 36.91	15.62

LABO0662-001 05/01/2023

Callaway, Cole, Miller and Moniteau Counties

	Rates	Fringes
LABORER		
GROUP 1.....	$ 32.98	15.62
GROUP 2.....	$ 32.98	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders; salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggie man; material batch hopper man; spreader on asphalt machine; material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzleman; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cabelee tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutement and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men or brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft. high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

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* LABO0663-002 04/01/2024

CASS, CLAY, JACKSON, PLATTE AND RAY COUNTIES

	Rates	Fringes
LABORER		
GROUP 1	$ 35.24	15.57
GROUP 2	$ 36.45	15.57

LABORERS CLASSIFICATIONS

GROUP 1: General laborers, Carpenter tenders, salamander tenders, loading trucks under bins, hoppers and conveyors, track men and all other general laborers, air tool

operator, cement handler (bulk or sack), chain or concrete saw, deck hands, dump man on earth fill, Georgie Buggies man, material batch hopper man, scale man, material mixer man (except on manholes), coffer dams, abutments and pier hole men working below ground, riprap pavers rock, black or brick, signal man, scaffolds over ten feet not self-supported from ground up, skipman on concrete paving, wire mesh setters on concrete paving, all work in connection with sewer,water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipelines, power tool operator, all work in connection with hydraulic or general dredging operations, straw blower nozzleman,asphalt plant platform man, chuck tender, crusher feeder, men handling creosote ties on creosote materials, men working with and handling epoxy material or materials (where special protection is required), topper of standing trees, batter board man on pipe and ditch work, feeder man on wood pulverizers, board and willow mat weavers and cable tiers on river work, deck hands, pile dike and revetment work, all laborers working on underground tunnels less than 25 feet where compressed air is not used, abutment and pier hole men working six (6) feet or more below ground, men working in coffer dams for bridge piers and footings in the river, ditchliners, pressure groutmen, caulker and chain or concrete saw, cliffscalers working from scaffolds, bosuns' chairs or platforms on dams or power plants over (10) feet above ground, mortarmen on brick or block manholes, signal man.

GROUP 2: Skilled Laborer - spreader or screed man on asphalt machine, asphalt raker, grade checker, vibrator man, concrete saw over 5 hp., laser beam man, barco tamper, jackson or any other similar tamp, wagon driller, churn drills, air track drills and other similar drills, cutting torch man, form setters, liners and stringline men on concrete paving, curb, gutters and etc., hot mastic kettleman, hot tar applicator, hand blade operators, mortar men on brick or block manholes, sand blasting and gunnite nozzle men, rubbing concrete, air tool operator in tunnels, head pipe layer on sewer work, manhole builder (brick or block), dynamite and powder men.

LABO0840-011 05/01/2023

Crawford, Dent, Franklin, Gasconade, Howell, Maries, Oregon, Osage, Phelps, Pulaski, Shannon and Texas Counties

	Rates	Fringes
LABORER (Crawford, Dent, Gasconade, Howell, Maries, Oregon, Osage, Phelps, Pulaski, Shannon and Texas Counties)		
GROUP 1	$ 32.98	15.62
GROUP 2	$ 32.98	15.62
LABORER (Franklin County)		
GROUP 1	$ 35.44	15.62
GROUP 2	$ 36.04	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders;

salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggie man; material batch hopper man; spreader on asphalt machine; material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzleman; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cabelee tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutement and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men or brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft. high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

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LABO0955-012 05/01/2023

Adair, Audrain, Boone, Chariton, Cooper, Howard, Linn, Macon, Monroe, Putnam, Randolph, Schuyler and Sullivan Counties

	Rates	Fringes
LABORER		
GROUP 1	$ 32.98	15.62
GROUP 2	$ 32.98	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders; salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggie man; material batch hopper man; spreader on asphalt machine;

material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzleman; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cabelee tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutement and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men or brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft. high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

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LABO1104-005 05/01/2023

Bollinger, Butler, Cape Girardeau, Carter, Dunklin, Iron, Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, Ripley, Scott, St Francois, Ste Genevieve, Stoddard and Wayne Counties

	Rates	Fringes
LABORER		
GROUP 1	$ 32.98	15.62
GROUP 2	$ 32.98	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders; salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggie man; material batch hopper man; spreader on asphalt machine; material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet

not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzleman; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cabelee tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutement and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men or brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft. high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

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PAIN0002-002 09/01/2007

CLARK, FRANKLIN, JEFFERSON, LEWIS, LINCOLN, MARION, PIKE, RALLS, ST. CHARLES, ST. LOUIS (CITY & COUNTY), AND WARREN COUNTIES

	Rates	Fringes
Painters:		
Brush and Roller; Taper	$ 28.61	10.24
High work over 60 feet	$ 29.11	10.24
Lead Abatement	$ 29.36	10.24
Pressure Roller; High work under 60 ft	$ 28.86	10.24
Spray & Abrasive Blasting; Water Blasting (Over 5000 PSI)	$ 30.61	10.24
Taper (Ames Tools & Bazooka)	$ 30.21	10.24

PAIN0002-006 04/01/2023

ADAIR, AUDRAIN, BOONE, CALLAWAY, CHARITON, COLE, GASCONADE, HOWARD, KNOX, LINN, MACON, MONROE, MONTGOMERY, OSAGE, PUTNAM,

RANDOLPH, SCHUYLER, SCOTLAND, SHELBY AND SULLIVAN COUNTIES and the City of Booneville.

	Rates	Fringes
Painters:		
Bridges, Dams, Locks or Powerhouses	$ 28.49	15.03
Brush and Roll; Taping, Paperhanging	$ 26.49	15.03
Epoxy or Any Two Part Coating; Sandblasting; Stage or other Aerial Work - Platforms over 50 feet high; Lead Abatement	$ 27.49	15.03
Spray; Structural Steel (over 50 feet)	$ 27.49	15.03
Tapers using Ames or Comparable Tools	$ 27.24	15.03

PAIN0003-004 04/01/2019

CASS, CLAY, CLINTON, JACKSON, JOHNSON, LAFAYETTE, PLATTE & RAY COUNTIES

	Rates	Fringes
Painters:		
Bridgeman; Lead Abatement; Sandblast; Storage Bin & Tanks	$ 33.41	17.76
Brush & Roller	$ 30.54	17.76
Drywall	$ 31.74	17.76
Paper Hanger	$ 31.04	17.76
Stageman; Beltman; Steelman; Elevator Shaft; Bazooka, Boxes and Power Sander; Sprayman; Dipping	$ 32.41	17.76
Steeplejack	$ 36.98	17.76

PAIN0003-011 04/01/2019

BATES, BENTON, CALDWELL, CARROLL, COOPER, DAVIESS, GRUNDY, HARRISON, HENRY, LIVINGSTON, MERCER, MONITEAU, MORGAN, PETTIS & SALINE COUNTIES

	Rates	Fringes
Painters:		
Bridgeman; Lead Abatement; Sandblast; Storage Bin & Tanks	$ 26.73	17.76
Brush & Roller	$ 24.43	17.76
Drywall	$ 25.39	17.76
Paper Hanger	$ 24.83	17.76
Stageman; Beltman; Steelman; Elevator Shaft; Bazooka, Boxes and Power Sander; Sprayman; Dipping	$ 26.35	17.76
Steeplejack	$ 29.58	17.76

PAIN1185-008 04/01/2024

CAMDEN, CRAWFORD, DENT, LACLEDE, MARIES, MILLER, PHELPS,
PULASKI AND TEXAS COUNTIES

	Rates	Fringes
Painters:		
Brush and Roller	$ 32.25	16.86
Floor Work	$ 33.25	16.86
Lead Abatement	$ 33.25	16.86
Spray	$ 33.25	16.86
Structural Steel, Sandblasting and All Tank Work	$ 34.25	16.86
Taping, Paperhanging	$ 33.25	16.86

PAIN1292-002 09/01/2022

BOLLINGER, BUTLER, CAPE GIRARDEAU, CARTER, DUNKLIN,
MISSISSIPPI, NEW MADRID, OREGON, PEMISCOT, PERRY, REYNOLDS,
RIPLEY, SCOTT, SHANNON, STODDARD and WAYNE COUNTIES

	Rates	Fringes
Painters:		
Bridges, Stacks & Tanks	$ 33.93	15.36
Brush & Roller	$ 29.58	15.36
Spray & Abrasive Blasting; Waterblasting (over 5000 PSI)	$ 31.58	15.36

Height Rates (All Areas):
Over 60 ft. $0.50 per hour.
Under 60 ft. $0.25 per hour.

PAIN1292-003 09/01/2022

IRON, MADISON, ST. FRANCOIS, STE. GENEVIEVE and WASHINGTON
COUNTIES

	Rates	Fringes
Painters:		
Bridges, Stacks & Tanks	$ 33.93	15.36
Brush & Roller	$ 29.58	15.36
Spray & Abrasive Blasting; Waterblasting (Over 5000 PSI)	$ 31.58	15.36

Height Rates (All Areas):
0ver 60 ft. $0.50 per hour
Under 60 ft. $0.25 per hour.

PAIN2012-001 04/01/2023

ANDREW, ATCHISON, BUCHANAN, DE KALB, GENTRY, HOLT, NODAWAY &
WORTH COUNTIES

	Rates	Fringes

Painters:
     Brush & Roller.....$ 34.22   19.13
     Sandblaster.....$ 38.46   19.13
     Steeplejack.....$ 42.03   19.13
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* PAIN2015-001 04/01/2012

BARRY, BARTON, CEDAR, CHRISTIAN, DADE, DALLAS, DOUGLAS, GREENE, HICKORY, HOWELL, JASPER, LAWRENCE, MCDONALD, NEWTON, OZARK, POLK, ST. CLAIR, STONE, TANEY, VERNON, WEBSTER, and WRIGHT COUNTIES

	Rates	Fringes
Painters:		
Finisher	$ 20.18	11.33
Painter	$ 19.75	11.76
Sandblaster, High Man, Spray Man, Vinyl Hanger, Tool Operator	$ 21.18	11.33

PLAS0518-006 03/01/2023

BARRY, BARTON, CEDAR, CHRISTIAN, DADE, DALLAS, DOUGLAS, GREENE, HICKORY, JASPER, LACLEDE, LAWRENCE, MCDONALD, NEWTON, OZARK, POLK, ST. CLAIR, STONE, TANEY, VERNON, WEBSTER, AND WRIGHT COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 26.57	12.43

PLAS0518-007 04/01/2024

CASS (Richards-Gebaur AFB only), CLAY, JACKSON, PLATTE AND RAY COUNTIES

	Rates	Fringes
Cement Masons:	$ 37.61	18.71

PLAS0518-011 04/01/2023

ANDREW, ATCHISON, BATES, BUCHANNAN, CLINTON, DEKALB, GENTRY, HENRY, HOLT, JOHNSON, LAFAYETTE, NODAWAY & WORTH COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 36.03	20.50

PLAS0527-001 04/01/2023

	Rates	Fringes
CEMENT MASON		
FRANKLIN, LINCOLN AND WARREN COUNTIES	$ 37.29	20.23
JEFFERSON, ST. CHARLES COUNTIES AND ST.LOUIS (City and County)	$ 38.46	20.13

PLAS0527-004 06/01/2023

CRAWFORD, DENT, IRON, MADISON, MARION, PHELPS, PIKE, PULASKI, RALLS, REYNOLDS, ST. FRANCOIS, STE. GENEVIEVE, SHANNON, TEXAS, WASHINGTON COUNTIES

	Rates	Fringes
CEMENT MASON	$ 32.00	19.72

PLAS0908-001 05/01/2023

BOLLINGER, BUTLER, CAPE GIRARDEAU, CARTER, DUNKLIN, HOWELL, MISSISSIPPI, NEW MADRID, OREGON, PEMISCOT, PERRY, RIPLEY, SCOTT, STODDARD, AND WAYNE COUNTIES

	Rates	Fringes
CEMENT MASON	$ 32.30	18.38

PLAS0908-005 05/01/2023

BENTON, CALDWELL, CALLAWAY, CAMDEN, CARROLL, COLE, DAVIESS, GASCONADE, GRUNDY, HARRISON, LIVINGSTON, MACON, MARIES, MERCER, MILLER, MONTGOMERY, MORGAN, OSAGE, PETTIS & SALINE COUNTIES

	Rates	Fringes
CEMENT MASON	$ 32.30	18.38

PLUM0008-003 06/01/2023

CASS, CLAY, JACKSON, JOHNSON, AND PLATTE COUNTIES

	Rates	Fringes
Plumbers	$ 54.28	23.79

PLUM0008-017 06/01/2023

BATES, BENTON, CARROLL, HENRY, LAFAYETTE, MORGAN, PETTIS, RAY, ST. CLAIR, SALINE AND VERNON COUNTIES

	Rates	Fringes
Plumbers	$ 54.28	23.79

PLUM0045-003 08/01/2023

ANDREW, ATCHISON, BUCHANAN, CALDWELL, CLINTON, DAVIESS, DEKALB, GENTRY, HARRISON, HOLT, NODAWAY AND WORTH COUNTIES

	Rates	Fringes
Plumbers and Pipefitters	$ 44.35	26.05

PLUM0178-003 11/01/2023

BARRY, CEDAR, CHRISTIAN, DADE, DALLAS, DOUGLAS, GREENE,

HICKORY, LACLEDE, LAWRENCE, POLK, STONE, TANEY, WEBSTER AND
WRIGHT COUNTIES

	Rates	Fringes
Plumbers and Pipefitters	$ 37.15	15.42

PLUM0178-006 11/01/2022

BARTON, JASPER, MCDONALD AND NEWTON COUNTIES

	Rates	Fringes
Plumbers and Pipefitters		
Projects $750,000 & under	$ 32.78	15.32
Projects over $750,000	$ 35.75	15.32

PLUM0533-004 06/01/2023

BATES, BENTON, CARROLL, CASS, CLAY, HENRY, HICKORY, JACKSON,
JOHNSON, LAFAYETTE, MORGAN, PETTIS, PLATTE, RAY, SALINE, ST.
CLAIR AND VERNON COUNTIES

	Rates	Fringes
Pipefitters	$ 53.56	24.70

PLUM0562-004 07/01/2023

ADAIR, AUDRAIN, BOLLINGER, BOONE, BUTLER, CALLAWAY,CAMDEN, CAPE
GIRARDEAU,CARTER, CHARITON, CLARK, COLE, COOPER, CRAWFORD,
DENT, DUNKLIN, FRANKLIN, GASCONADE, GRUNDY, HOWARD, HOWELL,
IRON, JEFFERSON, KNOX, LEWIS, LINCOLN, LINN, LIVINGSTON, MACON,
MADISON, MARIES, MARION, MERCER, MILLER, MISSISSIPPI, MONITEAU,
MONROE, MONTGOMERY, NEW MADRID, OREGON, OSAGE, PEMISCOTT,
PERRY, PHELPS, PIKE, PULASKI, PUTNAM, RALLS, RANDOLPH,
REYNOLDS, RIPLEY, ST. CHARLES, ST.FRANCOIS, STE. GENEVIEVE, ST.
LOUIS, SCHUYLER, SCOTLAND, SCOTT, SHANNON, SHELBY, STODDARD,
SULLIVAN, TEXAS, WARREN, WASHINGTON,AND WAYNE COUNTIES.

	Rates	Fringes
Plumbers and Pipefitters		
Mechanical Contracts including all piping and temperature control work $7.0 million & under	$ 46.66	21.99
Mechanical Contracts including all piping and temperature control work over $7.0 million	$ 46.66	21.99

PLUM0562-016 07/01/2023

CAMDEN, COLE, CRAWFORD, FRANKLIN, JEFFERSON, MARIES, MILLER,
MONITEAU, OSAGE, PHELPS, PULASKI, ST. CHARLES, ST. LOUIS (City
and County), WARREN and WASHINGTON COUNTIES

	Rates	Fringes
Plumbers		

Mechanical Contracts including all piping and temperature control work $7.0 million & under	$ 46.66	21.99
Mechanical Contracts including all piping and temperature control work over $7.0 million	$ 46.66	21.99

TEAM0013-001 05/01/2023

	Rates	Fringes
Truck drivers (ADAIR, BUTLER, CLARK, DUNKIN, HOWELL, KNOX, LEWIS, OREGON, PUTNAM, RIPLEY, SCHUYLER AND SCOTLAND COUNTIES)		
GROUP 1	$ 33.04	15.15
GROUP 2	$ 33.19	15.15
GROUP 3	$ 33.31	15.15
GROUP 4	$ 33.20	15.15
Truck drivers (AUDRAIN, BOLLINGER, BOONE, CALLAWAY, CAPE GIRARDEAU, CARTER, COLE, CRAWFORD, DENT, GASCONADE, IRON, MACON, MADISON, MARIES, MARION, MILLER, MISSISSIPPI, MONROE, MONTGOMERY, NEW MADRID, OSAGE, PEMISCOT, PERRY, PHELPS, PIKE, PULASKI, RALLS, REYNOLDS, ST. FRANCOIS, STE. GENEVIEVE, SCOTT, SHANNON, SHELBY, STODDARD, TEXAS, WASHINGTON AND WAYNE COUNTIES)		
GROUP 1	$ 33.77	15.05
GROUP 2	$ 33.93	15.05
GROUP 3	$ 33.92	15.05
GROUP 4	$ 34.04	15.05
Truck drivers (FRANKLIN, JEFFERSON and ST. CHARLES COUNTIES)		
GROUP 1	$ 36.13	15.15
GROUP 2	$ 36.24	15.15
GROUP 3	$ 36.28	15.15
GROUP 4	$ 36.35	15.15
Truck drivers (LINCOLN and WARREN COUNTIES)		
GROUP 1	$ 34.78	15.15
GROUP 2	$ 34.89	15.15
GROUP 3	$ 35.93	15.15
GROUP 4	$ 35.00	15.15

TRUCK DRIVERS CLASSIFICATIONS:

GROUP 1: Flat Bed Trucks, Single Axle; Station Wagons; Pickup Trucks; Material Trucks, Single Axle; Tank Wagon, Single Axle

GROUP 2: Agitator and Transit Mix Trucks

GROUP 3: Flat Bed Trucks, Tandem Axle; Articulated Dump Trucks; Material Trucks, Tandem Axle; Tank Wagon, Tandem Axle

GROUP 4: Semi and/or Pole Trailers; Winch, Fork & Steel Trucks; Distributor Drivers and Operators; Tank Wagon, Semi-Trailer; Insley Wagons, Dumpsters, Half-Tracks, Speedace, Euclids and other similar equipment; A-Frame and Derrick Trucks; Float or Low Boy

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TEAM0056-001 05/01/2020

	Rates	Fringes
Truck drivers (ANDREW, BARTON, BATES, BENTON, CALDWELL, CAMDEN, CARROLL, CEDAR, CHARITON, CHRISTIAN, CLINTON, COOPER, DADE, DALLAS, DAVIESS, DEKALB, DOUGLAS, GREENE, HENRY, HICHKORY, HOWARD, JASPER, LACLEDE, LAWRENCE, LINN, LIVINGSTON, MONITEAU, MORGAN, NEWTON, PETTIS, POLK, RANDOLPH, ST. CLAIR, SALINE, VERNON, WEBSTER AND WRIGHT COUNTIES)		
GROUP 1	$ 31.37	14.25
GROUP 2	$ 31.53	14.25
GROUP 3	$ 31.52	14.25
GROUP 4	$ 31.64	14.25
Truck drivers: (ATCHISON, BARRY, GENTRY, GRUNDY, HARRISON, HOLT, MCDONALD, MERCER, NODAWAY, OZARK, STONE, SULLIVAN, TANEY AND WORTH COUNTIES)		
GROUP 1	$ 30.64	14.25
GROUP 2	$ 30.80	14.25
GROUP 3	$ 30.79	14.25
GROUP 4	$ 30.91	14.25
Truck drivers; (BUCHANAN, JOHNSON AND LAFAYETTE COUNTIES)		
GROUP 1	$ 32.58	14.25
GROUP 2	$ 32.69	14.25
GROUP 3	$ 32.73	14.25
GROUP 4	$ 32.80	14.25

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Flat bed trucks single axle; station wagons; pickup trucks; material trucks single axle; tank wagons single axle.

GROUP 2: Agitator and transit mix-trucks.

GROUP 3: Flat bed trucks tandem axle; articulated dump trucks; material trucks tandem axle; tank wagons tandem axle.

GROUP 4: Semi and/or pole trailers; winch, fork & steel trucks; distributor drivers & operators; tank wagons semi-trailer; insley wagons, dumpsters, half-tracks, speedace, euclids & other similar equipment; A-frames and derrick trucks; float or low boy.

TEAM0245-001 03/26/2012

BARRY, BARTON, CAMDEN, CEDAR, CHRISTIAN, DALLAS, DENT, DOUGLAS, GREENE, HICKORY, HOWELL, JASPER, LACLEDE, LAWRENCE, MCDONALD, MILLER, NEWTON, OZARK, PHELPS, POLK, PULASKI, SHANNON, STONE, TANEY, TEXAS, VERNON, WEBSTER AND WRIGHT COUNTIES

	Rates	Fringes
Truck drivers:		
Traffic Control Service Driver	$ 20.45	0.00

PAID HOLIDAYS: New Year's Day, Decoration Day, July 4th, Labor Day, Thanksgiving Day, Christmas Day, employee's birthday and 2 personal days.

TEAM0541-001 04/01/2023

CASS, CLAY, JACKSON, PLATTE AND RAY COUNTIES

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 35.31	17.55
GROUP 2	$ 34.74	17.55
GROUP 3	$ 34.22	17.55

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Mechanics and Welders, Field; A-Frame Low Boy-Boom ruck Driver.

GROUP 2: Articulated Dump Truck; Insley Wagons: Dump Trucks, Excavating, 5 cu yds and over; Dumpsters; Half-Tracks: Speedace: Euclids & similar excavating equipment Material trucks, Tandem Two teams; Semi-Trailers; Winch trucks-Fork trucks; Distributor Drivers and Operators; Agitator and Transit Mix; Tank Wagon Drivers, Tandem or Semi; One Team; Station Wagons; Pickup Trucks; Material Trucks, Single Axle; Tank Wagon Drivers, Single Axle

GROUP 3: Oilers and Greasers - Field

TEAM0682-002 05/01/2023

ST LOUIS CITY AND COUNTY

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 34.37	8.44+a+b+c+d
GROUP 2	$ 34.37	8.44+a+b+c+d
GROUP 3	$ 34.37	8.44+a+b+c+d

a. PENSION: 5/1/2012 - $182.20 per week.

b. HAZMAT PREMIUM: If Hazmat certification on a job site is required by a state or federal agency or requested by project owner or by the employer, employees on that job

site shall receive $1.50 premium pay.

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1 - Pick-up trucks; forklift, single axle; flatbed trucks; job site ambulance, and trucks or trailers of a water level capacity of 11.99 cu. yds. or less

GROUP 2 - Trucks or trailers of a water level capacity of 12.0 cu yds. up to 22.0 cu yds. including euclids, speedace and similar equipment of same capacity and compressors

GROUP 3 - Trucks or trailers of a water level capacity of 22.0 cu. yds & over including euclids, speedace & all floats, flatbed trailers, boom trucks, winch trucks, including small trailers, farm wagons tilt-top trailers, field offices, tool trailers, concrete pumps, concrete conveyors & gasoline tank trailers and truck mounted mobile concrete mixers

FOOTNOTE FOR TRUCK DRIVERS:

c. PAID HOLIDAYS: Christmas Day, Independence Day, Labor Day, Memorial Day, Veterans Day, New Years Day, Thanksgiving Day

d. PAID VACATION: 3 days paid vacation for 600 hours of service in any one contract year; 4 days paid vacation for 800 hours of service in any one contract year; 5 days paid vacation for 1,000 hours of service in any one contract year. When such an employee has completed 3 years of continuous employment with the same employer and then works the above required number of hours, he shall receive double the number of days of vacation specified above. When such an employee has completed 10 years of continuous employment with the same employer and then works the above required number of hours, he shall receive triple the number of days of vacation specified above. When such an employee has completed 15 years of continuous employment with the same employer and then works the above required number of hours, he shall receive 4 times the number of days of vacation specified above.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information

on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate

that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

State Adopted Rate Identifiers

Classifications listed under the ""SA"" identifier indicate that the prevailing wage rate set by a state (or local) government was adopted under 29 C.F.R ?1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 01/03/2024 reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor

200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

ITEM MO-401S Plant Mix Bituminous Pavements

DESCRIPTION

401-1.1 This item shall consist of a surface course composed of mineral aggregate and bituminous material mixed in a central mixing plant and placed on a prepared course in accordance with these specifications and shall conform to the lines, grades, thickness, and typical cross sections shown on the plans. Each course shall be constructed to the depth, typical section, or elevation required by the plans and shall be rolled, finished, and approved before the placement of the next course. The materials and mixture shall meet the requirements of the 2024 Missouri Standard Specification for Highway Construction (MSSHC)*****, Section 401--Plant Mix Bituminous Pavement. **(*Note: The current 2024 MSSHC is available electronically on the MoDOT website at http://www.modot.mo.gov.)**

All construction methods, testing, and acceptance criteria shall be in accordance with the standards included within this Item MO-401S.

MATERIALS

401-2.1 AGGREGATE MATERIALS. Coarse and fine aggregates for plant mix bituminous pavement shall conform to the requirements of the 2024 (MSSHC), Section 401.

A. **Coarse Aggregate.** The ledge stone from which the coarse aggregate will be produced has to have source approval from the Missouri Department of Transportation (MoDOT). Prior to use of materials, the contractor shall submit the current MoDOT source approval letter to the Engineer for the materials proposed for use during construction. Source approval granted for "all types of highway construction" (Product Code 1005CACP) constitutes approval for all uses. Source approval granted for "all types except PCCP" (Product Code 1005CACM) comprises approval for all uses except portland cement concrete pavement. Source approval obtained for "all types except PCCP & PCCM" (Product Code 1002CAAC) is considered to be approval for all uses except portland cement concrete.

B. **Fine Aggregate.** Prior to use of material, the contractor shall submit to the Engineer a certification from the supplier that the fine aggregate complies with the specification requirements. **The certification statement shall be signed by an authorized representative of the supplier and shall be substantially as follows:**

"This certifies that the fine aggregate being supplied for this project complies with Section 1002.3 of the 2024 Missouri Standard Specification for Highway Construction."

C. **Mineral Filler.** Prior to use of material, the contractor shall submit to the Engineer a certification from the supplier that the fine aggregate complies with the specification requirements. **The certification statement shall be signed by an authorized representative of the supplier and shall be substantially as follows:**

"This certifies that the mineral filler being supplied for this project complies with Section 1002.4 of the 2024 Missouri Standard Specification for Highway Construction."

D. **Hydrated Lime.** Prior to use of material, the contractor shall submit to the Engineer a certification from the supplier that the fine aggregate complies with the specification requirements. **The certification statement shall be signed by an authorized representative of the supplier and shall be substantially as follows:**

> "This certifies that the hydrated lime being supplied for this project complies with Section 1002.5 of the 2024 Missouri Standard Specification for Highway Construction."

The Engineer may request samples for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

401-2.2 BITUMINOUS MATERIAL. Bituminous material shall conform to the requirements of the 2024 MSSHC, Section 401. The grade of the asphalt cement shall be **PG 64-22**.

The supplier shall guarantee by certification that bituminous material complies with the specification requirements. The supplier shall furnish the truck driver a copy of the bill of lading, manifest or truck ticket that is available to the engineer at destination prior to unloading. The engineer at the source is also to be furnished a copy. The bill of lading, manifest or truck ticket shall show the following information regarding the shipment: type and grade of material, specific gravity at 60 F, net gallons, consignee, truck number, identification number, weight of truck before and after loading, destination, date loaded, name and location of the source, and a certification statement. The certification statement shall be signed by an authorized representative of the supplier and shall be substantially as follows:

> "This certifies that the bituminous material in this shipment complies with MoDOT specifications for the grade specified and the weights shown hereon were obtained on MoDOT approved scales and are correct within the specified scale requirements."

Prior to use of bituminous materials, the contractor shall provide the engineer the above certified bill of lading, manifest or truck ticket for each load to be incorporated into the project.

COMPOSITION

401-3.1 JOB MIX FORMULA. At least 30 days prior to placing any mixture on the project, the contractor shall submit a mix design in writing for verification and approval by the Engineer. The mixture shall conform to the requirements of the 2024 MSSHC, Section 401, using gradation **BP-1**.

No bituminous mixture for payment shall be produced until a job mix formula has been approved in writing by the Engineer. The job mix formula for each mixture shall be in effect until a modification is approved in writing by the Engineer. When unsatisfactory results or other conditions occur, or should a change in sources of materials be made, a new job mix formula must be submitted within 10 days and approved by the Engineer in writing before the new material is used. After the initial production job mix formula(s) has/have been approved by the Engineer and a new or modified job mix formula is required for whatever reason, the subsequent cost of the Engineer's approval of the new or modified job mix formula will be borne by the Contractor. There will be no time extension given or considerations for extra costs associated with the stoppage of production paving or restart of production paving due to the time needed for the Engineer to approve the initial, new or modified job mix formula.

The mix design shall include raw data from the design process and shall contain the following information:

A. Source, grade, and specific gravity of asphalt binder.

B. Source, type (formation, etc.), ledge number(s) if applicable, and gradation of the aggregate.

C. Bulk and apparent specific gravities and absorption of each aggregate fraction in accordance with

AASHTO T 85 for coarse aggregate and AASHTO T 84 for fine aggregate, including all raw data.

D. Specific gravity of hydrated lime, mineral filler or baghouse fines, if used, in accordance with AASHTO T 100.

E. Percentage of each aggregate component.

F. Combined gradation of the job mix.

G. Percent of asphalt binder, by weight (mass), based on the total mixture.

H. Bulk specific gravity (G_{mb}) by AASHTO T 166, Method A of a laboratory compacted mixture.

I. Percent air voids (V_a) of the laboratory compacted specimen.

J. Voids in the mineral aggregate (VMA) and voids in the mineral aggregate filled with asphalt binder (VFA).

K. Theoretical maximum specific gravity (G_{mm}) as determined by AASHTO T 209 in accordance with MSSHC Sec 403.19.3 after the sample has been short-term aged in accordance with AASHTO R 30.

L. Mixing temperature and molding temperature.

M. Bulk specific gravity (G_{mb}) of the combined aggregate.

N. Percent chert contained in each aggregate fraction.

O. Baghouse fines added for design.

(i) Batch and continuous mix plants – Indicate which aggregate fraction to add baghouse percentage during production.

(ii) Drum mix plants – Provide cold feed settings with and without baghouse percentage.

Sampling shall be in accordance with AASHTO T 2, and testing shall be in accordance with AASHTO T 27 and AASHTO T 11.

401-3.3 TEST SECTION. Not used.

401-3.4 TESTING LABORATORY. The laboratory used to develop the job mix formula shall meet the requirements of ASTM D 3666. A certification signed by the manager of the laboratory stating that it meets these requirements shall be submitted to the Engineer prior to the start of construction. The certification shall contain as a minimum:

A. Qualifications of personnel; laboratory manager, supervising technician, and testing technicians.

B. A listing of equipment to be used in developing the job mix.

C. A copy of the laboratory's quality control system.

D. Evidence of participation in the AASHTO Materials Reference Laboratory (AMRL) program.

E. ASTM D 3666 certification of accreditation by a nationally recognized accreditation program.

CONSTRUCTION METHODS

401-4.1 WEATHER LIMITATIONS. Bituminous mixtures shall not be placed (1) when either the air temperature or the temperature of the surface on which the mixture is to be placed is below 50 F, (2) on any wet or frozen surface, or (3) when weather conditions prevent the proper handling or finishing of the mixture.

401-4.2 BITUMINOUS MIXING PLANTS. Bituminous mixing plants and preparation of material and mixtures shall conform to the requirements of the 2024 MSSHC Section 404, and as follows:

A. Truck Scales. The bituminous mixture shall be weighed on approved scales furnished by the Contractor, or on certified public scales at the Contractor's expense. Scales shall be inspected and sealed as often as the Engineer deems necessary to assure their accuracy. Scales shall conform to the requirements of the General Provisions, Section 90-01.

In lieu of scales, and as approved by the Engineer, asphalt mixture weights may be determined by the use of an electronic weighing system equipped with an automatic printer that weighs the total paving mixture. Contractor must furnish calibration certification of the weighing system prior to mix production and as often thereafter as requested by the Engineer.

B. Testing Facilities. The contractor shall provide laboratory facilities at the plant for the use of the Engineer's acceptance testing and the Contractor's quality control testing, in accordance with paragraph 401-6.2.

C. Inspection of Plant. The Engineer, or Engineer's authorized representative, shall have access, at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant: verifying weights, proportions, and material properties; and checking the temperatures maintained in the preparation of the mixtures.

401-4.3 HAULING EQUIPMENT. Trucks used for hauling bituminous mixtures shall have tight, clean, and smooth metal beds. To prevent the mixture from adhering to them, the truck beds shall be lightly coated with a minimum amount of paraffin oil, lime solution, or other approved material. Petroleum products shall not be used for coating truck beds. Each truck shall have a suitable cover to protect the mixture from adverse weather. The cover shall be securely fastened over all sides of the truck bed. When necessary, to ensure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated.

401-4.4 BITUMINOUS PAVERS. Bituminous pavers shall be self-propelled with an activated heated screed, capable of spreading and finishing courses of bituminous plant mix material that will meet the specified thickness, smoothness, and grade. The paver shall have sufficient power to propel itself and the hauling equipment without adversely affecting the finished surface.

The paver shall have a receiving hopper of sufficient capacity to permit a uniform spreading operation. The hopper shall be equipped with a distribution system to place the mixture uniformly in front of the screed without segregation. The screed shall effectively produce a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture.

The paver shall be equipped with a control system capable of automatically maintaining the specified screed elevation. The control system shall be automatically actuated from either a reference line and/or through a system of mechanical sensors or sensor-directed mechanisms or devices that will maintain the paver screed at a predetermined transverse slope and at the proper elevation to obtain the required surface. The transverse slope controller shall be capable of maintaining the screed at the desired slope within plus or minus 0.1 percent.

The controls shall be capable of working in conjunction with any of the following attachments:

A. Ski-type device of not less than 30 feet in length.

B. Taut stringline/wire set to grade.

C. Short ski or shoe.

D. Laser control.

If, during construction, it is found that the spreading and finishing equipment in use leaves tracks or indented areas, or produces other blemishes in the pavement that are not satisfactorily corrected by the scheduled operations, the use of such equipment shall be discontinued and satisfactory equipment shall be provided by the Contractor.

401-4.5 ROLLERS. Rollers of the vibratory, steel wheel, and pneumatic-tired type shall be used. They shall be in good condition, capable of operating at slow speeds to avoid displacement of the bituminous mixture. Pneumatic tire rollers shall be self-propelled, of the oscillating-type and equipped with smooth tires of equal size, diameter and ply rating, all maintained at the same inflation pressure. The contractor shall furnish evidence regarding tire size, pressure and loading. The number, type, and weight of rollers shall be sufficient to compact the mixture to the required density while it is still in a workable condition.

All rollers shall be specifically designed and suitable for compacting hot mix bituminous concrete and shall be properly used. Rollers that impair the stability of any layer of a pavement structure or underlying soils shall not be used. Depressions in pavement surfaces caused by rollers shall be repaired by the Contractor at its own expense.

The use of equipment that causes crushing of the aggregate will not be permitted.

A. Nuclear Densometer. The Contractor shall have on site a nuclear densometer during all paving operations in order to assist in the determination of the optimum rolling pattern, type of roller and frequencies, as well as to monitor the effect of the rolling operations during production paving. The Contractor shall also supply a qualified technician during all paving operations to calibrate the nuclear densometer and obtain accurate density readings for all new bituminous concrete. These densities shall be supplied to the Engineer upon request at any time during construction. No separate payment will be made for supplying the density gauge and technician.

401-4.6 PREPARATION OF THE UNDERLYING SURFACE. Between lifts, the tack coat shall be applied in accordance with Item P-603.

401-4.7 LAYDOWN PLAN, TRANSPORTING, PLACING AND FINISHING. Prior to the placement of the bituminous mixture, the Contractor shall prepare a laydown plan for approval by the Engineer. This is to minimize the number of cold joints in the pavement. The laydown plan shall include

the sequence of paving laydown by stations, width of lanes, temporary ramp location(s), and laydown temperature. The laydown plan shall also include estimated time of completion for each portion of the work (i.e. milling, paving, rolling, cooling, etc.). Modifications to the laydown plan shall be approved by the Engineer.

The bituminous mixture shall be transported from the mixing plant to the site in vehicles conforming to the requirements of paragraph 401-4.3. Deliveries shall be scheduled so that placing and compacting of mixture is uniform with minimum stopping and starting of the paver. Hauling over freshly placed material shall not be permitted until the material has been compacted, as specified, and allowed to cool to atmospheric temperature.

The initial placement and compaction of the mixture shall occur at a temperature suitable for obtaining density, surface smoothness, and other specified requirements but not less than 250 degrees F (121 degrees C).

Edges of existing bituminous pavement abutting the new work shall be saw cut and carefully removed as shown on the drawings and painted with bituminous tack coat before new material is placed against it.

Upon arrival, the mixture shall be placed to the full width by a bituminous paver. It shall be struck off in a uniform layer of such depth that, when the work is completed, it shall have the required thickness and conform to the grade and contour indicated. The speed of the paver shall be regulated to eliminate pulling and tearing of the bituminous mat. Unless otherwise permitted, placement of the mixture shall begin along the centerline of a crowned section or on the high side of areas with a one-way slope. The mixture shall be placed in consecutive adjacent strips having a minimum width of 12.5 feet except where edge lanes require less width to complete the area. Additional screed sections shall not be attached to widen paver to meet the minimum lane width requirements specified above unless additional auger sections are added to match. The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least 1 foot (30 cm); however, the joint in the surface top course shall be at the centerline of crowned pavements. Transverse joints in one course shall be offset by at least 10 feet (3 m) from transverse joints in the previous course.

Transverse joints in adjacent lanes shall be offset a minimum of 10 feet (3 m).

On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the mixture may be spread and luted by hand tools. Areas of segregation in the surface course, as determined by the Engineer, shall be removed and replaced at the Contractor's expense. The area shall be removed by saw cutting and milling a minimum of 2 inches deep. The area to be removed and replaced shall be a minimum width of the paver and a minimum of 10 feet long.

401-4.8 COMPACTION OF MIXTURE. After placing, the mixture shall be thoroughly and uniformly compacted by power rollers. The surface shall be compacted as soon as possible when the mixture has attained sufficient stability so that the rolling does not cause undue displacement, cracking or shoving. The sequence of rolling operations and the type of rollers used shall be at the discretion of the Contractor. The speed of the roller shall, at all times, be sufficiently slow to avoid displacement of the hot mixture and be effective in compaction. Any displacement occurring as a result of reversing the direction of the roller, or from any other cause, shall be corrected at once.

Sufficient rollers shall be furnished to handle the output of the plant. Rolling shall continue until the surface is of uniform texture, true to grade and cross section, and the required field density is obtained.

To prevent adhesion of the mixture to the roller, the wheels shall be equipped with a scraper and kept properly moistened but excessive water will not be permitted.

In areas not accessible to the roller, the mixture shall be thoroughly compacted with approved power driven tampers. Tampers shall weigh not less than 275 pounds, have a tamping plate width not less than 15 inches, be rated at not less than 4,200 vibrations per minute, and be suitably equipped with a standard tamping plate wetting device.

Any mixture that becomes loose and broken, mixed with dirt, contains check-cracking, or in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at the Contractor's expense. Skin patching shall not be allowed.

401-4.9 JOINTS. The formation of all joints shall be made in such a manner as to ensure a continuous bond between the courses and obtain the required density. All joints shall have the same texture as other sections of the course and meet the requirements for smoothness and grade.

The roller shall not pass over the unprotected end of the freshly laid mixture except when necessary to form a transverse joint. When necessary to form a transverse joint, it shall be made by means of placing a bulkhead or by tapering the course. The tapered edge shall be cut back to its full depth and width on a straight line to expose a vertical face prior to placing the adjacent lane. In both methods, all contact surfaces shall be given a tack coat of bituminous material before placing any fresh mixture against the joint.

Longitudinal joints which are irregular, damaged, uncompacted, or otherwise defective shall be cut back 3” to 6” to expose a clean, sound surface for the full depth of the course. All contact surfaces shall be cleaned and dry prior and given a tack coat of bituminous material prior to placing any fresh mixture against the joint. The cost of this work and tack coat shall be considered incidental to the cost of the bituminous course.

MATERIAL ACCEPTANCE

401-5.1 ACCEPTANCE SAMPLING AND TESTING. Unless otherwise specified, all acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the Engineer at no cost to the Contractor. Testing organizations performing these tests shall meet the requirements of ASTM D 3666. All equipment in Contractor furnished laboratories shall be calibrated by an independent testing organization prior to the start of operations at the Contractor's expense.

A lot will consist of:

--One day's production

A. Field Placed Material. Material placed in the field shall be tested for mat and joint density on a lot basis.

1. Mat Density. Each lot, as defined above, shall be divided into four equal sublots. One core of finished, compacted materials shall be taken by the contractor from each sublot. Core locations will be determined by the engineer on a random basis in accordance with procedures contained in ASTM D 3665. Cores shall not be taken closer than one foot from a transverse or longitudinal joint.

2. Joint Density. The lot size shall be the total length of longitudinal joints constructed by a lot as defined above. Each lot shall be divided into four equal sublots. One core of finished, compacted materials shall be taken by the contractor from each sublot. Core locations will be determined by the engineer on a random basis in accordance with procedures contained in ASTM D 3665. ALL CORING SHALL BE CENTERED ON THE JOINT. THE MINIMUM CORE DIAMETER FOR JOINT DENSITY DETERMINATION SHALL BE 5 INCHES.

3. Sampling. Samples shall be neatly cut with a core drill. The cutting edge of the core drill bit shall be of hardened steel or other suitable material with diamond chips embedded in the metal cutting edge. The minimum diameter of the sample shall be five inches. Samples that are clearly defective, as a result of sampling, shall be discarded and another sample taken. The contractor shall furnish all tools, labor, and material for cutting samples and filling the cored pavement. Cored holes shall be filled in a manner acceptable to the engineer.

4. Testing. The bulk specific gravity (Gmb) of each cored sample will be measured by the Engineer in accordance with ASTM D 2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity (Gmb) of each sublot sample obtained from the lot by the theoretical maximum specific gravity (Gmm) on the Job Mix Formula.

5. Acceptance. Acceptance of field placed material for mat density will be determined by the Engineer in accordance with the requirements of paragraph 401-5.2B1. Acceptance for joint density will be determined in accordance with the requirements of paragraph 401-5.2B2.

B. Partial Lots. When operational conditions cause a lot to be terminated before the specified number of tests have been made for the lot, or when the Contractor and Engineer agree in writing to allow overages or minor placements to be considered as partial lots, the following procedure will be used to adjust the lot size and the number of tests for the lot.

Where three sublots have been produced, they shall constitute a lot. Where one or two sublots have been produced, they shall be incorporated into the next lot or the previous lot and the total number of sublots shall be used in the acceptance criteria calculation.

401-5.2 ACCEPTANCE CRITERIA.

A. General. Acceptance will be based on the following characteristics of the bituminous mixture and completed pavement as well as the implementation of the Contractor's Quality Control plan and test results:

1. Mat density
2. Joint density
3. Thickness
4. Smoothness
5. Grade

Acceptance for mat density will be based on the criteria in paragraph 401-5.2B1. Acceptance for joint density will be based on the criteria in paragraph 401-5.2B2. Thickness will be evaluated by the Engineer

for compliance in accordance with paragraph 401-5.2B3. Acceptance for smoothness will be based on the criteria contained in paragraph 401-5.2B4. Acceptance for grade will be based on the criteria contained in paragraph 401-5.2B5.

The Engineer may at any time, not withstanding previous plant acceptance, reject and require the Contractor to dispose of any batch of bituminous mixture which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or improper mix temperature. Such rejection may be based on only visual inspection or temperature measurements. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the Engineer, and if he can demonstrate in the laboratory, in the presence of the Engineer, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

B. Acceptance Criteria

1. Mat Density. If the density of the lot equals or exceeds 92 percent, the lot shall be acceptable.

2. Joint Density. If the density of the lot equals or exceeds 92 percent, the lot shall be acceptable.

3. Thickness. Thickness of each lift shall be evaluated by the Engineer for compliance to the requirements shown on the plans. Measurements of thickness shall be made by the Engineer using the cores extracted for each sublot for density measurement. The maximum allowable deficiency at any point shall not be more than ¼ inch less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, shall not be less than the indicated thickness. Where the thickness tolerances are not met, the lot or sublot shall be corrected by the Contractor at his expense by removing the deficient area and replacing with new pavement. The Contractor, at his expense, may take additional cores as approved by the Engineer to circumscribe the deficient area.

4. Smoothness. The final surface shall be free from roller marks. The finished surfaces of each course of the pavement, except the finished surface of the final course, shall not vary more than 3/8 inch when evaluated with a 16 foot straightedge. The finished surface of the final course of pavement shall not vary more than 1/4 inch when evaluated with a 16 foot straightedge. The lot size shall be 2,000 square yards. Smoothness measurements shall be made at 50 foot intervals and as determined by the Engineer. In the longitudinal direction, a smoothness reading shall be made at the center of each paving lane. In the transverse direction, smoothness readings shall be made continuously across the full width of the pavement. However, transverse smoothness readings shall not be made across designed grade changes. At warped transition areas, straightedge position shall be adjusted to measure surface smoothness and not design grade transitions. When more than 15 percent of all measurements within a lot exceed the specified tolerance, the Contractor shall remove the deficient area to the depth of the final course of pavement and replace with new material. Skin patching shall not be permitted. Isolated high points may be ground off providing the course thickness complies with the thickness specified on the plans. High point grinding will be limited to 15 square yards. Areas in excess of 15 square yards will require removal and replacement of the pavement in accordance with the limitations noted above. Contractor shall apply a fog seal to all areas that have been subject to grinding.

5. Grade. The finished surface of the pavement shall not vary from the existing elevations

by more than 1/2 inch unless approved by the Engineer to allow for straight grading to promote drainage. The finished grade of each lot will be determined by running levels at intervals of 50 feet or less longitudinally and all breaks in grade transversely (not to exceed 50 feet) to determine the elevation of the completed pavement. The Contractor shall pay the surveying costs of the level runs which shall be performed by a licensed surveyor. The documentation, stamped and signed by a licensed surveyor, shall be provided by the Contractor to the Engineer. The lot size shall be 2,000 square yards. When more than 15 percent of all the measurements within a lot are outside the specified tolerance, or if any one shot within the lot deviates 3/4 inch or more from planned grade, the Contractor shall remove the deficient area to the depth of the final course of pavement and replace with new material. Skin patching shall not be permitted. Sufficient material shall be removed to allow at least 2 inches of bituminous material to be placed. Isolated high points may be ground off providing the course thickness complies with the thickness specified on the plans. The surface of the ground pavement shall have a texture consisting of grooves between 0.090 and 0.130 inches wide. The peaks and ridges shall be approximately 1/32 inch higher than the bottom of the grooves. The pavement shall be left in a clean condition. The removal of all of the slurry resulting from the grinding operation shall be continuous. The grinding operation should be controlled so the residue from the operation does not flow across other lanes of pavement. High point grinding will be limited to 15 square yards. Areas in excess of 15 square yards will require removal and replacement of the pavement in accordance with the limitations noted above. Contractor shall apply a fog seal to all areas that have been subject to grinding.

401-5.3 RESAMPLING PAVEMENT.

A. General. Resampling of a lot of pavement for mat or joint density will be allowed if the Contractor requests, in writing, within 48 hours after receiving the written test results from the Engineer. A retest will consist of all the sampling and testing procedures contained in paragraphs 401-5.1A. Only one resampling per lot will be permitted.

1. The cost for resampling and retesting shall be borne by the Contractor.

CONTRACTOR QUALITY CONTROL

401-6.1 GENERAL. The Contractor shall develop a Quality Control Program in accordance with Section 100 of the General Provisions. The program shall address all elements which effect the quality of the pavement including, but not limited to:

A. Mix Design
B. Aggregate Grading
C. Quality of Materials
D. Stockpile Management
E. Proportioning
F. Mixing and Transportation
G. Placing and Finishing
H. Joints
I. Compaction
J. Surface Smoothness
K. Personnel
L. Laydown Plan

The Contractor shall perform quality control sampling, testing, and inspection during all phases of the work and shall perform them at a rate sufficient to ensure that the work conforms to the contract requirements, and at minimum test frequencies required by paragraph 401-6.3 and Section 100 of the General Provisions. As a part of the process for approving the Contractor's plan, the Engineer may require the Contractor's technician to perform testing of samples to demonstrate an acceptable level of performance.

No partial payment will be made for materials that are subject to specific quality control requirements without an approved plan.

401-6.2 TESTING LABORATORY. The Contractor shall provide laboratory facilities at the plant meeting the requirements of paragraph 401-3.3 for the use of the Engineer's acceptance testing (at their option) and the Contractor's quality control testing. The Engineer will always have priority in the use of the laboratory. The lab shall have sufficient space so that both testing representatives (Engineer's and Contractor's) can operate efficiently. The Contractor shall provide the Engineer with certification stating that all of the testing equipment to be used is properly calibrated and will meet the specifications applicable for the specified test procedures.

The plant testing laboratory shall have a floor space area of not less than 150 square feet, with a ceiling height of not less than 7-½ feet. The laboratory shall be weather tight, sufficiently heated in cold weather, air-conditioned in hot weather to maintain temperatures for testing purposes of 70 degrees F +/- 5 degrees F. The plant testing laboratory shall be located on the plant site to provide an unobstructed view, from one of its windows, of the trucks being loaded with the plant mix materials.

Laboratory facilities shall be kept clean, and all equipment shall be maintained in proper working condition. The Engineer shall be permitted unrestricted access to inspect the Contractor's laboratory facility and witness quality control activities. The Engineer will advise the Contractor in writing of any noted deficiencies concerning the laboratory facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

Approval of the plant and testing laboratory by the Engineer requires all facilities and equipment to be in good working order during production, sampling and testing. Failure to provide the specified facilities shall be sufficient cause for disapproving bituminous plant operations.

The Owner shall have access to the lab and the plant whenever Contractor is in production.

401-6.3 QUALITY CONTROL TESTING. The Contractor shall perform all quality control tests necessary to control the production and construction processes applicable to these specifications and as set forth in the Quality Control Program. The testing program shall include, but not necessarily limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, field compaction, and surface smoothness. A Quality Control Testing Plan shall be developed as part of the Quality Control Program.

A. Asphalt Content. A minimum of two extraction tests shall be performed per lot in accordance with ASTM D 2172 for determination of asphalt content. The weight of ash portion of the extraction test, as described in ASTM D 2172, shall be determined as part of the first extraction test performed at the beginning of plant production; and as part of every tenth extraction test performed thereafter, for the duration of plant production. The last weight of ash value obtained

shall be used in the calculation of the asphalt content for the mixture.

The use of the nuclear method for determining asphalt content in accordance with ASTM D 4125 is permitted, provided that it is calibrated for the specific mix being used.

B. Gradation. Aggregate gradations shall be determined a minimum of twice per lot from mechanical analysis of extracted aggregate in accordance with AASHTO T 30 and ASTM C 136 (dry sieve). When asphalt content is determined by the nuclear method, aggregate gradation shall be determined from hot bin samples on batch plants, or from the cold feed on drum mix or continuous mix plants, and tested in accordance with ASTM C 136 (dry sieve) using actual batch weights to determine the combined aggregate gradation of the mixture.

C. Moisture Content of Aggregate. The moisture content of aggregate used for production shall be determined a minimum of once per lot in accordance with ASTM C 566.

D. Moisture Content of Mixture. The moisture content of the mixture shall be determined once per lot in accordance with ASTM D 1461.

E. Temperatures. Temperatures shall be checked, at least four times per lot, at necessary locations to determine the temperatures of the dryer, the bitumen in the storage tank, the mixture at the plant, and the mixture at the job site.

F. In-Place Density Monitoring. The Contractor shall conduct any necessary testing to ensure that the specified density is being achieved. A nuclear gauge may be used to monitor the pavement density in accordance with ASTM D 2950.

G. Additional Testing. Any additional testing that the Contractor deems necessary to control the process may be performed at the Contractor's option.

H. Monitoring. The Engineer reserves the right to monitor any or all of the above testing.

401-6.4 SAMPLING. When directed by the Engineer, the Contractor shall sample and test any material which appears inconsistent with similar material being sampled, unless such material is voluntarily removed and replaced or deficiencies corrected by the Contractor. All sampling shall be in accordance with standard procedures specified.

401-6.5 CONTROL CHARTS. The Contractor shall maintain linear control charts both for individual measurements and range (i.e., difference between highest and lowest measurements) for aggregate gradation and asphalt content.

Control charts shall be posted in a location satisfactory to the Engineer and shall be kept current. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and Suspension Limits applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during production indicates a problem and the Contractor is not taking satisfactory corrective action, the Engineer may suspend production or acceptance of the material.

A. Individual Measurements. Control charts for individual measurements shall be established to maintain process control within tolerance for aggregate gradation and asphalt content. The control charts shall use the job mix formula target values as indicators of central tendency for the

following test parameters with associated Action and Suspension Limits:

Control Chart Limits for Individual Measurements		
Sieve	Action Limit	Suspension Limit
No. 8 (2.37 mm)	+/-5%	+/-7.5%
No. 200 (0.075 mm)	+/-2%	+/-3%
Asphalt Content	+/-0.5%	+/-0.70%

B. Range. Control charts for range shall be established to control process variability for the test parameters and Suspension Limits listed below. The range shall be computed for each lot as the difference between the two test results for each control parameter. The Suspension Limits specified below are based on a sample size of n = 2. Should the Contractor elect to perform more than two tests per lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for n = 3 and by 1.27 for n = 4.

Control Chart Limits Based on Range (Based on n = 2)	
Sieve	Suspension Limit
No. 8 (2.37 mm)	9 percent
No. 200 (0.075 mm)	3.5 percent
Asphalt Content	0.8 percent

C. Corrective Action. The Quality Control Plan shall indicate that appropriate action shall be taken when the process is believed to be out of tolerance. The Plan shall contain sets of rules to gauge when a process is out of control and detail what action will be taken to bring the process into control. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken, if:

1. One point falls outside the Suspension Limit line for individual measurements or range; or

2. Two points in a row fall outside the Action Limit line for individual measurements.

401-6.6 QUALITY CONTROL REPORTS. The Contractor shall maintain records and shall submit reports of quality control activities daily, in accordance with the Contractor Quality Control Program described in C-100.

METHOD OF MEASUREMENT

401-7.1 MEASUREMENT. Asphalt materials shall be measured per specification C-105-5.1b. No separate measurement for asphalt materials shall be made under this section.

BASIS OF PAYMENT

401-8.1 PAYMENT. Payment for asphalt materials shall be made under specification C-105-6.1b Temporary Taxilane. That price shall be full compensation for furnishing all materials, for all preparation, delivery, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item. No separate payment for asphalt materials will be made under this section.

END OF ITEM MO-401S

GEOTECHNICAL EXPLORATION REPORT

WARSAW MUNICIPAL AIRPORT (KRAW)
APRON EXPANSION
WARSAW, MISSOURI
TSI PROJECT NO. 20221186.00_REV1

BURNS & MCDONNELL
ENGINEERING COMPANY INC.
9400 Ward Parkway
Kansas City, Missouri 64114

TSi
geotechnical,inc

1340 North Price Road
St. Louis, Missouri 63132

May 19, 2023

May 19, 2023

Mr. Ryan Lorton
BURNS & MCDONNELL ENGINEERING COMPANY, INC.
9400 Ward Parkway
Kansas City, Missouri 64114

Re: Geotechnical Exploration Report
Warsaw Municipal Airport (KRAW) – Apron Expansion
Warsaw, Missouri
TSi Project No. 20221186.00_REV1

Dear Mr. Lorton:

TSi Geotechnical, Inc. (TSi) has completed the authorized geotechnical exploration for the design of Fuel Tank System at West Plains Regional Airport and is pleased to submit this report of our findings to Burns & McDonnell Engineering Company Inc. (BMcD). The purpose of our exploration was to determine subsurface conditions at specific boring locations and to gather data on which to prepare geotechnical recommendations for the design and construction of the project. This report describes the exploration procedures used, exhibits the data obtained, and presents our evaluations and recommendations relative to certain geotechnical engineering aspects of the project. This Report supersedes the previously submitted Geotechnical Report dated April 14, 2023.

We appreciate the opportunity to assist you with this project. If you have any questions, or if we may be of further service to you, please call us.

Respectfully submitted,
TSI GEOTECHNICAL, INC.

Hayden Ginsburg, EIT
Project Manager

STATE OF MISSOURI
ANDREW
DECLUE
5-19-23
NUMBER
PE-2022001621
PROFESSIONAL ENGINEER

Andrew DeClue, PE
Director of Operations

Denise B. Hervey, PE
Principal

CONTENTS

GEOTECHNICAL EXPLORATION REPORT
WARSAW MUNICIPAL AIRPORT (KRAW) – APRON EXPANSION
WARSAW, MISSOURI

1.0 INTRODUCTION

This report summarizes the results of a geotechnical exploration performed for the design of the construction of the proposed apron expansion at Warsaw Municipal Airport in Warsaw, Missouri. This study was performed in general accordance with TSi's agreement with BMcD, dated November 9, 2022. The purpose of this exploration was to determine the existing subsurface conditions within the footprint of the proposed apron areas. The data obtained will be used by BMcD for the design of the new aprons. This report describes the exploration procedures used, presents the field and laboratory data, includes TSi's assessment of the subsurface conditions in the areas, and provides geotechnical recommendations for the planned construction.

2.0 SITE AND PROJECT DESCRIPTION

TSi understands the project consists of construction of two new pavement apron areas on both the north and south sides of the existing apron area. The existing apron area consists of concrete pavement about 275 feet by 195 feet. The proposed expansion to the north is approximately 3200 square yards, measuring 145 feet North-South by 195 feet East-West. The proposed apron expansion to the south is approximately 1130 square yard, measuring approximately 60 feet North-South by 170 feet East-West.

A general plan of the airport and the location of the proposed apron expansion area are shown on the attached Vicinity Map, Figure 1 in Appendix A. General site features and the location of the test borings performed for this study are provided on the Site and Boring Location Plan, in Figure 2 in Appendix A.

3.0 SCOPE OF SERVICES

The TSi scope of work for the geotechnical exploration consisted of the following general tasks:

- completion of a total of two (2) borings, named B-1 and B-2. At each of these borings, the soils were sampled to a depth of about 10 feet. Sampling was conducted at 2.5 ft. intervals, and information on the subsurface materials was collected at each boring;
- completion of one (1) companion boring located near the proposed boring B-2 in the landscape area for the purpose of obtaining a bulk soil sample;
- conducting a geotechnical laboratory test program on the soil samples recovered from the borings in order to characterize the subsurface conditions; and
- preparing this report, which documents the course of the exploration, presents the field exploration and laboratory data, describes the subsurface conditions encountered, and provides geotechnical assessments and recommendations for the design and construction of the new structures and pavements.

4.0 FIELD EXPLORATION

The field exploration for this project consisted of completing a total of two (2) soil borings for the proposed apron expansion. One companion boring was also drilled in the landscape area in the proposed southern apron footprint for the purpose of obtaining bulk samples of the soil subgrade. The number of borings and their locations were determined by BMcD and marked in the field by TSi and BMcD. The surface elevations were provided to TSi by BMcD on April 25, 2023. The approximate locations of the borings are shown on the Site and Boring Location Plan, Figure 2, in Appendix A.

The exploration for this study was accomplished on March 20, 2023. Each soil boring was drilled to a depth of about 10.0 feet below the surface, except for the companion borings that were drilled to a depth of about 3.0 feet. The soil borings were drilled using an ATV-mounted CME-45 rotary drill rig. The soil borings were advanced into the underlying soil using hollow stem augers. The companion boring was advanced into the underlying soil using solid-stem flight augers. The borings were backfilled upon completion with auger cuttings and sand.

A geotechnical engineer from TSi supervised the test drilling and sampling procedures, and collected and classified the soil samples in the field in accordance with ASTM D 2488. Standard penetration test and Shelby tube samples were recovered in the soil borings at approximate 2.5-foot intervals. The bulk sample was collected at depths from approximately 1 to 3 feet in the companion boring.

Standard penetration test samples were recovered using a 2-inch outside-diameter split-barrel sampler, driven by an automatic hammer, in accordance with ASTM D 1586. Shelby tube samples were obtained in accordance with ASTM D 1587. The Shelby tube samples were preserved by sealing the entire sample in the tube. The standard penetration test samples were placed and sealed in glass jars and saved for later testing in TSi's laboratory. The bulk sample recovered from the boring was placed and sealed in 5-gallon buckets. The sampling sequence for each boring is summarized on the Logs of Boring in Appendix B of this report.

The results of the field tests and measurements were recorded on field logs and appropriate data sheets. Those data sheets and logs contain information concerning the boring methods, samples attempted and recovered, indications of the presence of various subsurface materials, and the observation of groundwater. The field logs and data sheets contain the field engineer's interpretations of the conditions between samples, based on the performance of the drilling equipment and the cuttings brought to the surface by the drilling tools.

5.0 LABORATORY TESTING

A laboratory testing program was conducted by TSi to determine selected engineering properties of the obtained soil samples. The results of the individual tests are presented on the Logs of Boring in Appendix B and in the Laboratory Test Reports in Appendix C. The following laboratory tests were performed on the samples recovered from the borings:

- visual descriptions by color and texture of each sample (ASTM D 2488);
- natural moisture content of each sample (ASTM D 2216);
- hand penetrometer tests of each sample (ASTM WK27337);
- Atterberg limits on selected samples (ASTM D 4318);
- unit weight of selected samples (ASTM D 7263);
- unconfined compression (ASTM D 2166);
- hydrometer analysis on the bulk sample (ASTM D 422);
- Standard Proctor moisture-density relationship on the bulk sample (ASTM D 698);
- California Bearing Ratio on the bulk sample (ASTM D 1883);

Data and observations from laboratory tests were recorded on laboratory data sheets during the course of the testing program. The logs represent considered interpretation of the field and laboratory data. The analyses and conclusions contained in this report are based on field and laboratory test results and on the interpretations of the subsurface conditions as reported on the logs. Only data pertinent to the objectives of this report have been included on the logs; therefore, these logs should not be used for other purposes.

6.0 SUBSURFACE CONDITIONS

Details of the subsurface conditions encountered at the boring locations are shown on the Logs of Boring in Appendix B. The general subsurface conditions encountered, and their pertinent engineering characteristics are described in the following paragraphs. Conditions represented by the borings should be considered applicable only at the boring locations on the dates shown; the reported conditions may be different at other locations or at other times.

6.1 GENERAL GEOLOGY

The general geology surrounding Warsaw Municipal Airport consists of residual soils underlain by Ordovician System, Ibexian Series bedrock deposits. At anticipated depths of less than 25 feet, the bedrock consists predominantly of finely crystalline, silty, cherty dolomite and oolitic chert with local sandstone beds. The soils are typically comprised of a heterogeneous mixture of clay, silt, sand, and gravel with occasional cobbles and boulders.

6.2 GENERALIZED SUBSURFACE PROFILE

The natural soils encountered are predominantly lean and fat clays (CL and CH, respectively). The natural soils observed are typically medium stiff to stiff in consistency throughout the soil profile. The N-values in the soils range from 6 to 27 blows per foot (bpf). The Shelby tube sample in the natural soils yielded an undrained shear strength value of 0.60 tons per square foot (tsf), with a dry unit weight of 114 pounds per cubic foot (pcf). Moisture contents in the natural soil range from 14 to 31%.

6.3 GROUNDWATER

Groundwater was not encountered in the borings during drilling. The presence or absence of groundwater at a particular location does not necessarily mean that groundwater will be present or absent at that location at other times.

7.0 PROCTOR AND CBR TEST RESULTS

7.1 TEST RESULTS

Standard Proctor compaction tests and three-point California Bearing Ratio (CBR) tests were performed on one bulk sample recovered from the companion boring located near the boring location of B-2. The bulk sample was recovered from depths of about 1.0 to 3.0 feet. These soils may represent the subgrade for the new apron areas. The CBR tests were performed on soils compacted at approximately their optimum moisture content to varying densities, with the results plotted to create a graph of density versus CBR value. The standard Proctor and CBR test reports are presented in Appendix C of this report. The results of the Proctor and CBR tests are summarized in the following table:

TABLE 1.
SUMMARY OF PROCTOR AND CBR TESTS

Location	Boring	Sample Depth (Feet)	USCS	Optimum Moisture Content (%)	Maximum Dry Density (pcf)	Dry Density at 95% Compaction (pcf)	CBR Value
Apron South	Bulk-1 (B-2)	1 to 3	CL	17.4	104.2	99.0	2.2

Notes:
1. USCS = Unified Soil Classification System
2. Optimum moisture content and Maximum dry density as determined by ASTM D 698-12, standard Proctor test
3. pcf = pounds per cubic foot

7.2 ELASTIC MODULUS AND SUBGRADE REACTION

The CBR value for the recompacted soil that could support the new pavement is 2.2. The CBR value is for soils compacted to a minimum of 95% of the standard Proctor maximum dry density.

TSi recommends a CBR value of 2.2 for the subgrade for use in the design of the new pavement for the fueling apron area. In accordance with the Federal Aviation Administration Advisory Circular 150/5320-6G a CBR of 3 is equivalent to a modulus-of-subgrade reaction, k_s, for the soil of approximately 53 pounds per square inch per inch (pci) and an elastic modulus, E, of 3,300 pounds per square inch (psi).

8.0 GEOTECHNICAL RECOMMENDATIONS

8.1 EXCAVATIONS

Trenching, excavating, and bracing should be performed in accordance with Occupational Safety and Health Administration (OSHA) regulations, and other applicable regulatory agencies. In accordance with the OSHA excavation standards, the soil at the site is considered Type B, which requires a side slope for excavations of no steeper than 1.0 horizontal to 1.0 vertical (1.0H:1.0V). However, worker safety and classification of the excavation soil is the responsibility of the contractor.

8.2 SUBGRADE PROTECTION

Construction areas should be properly drained in order to reduce or prevent surface runoff from collecting on the subgrade. Any ponded water in the exposed subgrade should be removed immediately. The soils encountered at the site are fairly sensitive and may become hard to stabilize once disturbed. To prevent unnecessary disturbance of the subgrade soils, construction vehicles should be restricted from traveling through the finished subgrade. If areas of disturbed subgrade develop, they should be properly repaired in accordance with the recommendations in this report.

8.3 SUBGRADE AND BACKFILL MATERIALS

The low plasticity lean clays that will be excavated at the site and exposed at the subgrade level are acceptable fill and backfill materials if no deleterious materials are present, and the liquid limit is less than 45 and the plastic limit is between 10 and 25. High plasticity fat clays (CH) with a liquid limit of 50 or more should not be used for the new pavement or structure subgrade. High plastic clays were encountered in the borings during drilling; therefore, fat clays may be present in the project area. High plastic clays can potentially shrink or swell due to variations in their natural moisture content, and should not be used as a pavement subgrade material without soil stabilization. Due to the swell potential of some subgrade materials, it is recommended that where high plasticity clays (CH) are found at the subgrade levels of the proposed pavement and structures, they should be stabilized with lime to a depth of 12 inches as recommended in Table 3-1 of Section 3.9 of FAA Advisory Circular 150/5320-6G.

Any overexcavations of unsuitable on-site materials should be replaced with Low Volume Change (LVC) fill material. LVC fill should consist of approved, well-graded granular materials or low plasticity cohesive soil. Low plasticity cohesive materials used as LVC fill should consist of inorganic clay with a liquid limit less than 45 and a plasticity index of less than 25. Granular fill should be well-graded and have a maximum particle size of 1.0 inch.

Depending on the time of construction, some of the soil may require the addition or reduction of moisture prior to compaction. Addition of moisture should be performed in a controlled manner using a tank truck with a spray bar to evenly wet the soil, and then thoroughly blending the soil

with a disk or other means to produce a uniform moisture content. During warm weather, moisture reduction can generally be accomplished by disking, or otherwise aerating, the soil. When air-drying is not possible, a moisture-reducing chemical additive, such as lime or fly ash, could be used to reduce the moisture content. Repeated mixing of the soil may be required to achieve the proper moisture content.

If the pavement and structures are constructed during the winter season, the subgrade should be carefully observed to see that no ice or frozen soils are evident in the subgrade or exist in the fill materials to be placed.

8.4 Soft Subgrade Conditions

Some potentially soft soils were encountered to a depth of about 5 feet in Boring B-2. If any soft soils are encountered at the pavement subgrade level, they may be difficult to recompact to the required density in a conventional manner. These soils may require removal and replacement with crushed limestone and possibly underlain by a soil stabilization geogrid. No more than 2 feet of overexcavation should be necessary. A geogrid such as Tensar TX 140 would be suitable. Crushed limestone with a gradation similar to Type 5 Aggregate as specified by MoDOT would be acceptable replacement fill. The crushed limestone should be placed in 8-inch lifts and mechanically compacted to 100% of its standard Proctor maximum density of the material (ASTM D 698-12). At the time of compaction, the crushed limestone should be within ±3% of the optimum moisture content of the material as determined by a standard Proctor compaction test. In lieu of Type 5 Aggregate and possible geogrid, a larger aggregate such as 2 to 3 inch minus gradation crushed limestone could be used to bridge soft subgrade zones.

8.5 Fill and Backfill Placement

Prior to placing fill or subbase material in the new pavement or foundation excavation, the subgrade should be scarified to a minimum depth of 8 inches and recompacted. The subgrade should be compacted to a dry density of at least 95% of the standard Proctor maximum dry density of the soil. Granular material, such as crushed limestone or crushed concrete, placed for pavement or foundation support should be compacted to at least 100% of the standard Proctor maximum dry density. The moisture content of fill at the time of compaction should generally be within ±3% of the optimum moisture content of the material as determined by the standard Proctor compaction test. Subbase or base material should be placed in loose lifts not in excess of 8 inches thick, and compacted to the aforementioned criterion. However, it may be necessary to place fill in thinner lifts to achieve the recommended compaction when using small hand-operated equipment.

Backfill placed next to existing below-grade structures or pavements should be compacted with hand-operated compaction equipment and not large self-propelled or machine-operated equipment. The operation of large pieces of equipment adjacent to these structures can result in overcompaction and possible movement or cracking of the structures. Compaction should be reduced within approximately 1 foot of the structure. Structures should be observed periodically

during backfilling for signs of movement. If movement is detected, it may be necessary to change backfilling procedures.

8.6 Frost Potential

The subgrade materials at this site could be generalized as clays with a plasticity index value of more than 12. These materials are moderately to highly susceptible to frost and are classified in the frost group of FG-3. The frost depth at this site is estimated to be 30 inches. The design of pavements in seasonal frost areas can be based on either of two approaches: frost protection or reduced subgrade strength. The first approach is based on the control of pavement deformations resulting from frost action. Using this approach, the combined thickness of the pavement and non-frost-susceptible material must be sufficient to eliminate, or limit, the adverse effects of frost penetration into the subgrade. The second approach is based on providing adequate pavement load carrying capacity during the critical frost melting period and provide for the loss of load carrying capacity due to frost melting, ignoring the effects of frost heave. The procedures that address these design approaches are discussed in Chapter 3 of FAA AC 150/5320-6G.

8.7 GROUNDWATER CONSIDERATIONS

Groundwater was not encountered in the borings during drilling. Based on information from the test borings, groundwater seepage is not anticipated for the depth of excavation planned for the pavement and foundation construction. However, fluctuations in the groundwater level could occur due to seasonal variations. It is expected that any groundwater seepage that might occur during excavation could be handled by means of drainage swales and a sump and pump arrangement. The excavations should be kept as dry as possible. If greater groundwater flow is encountered, TSi should be contacted to assess the situation.

9.0 CONSTRUCTION OBSERVATION AND TESTING

It is recommended that TSi be retained during construction to perform testing and observation services for the following items:

- observation of proofrolling of the exposed subgrade if needed, after removal of the existing subsurface materials;
- compaction of the existing subgrade and base course and any additional materials;
- placement and quality assurance testing of the aggregate and concrete.

These quality assurance services should help to verify the design assumptions and maintain construction procedures in accordance with the project plans, specifications, and good engineering practice.

10.0 REPORT LIMITATIONS

This report has been prepared for the exclusive use of **BURNS & MCDONNELL ENGINEERING COMPANY, INC.** for specific application to the subject project. The recommendations contained in this report have been made in accordance with generally accepted soil and foundation engineering practices; no other warranties are implied or expressed.

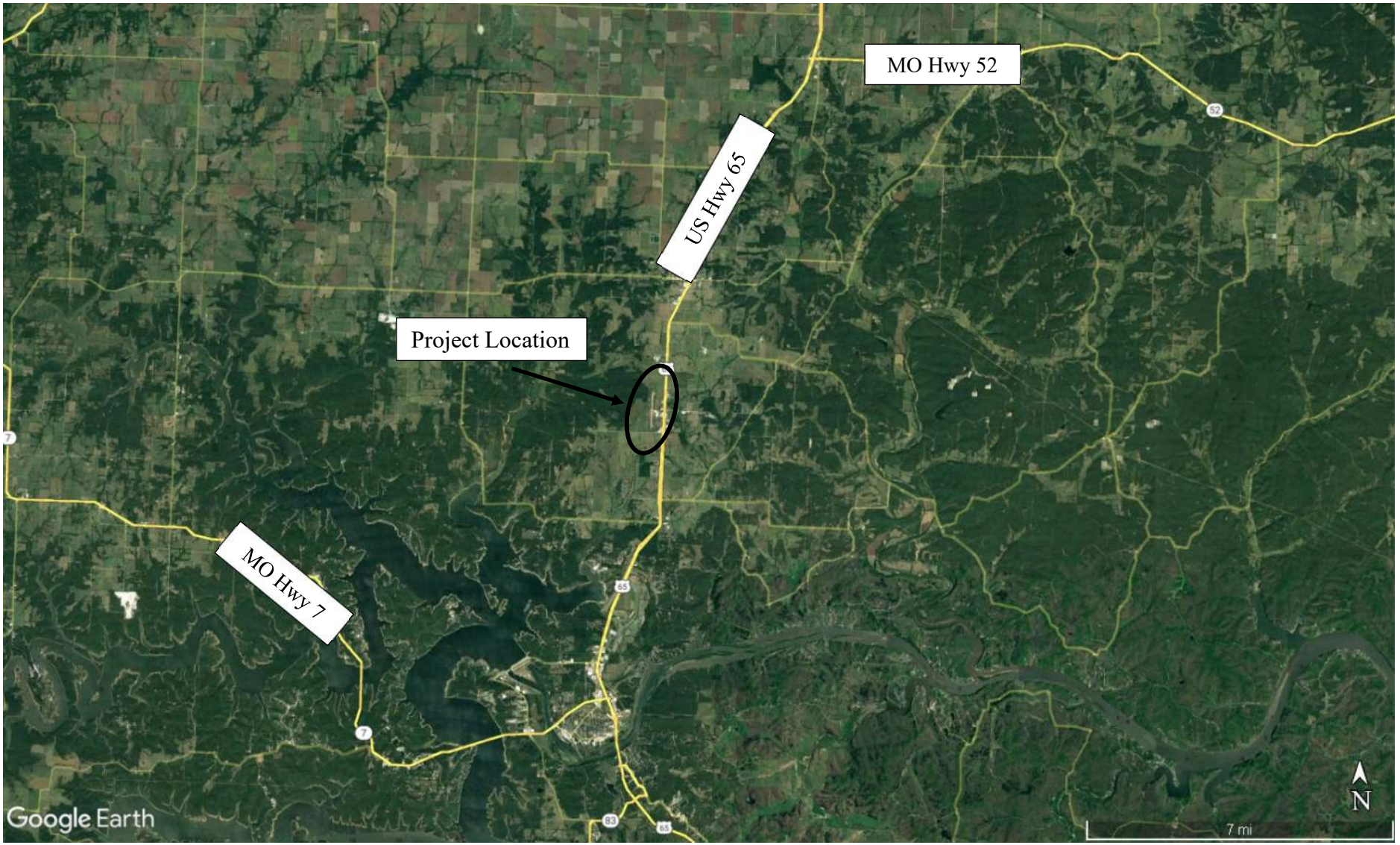
The assessments and recommendations submitted in this report are based in part upon the data obtained from the test borings. The nature and extent of variations away from the borings may not become evident until construction. If variations then appear evident, it may be necessary to re-evaluate the recommendations of this report.

This report was prepared for design purposes only and may not be sufficient to prepare an accurate construction bid. Contractors reviewing this report should acknowledge that the information and recommendations contained herein are for design purposes.

If conditions at the site have changed due to natural causes or construction operations, this report should be reviewed by TSi to determine the applicability of the analyses and recommendations considering the changed conditions. The report should also be reviewed by TSi if changes occur in the pavement location, width, and type, or in the planned elevations or project concepts.

TSi requests the opportunity to review the final plans and specifications for the project prior to construction to verify that the recommendations in this report are properly interpreted and incorporated in the design and construction documents. If TSi is not accorded the opportunity to make this recommended review, we can assume no responsibility for the misinterpretation of our recommendations.

APPENDIX A



This plan was prepared from an image retrieved from Google Earth on 4/13/2023.

Figure 1, Vicinity Map	Project No. 20221186.00
Warsaw Municipal Airport Warsaw, Missouri	
Not to Scale	Approved by: HG

Legend

B-1 ● Approximate Boring Location name & number

This plan was prepared from an image retrieved from Google Earth on 4/13/2023.

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W E
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Figure 2, Boring Location Plan	Project No. 20221186.00
Warsaw Municipal Airport Warsaw, Missouri	
Not to Scale	Approved by: HG

TSi geotechnical, inc.

APPENDIX B

LOG OF BORING NO. B-1

Project Description: **Warsaw Municipal Airport Apron Expansion**
Warsaw, Missouri

TSi Geotechnical Inc.
1340 North Price Road
St. Louis, Missouri 63132
(314) 373-4000 (314) 227-6622 FAX

Surface El.: **933.5**
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
		SS-1		Brown and gray, lean CLAY (CL)	100		2 4 5	3.50			16			
		SS-2		Gray, fat CLAY (CH)	83		3 4 9	>4.5			16			
5		SS-3		-shaley, with gravel below 4.7 ft.	56		6 7 3	1.75			31	86	19	67
		SS-5			39		3 3 3	1.50			26			
		SS-6		Brown and gray, shaley lean CLAY (CL), with sand and gravel	44		6 6 9	2.75			26			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 3/20/23
Date Boring Completed: 3/20/23
Engineer/Geologist: H. Ginsburg
Project No.: 20221186.00

Remarks: Boring drilled with CME-45 using HSA and Auto SPT.
Groundwater not encountered during drilling.
Auger refusal encountered at 5.9 ft.
Boring offset 20 ft. south and collected SS-6.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG WITH LAB WARSAW AIRPORT.GPJ 5/19/23

LOG OF BORING NO. B-2

Project Description: **Warsaw Municipal Airport Apron Expansion**
Warsaw, Missouri

TSi Geotechnical Inc.
1340 North Price Road
St. Louis, Missouri 63132
(314) 373-4000 (314) 227-6622 FAX

Surface El.: **934.5**
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
		SS-1		Brown and gray, lean CLAY (CL)	100		3 5 7	>4.5			15			
		SS-2			100		2 3 4	2.50						
5		ST-3		-trace gravel below 4.7 ft. -gray, shaley below 6.3 ft.	79				0.60	114	14	43	20	23
		SS-4		Brown and gray, sandy lean CLAY (CL)	89		3 12 15	3.00			16			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	3/20/23
Date Boring Completed:	3/20/23
Engineer/Geologist:	H. Ginsburg
Project No.:	20221186.00

Remarks: Boring drilled with CME-45 using HSA and Auto SPT. Groundwater not encountered during drilling.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

LOG WITH LAB WARSAW AIRPORT.GPJ 5/19/23

GENERAL NOTES

The number of borings is based on: topographic and geologic factors; the magnitude of structure loading; the size, shape, and value of the structure; consequences of failure; and other factors. The type and sequence of sampling are selected to reduce the possibility of undiscovered anomalies and maintain drilling efficiency. Attempts are made to detect and/or identify occurrences during drilling and sampling such as the presence of water, boulders, gas, zones of lost circulation, relative ease or resistance to drilling progress, unusual sample recovery, variation in resistance to driving split-spoon samplers, unusual odors, etc. However, lack of notation regarding these occurrences does not preclude their presence.

Although attempts are made to obtain stabilized groundwater levels, the levels shown on the Logs of Boring may not have stabilized, particularly in more impermeable cohesive soils. Consequently, the indicated groundwater levels may not represent present or future levels. Groundwater levels may vary significantly over time due to the effects of precipitation, infiltration, or other factors not evident at the time indicated.

Unless otherwise noted, soil classifications indicated on the Logs of Boring are based on visual observations and are not the result of classification tests. Although visual classifications are performed by experienced technicians or engineers, classifications so made may not be conclusive.

Generally, variations in texture less than one foot in thickness are described as layers within a stratum, while thicker zones are logged as individual strata. However, minor anomalies and changes of questionable lateral extent may appear only in the verbal description. The lines indicating changes in strata on the Logs of Boring are approximate boundaries only, as the actual material change may be between samples or may be a gradual transition.

Samples chosen for laboratory testing are selected in such a manner as to measure selected physical characteristics of each material encountered. However, as samples are recovered only intermittently and not all samples undergo a complete series of tests, the results of such tests may not conclusively represent the characteristics of all subsurface materials present.

NOTATION USED ON BORING LOGS

APPROXIMATE PROPORTIONS

TRACE	<15%
WITH	15-30%
MODIFIER	>30%

Clay or clayey may be used as major material or modifier, regardless of relative proportions, if the clay content is sufficient to dominate the soil properties.

PARTICLE SIZE

BOULDERS		>12 Inches
COBBLES		12 Inches – 3 Inches
GRAVEL		
	Coarse	3 Inches – ¾ Inch
	Fine	¾ Inch – No. 4 Sieve (4.750 mm)
SAND		
	Coarse	No. 4 – No. 10 Sieve (2.000 mm)
	Medium	No. 10 – No. 40 Sieve (0.420 mm)
	Fine	No. 40 – No. 200 Sieve (0.074 mm)
SILT		No. 200 Sieve - 0.002 mm
CLAY		< 0.002 mm

PENETRATION – BLOWS

Number of impacts of a 140-pound hammer falling a distance of 30 inches to cause a standard split-barrel sampler, 1 3/8 inches I.D., to penetrate a distance of 6 inches. The number of impacts for the first 6 inches of penetration is known as the seating drive. The sum of the impacts for the last 12 inches of penetration is the Standard Penetration Test Resistance or "N" value, blows per foot. For example, if blows = 6-8-9, "N" = 8+9 or 17.

OTHER NOTATIONS

Recovery % – length of recovered soil divided by length of sample attempted.

50/2"	Impacts of hammer to cause sampler to penetrate the indicated number of inches
WR	Sampler penetrated under the static loading of the weight of the drill rods
WH	Sampler penetrated under the static loading the weight of the hammer and drill rods
HSA	Hollow stem auger drilling method
FA	Flight auger drilling method
RW	Rotary wash drilling methods with drilling mud
AH	Automatic hammer used for Standard Penetration Test sample
SH	Safety hammer with rope and cathead used for Standard Penetration Test sample

GRAPHIC SYMBOLS


Depth at which groundwater was encountered during drilling


Depth at which groundwater was measured after drilling


Standard Penetration Test Sample, ASTM D1586

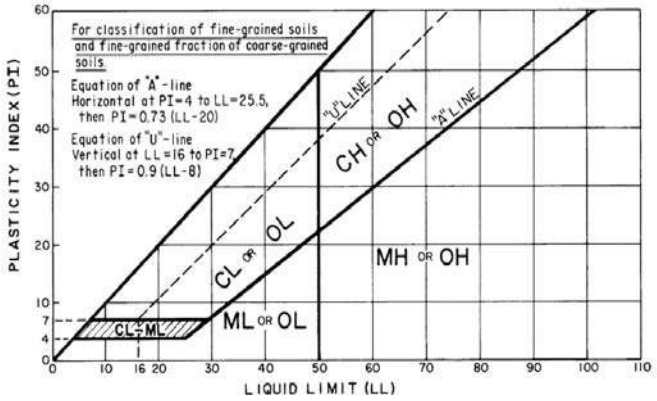

3-inch diameter Shelby Tube Sample, ASTM D1587

Sample grabbed from auger


NX Size rock core sample

UNIFIED SOIL CLASSIFICATION SYSTEM, (ASTM D-2487)

Major Divisions			*Group Symbols*		*Typical Names*	*Laboratory Classification Criteria*		
Coarse-grained soils (More than half of materials is larger than No. 200 sieve size)	Gravels (More than half of coarse fraction is larger than No. 4 sieve size)	Clean gravels (Little or no fines)	GW		Well-graded gravels, gravel-sand mixtures, little or no fines	Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-Grained soils are classified as follows: Less than 5 per cent GW, GP, SW, SP; More than 12 per cent GM, GC, SM, SC; 5 to 12 per cent Borderline cases requiring dual symbols[b]	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
			GP		Poorly graded gravels, gravel-sand mixtures, little or no fines		Not meeting all gradation requirements for GW	
		Gravels with fines (Appreciable amount of fines)	GM[a]	d	Silty gravels, gravel-sand-silt mixtures		Atterberg limits below "A" line or P.1. less than 4	Above "A" line with P.1. between 4 and 7 are *borderline* cases requiring use of dual symbols
				u				
			GC		Clayey gravels, gravel-sand-clay mixtures		Atterberg limits below "A" line with P.1. greater than 7	
	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	Clean sands (Little or no fines)	SW		Well-graded sands, gravelly sands, little or no fines		$C_u = \frac{D_{60}}{D_{10}}$ greater than 6; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
			SP		Poorly graded sands, gravelly sands, little or no fines		Not meeting all gradation requirements for SW	
		Sands with fines (Appreciable amount of fines)	SM[a]	d	Silty sands, sand-mix mixtures		Atterberg limits about "A" line or P.I. less than 4	Limits plotting in hatched zone with P.I. between 4 and 7 are *borderline* cases requiring use of dual symbols
				u				
			SC		Clayey sands, sand-clay mixtures		Atterberg limits about "A" line with P.I. greater than 7	
Fine-grained soils (More than half of materials is smaller than No. 200 sieve size)	Silts and clays (Liquid limit less than 50)		ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity			
			CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays			
			OL		Organic silts and organic silty clays of low plasticity			
	Silts and clays (Liquid limit greater than 50)		MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts			
			CH		Inorganic clays of medium to high plasticity, organic silts			
			OH		Organic clays of medium to high plasticity, organic silts			
	Highly organic soils		Pt		Peat and other highly organic soils			



[a]Division of GM and SM groups into subdivisions of d and u are for roads and airfields only. Subdivision is based on Atterberg limits; suffix d used when L.L. is 26 or less and the P.1. is 6 or less; the suffix u used when L.L. is greater than 28.

[b]Borderline classifications, used for soils possessing characteristics of two groups, are designated by combinations of group symbols. For example: GW-GC, well-graded gravel-sand mixture with clay binder.

APPENDIX C

TSI geotechnical,inc.

COMPACTION TEST

PROJECT NAME: Warsaw Municipal Airport

PROJECT No.: 20221186.00

SAMPLE NUMBER: Bulk 1
SAMPLE LOCATION: B-2
DEPTH: 1.0 - 3.0
VISUAL CLASS. (USCS): Brown, lean CLAY (CL)

TYPE OF COMPACTION	STND	D698		
SIEVE ANALYSIS RESULTS	3/4	3/8	No. 4	PROCEDURE
% Retained(cumulative)	0.0	0.0	0.0	A

SOIL WEIGHT DATA					
Determination Number	1	2	3	4	5
Weight- Soil + Mold (wet),g	5939.8	6120.3	6115.0	6106.6	
Weight of Mold,g	4268.0	4276.0	4268.0	4276.0	
Weight Wet Soil,g	**1671.8**	**1844.3**	**1847.0**	**1830.6**	
Volume of Mold (ft^3)	0.0333	0.0333	0.0333	0.0333	
MOISTURE DATA					
Weight- Soil + Tare (wet),g	251.9	236.4	441.2	378.1	
Weight- Soil + Tare (dry),g	231.0	214.1	383.3	324.8	
Weight- Tare,g	85.3	84.4	86.1	89.1	
COMPUTED DATA					
Wet unit weight (pcf)	**110.70**	**122.12**	**122.30**	**121.22**	
Moisture content (%)	**14.3**	**17.2**	**19.5**	**22.6**	
Dry unit weight (pcf)	**96.81**	**104.21**	**102.36**	**98.86**	

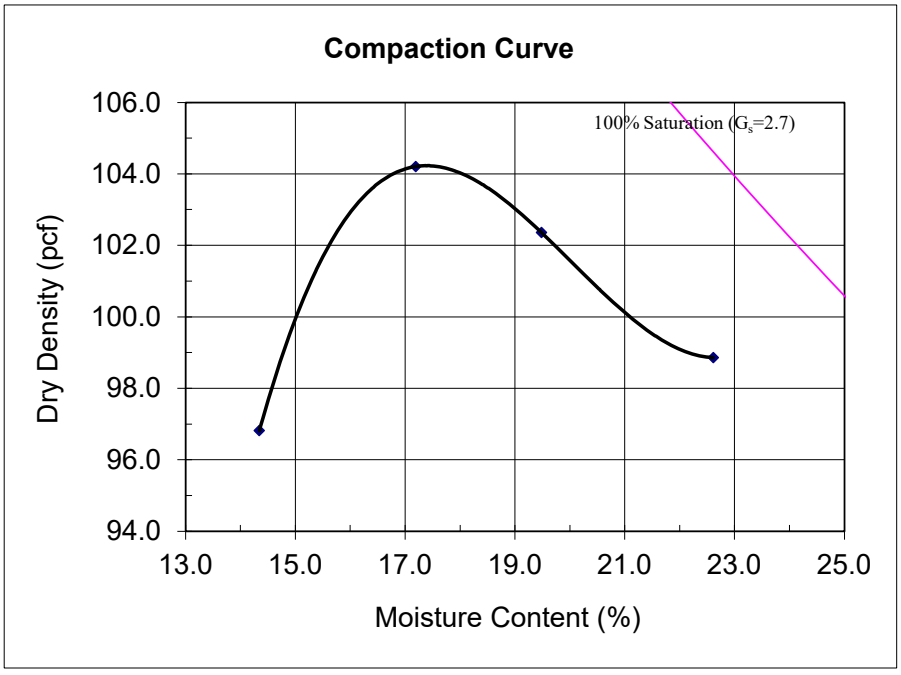
Maximum Dry Density (pcf)	**104.2**
Optimum Moisture Content (%)	**17.4**
Natural Moisture Content (%)	**22.0**

Corr. Max. Dry Density (pcf)	
Corr. Optimum Moist. Cont. (%)	

Liquid Limit	**43**
Plastic Limit	15
Plasticity Index	**28**
CLASSIFICATION. (USCS)	**CL**

	Date
Tested by : SLY	4/6/2023
Calculated by: SLY	4/7/2023
Checked by: HNG	4/12/2023

NOTE:



CALIFORNIA BEARING RATIO

at Optimum Water Content

geotechnical,inc.

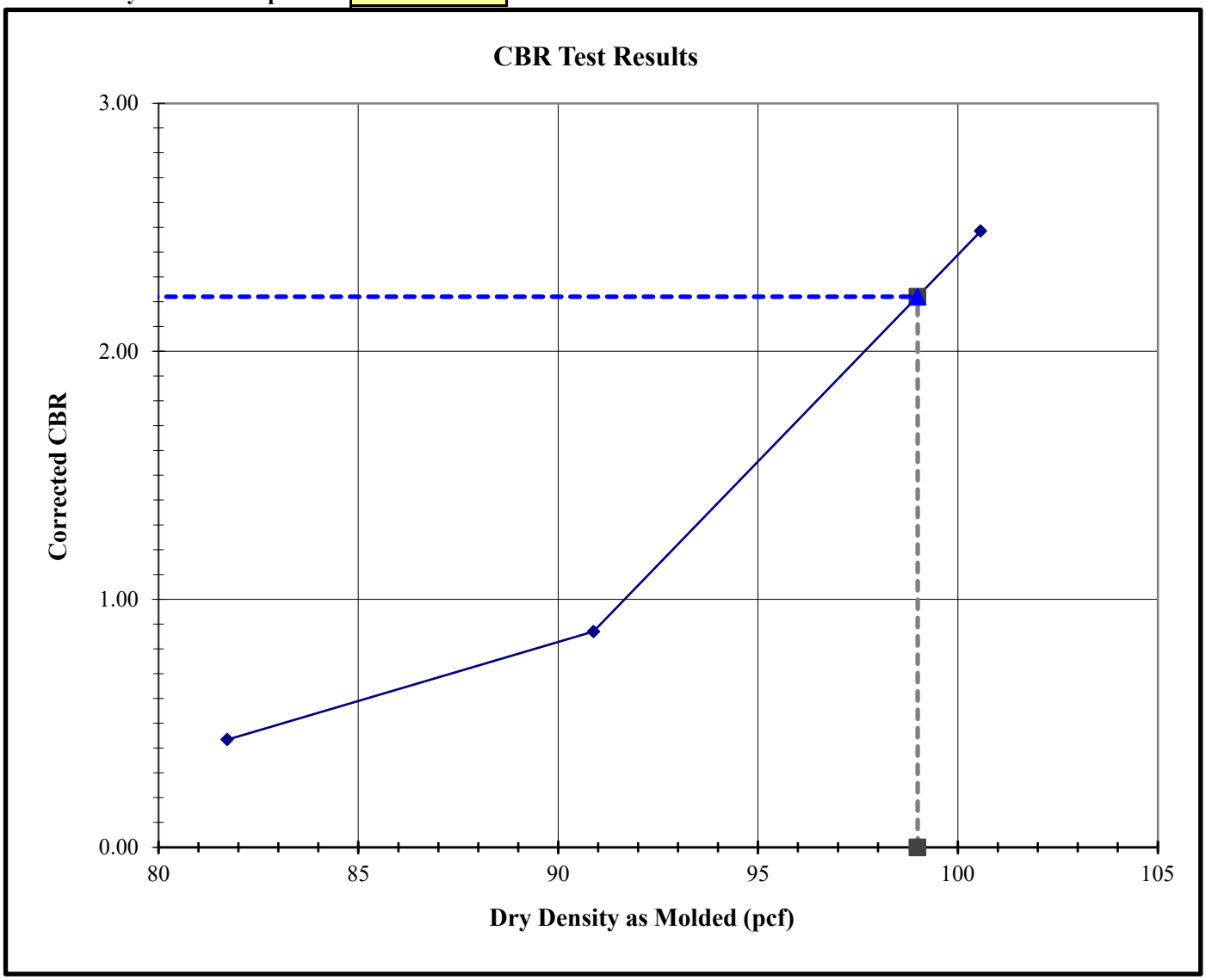
Project Name	Warsaw Airport
Project Number	20221186.00
Sample Number	Bulk 1
Sample Location	B-2
Soil Description	Brown, lean CLAY (CL)

Calc. by SLY 04/12/2023

Checked by HNG 04/13/2023

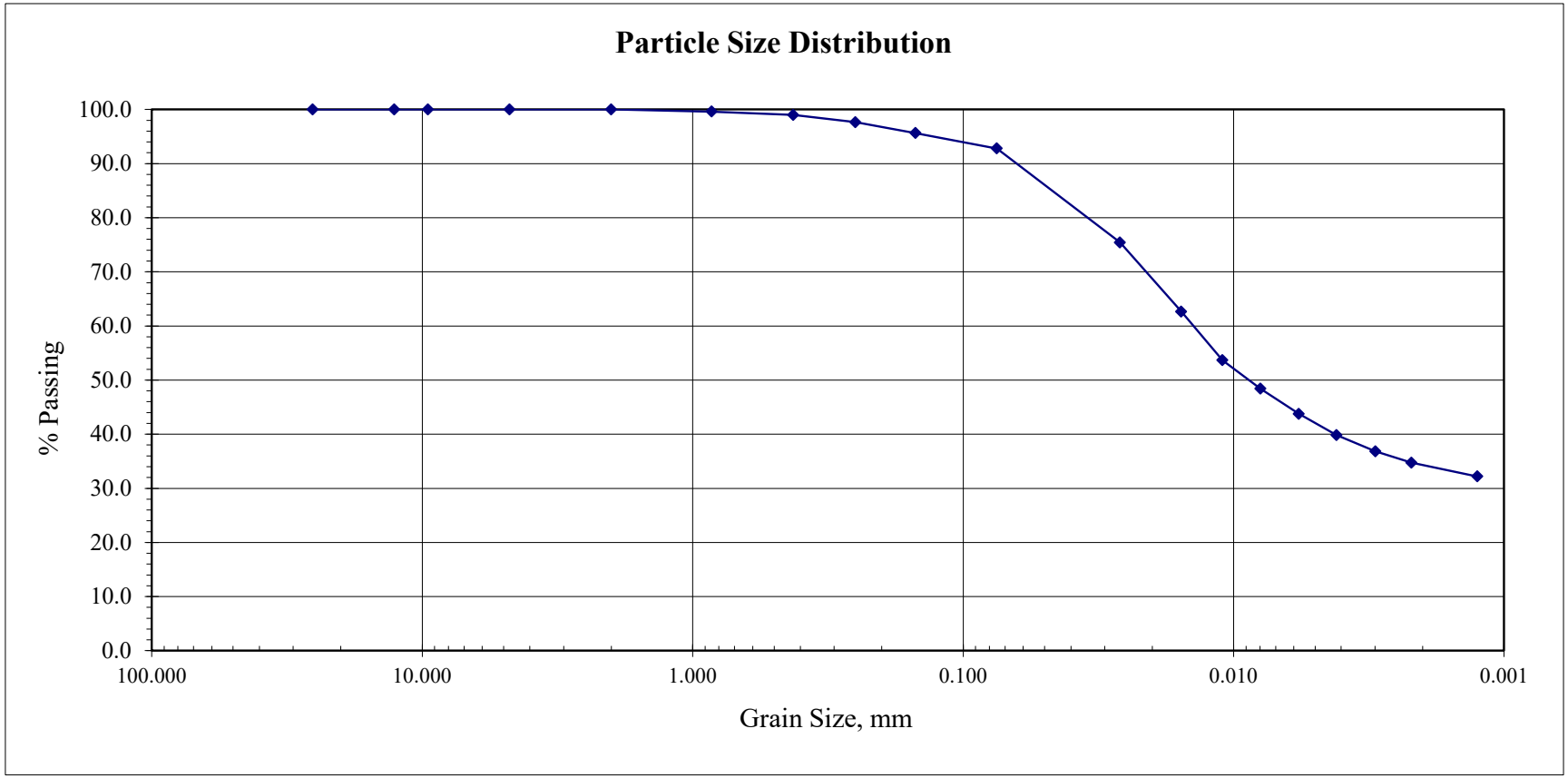
Maximum Dry Density	**104.2**
Optimum Moisture Content	**17.4**
Method of Compaction	**ASTM D698**
Density at 95% Compaction	**99.0**

CBR at 95% Compaction 2.2



TSi Geotechnical, Inc.
HYDROMETER ANALYSIS (ASTM D422)

Project Name:	Warsaw Airport	**Project Number:**	20221186.00
Boring Number:	B-2	**Tested by:**	SLY 04/11/2023
Sample Number:	Bulk 1	**Calculated by:**	SLY 04/12/2023
Sample Depth:	1.0 - 3.0	**Checked by:**	HNG 4/13/2023
Visual Description:	Brown, lean CLAY (CL)		



TSi Geotechnical, Inc.
HYDROMETER ANALYSIS (ASTM D422)

Project Name:	Warsaw Airport	**Project Number:**	20221186.00
Boring Number:	B-2	**Tested by:**	SLY 04/11/2023
Sample Number:	Bulk 1	**Calculated by:**	SLY 04/12/2023
Sample Depth:	1.0 - 3.0	**Checked by:**	HNG 4/13/2023
Visual Description:	Brown, lean CLAY (CL)		

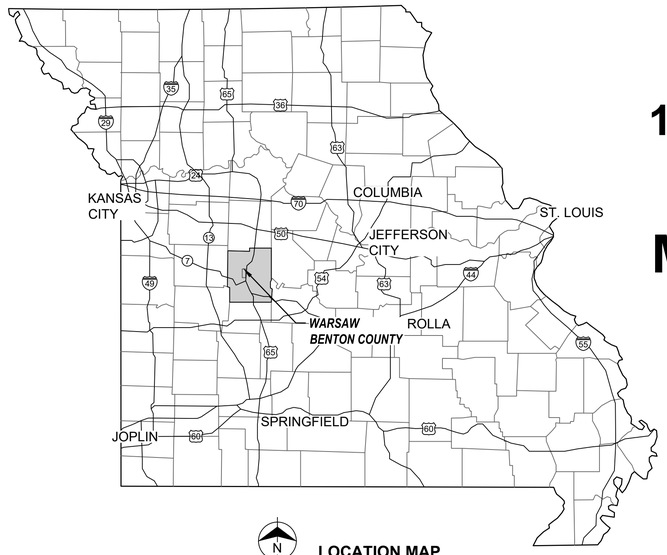
Sieve	Particle Size, mm	Percent Finer
1"	25.40	100
1/2"	12.70	100
3/8"	9.53	100
No.4	4.75	100
No.10	2.00	100
No.20	0.85	100
No.40	0.425	99
No.60	0.250	98
No.100	0.150	96
No.200	0.075	93
Hydrometer Analysis	0.0263	75
	0.0156	63
	0.0110	54
	0.0080	48
	0.0057	44
	0.0042	40
	0.0030	37
	0.0022	35
	0.0013	32

Particle Size Description
Soil Classification System

Particle	Size Range, mm	Percent of Specimen
Gravel	4.75 to 76.4	0
Coarse Sand	2.00 to 4.75	0
Medium Sand	0.43 to 2.00	1
Fine Sand	0.075 to 0.43	6
Silt	0.005 to 0.075	51
Clay	<0.005	42

Warsaw Municipal Airport

19321 Airport Lane
Warsaw, MO 65355



LOCATION MAP
NOT TO SCALE

APRON EXPANSION

100% SUBMITTAL - ISSUED FOR BID

MoDOT Project No. 22-023A-1

APRIL 2024

INDEX OF DRAWINGS CIVIL:

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3	G-002	ACCESS AND SAFETY PLAN
4	G-003	BID ALTERNATE ACCESS AND SAFETY PLAN
5	G-004	ACCESS AND SAFETY NOTES
6	G-100	PHASING PLAN
7	G-101	BID ALTERNATE PHASING PLAN
8	G-500	ACCESS AND SAFETY DETAILS
9	V-100	EXISTING CONDITIONS, DEMO & GEOMETRIC CONTROL PLAN
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11	CS100	SITE PLAN
12	CS101	BID ALTERNATE SITE PLAN
13	CG100	TEMPORARY GRADING PLAN
14	CG101	GRADING & DRAINAGE PLAN
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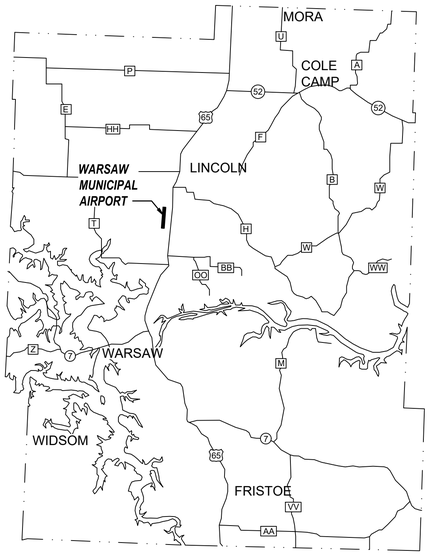
27	CM500	PAVEMENT MARKING & AIRCRAFT TIE-DOWN DETAILS

BMcD Proj. No. 152252



VICINITY MAP
NOT TO SCALE

STATE OF MISSOURI
RYAN B. LORTON
NUMBER PE-2004017211
PROFESSIONAL ENGINEER

6/14/2024
RYAN B. LORTON
PROFESSIONAL ENGINEER
PE-2004017211

no.	date	by	ckd	description
0	04/05/24	PB	RL	ISSUED FOR BID
1	06/14/24	PB	RL	ADDENDUM NO. 1

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSEE NO. 000165

ISSUED FOR BID - NOT FOR CONSTRUCTION

COVER

drawing **CVR** — rev. **1**

sheet 1 of 27

file 152252CVR.dwg

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ABBREVIATIONS

@	AT
=	EQUALS
%	PERCENT
A/C	ADVISORY CIRCULAR
AC	ACRES
ACI	AMERICAN CONCRETE INSTITUTE
ALT.	ALTERNATE
APPROX.	APPROXIMATE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWG	AMERICAN WIRE GAUGE
B1	BORING HOLE NUMBER
BM	BENCHMARK
CLR	CLEAR
CL	CENTER LINE
CMP	CORRUGATED METAL PIPE
CP	CONTROL POINT
CTAF	COMMON TRAFFIC ADVISORY FREQUENCY
CTR	CENTERED
C. TO C.	CENTER TO CENTER
CY	CUBIC YARDS
DIA.	DIAMETER
DWG.	DRAWING
E	EAST, EASTING
EA	EACH
EL/ELEV	ELEVATION
EX	EXISTING
EW	EACH WAY
FFE	FINISH FLOOR ELEVATION
FL	FLOW LINE
FAA	FEDERAL AVIATION ADMINISTRATION
FES	FLARED END SECTION
FOD	FOREIGN OBJECT DAMAGE OR DEBRIS
GA	GAUGE
HDPE	HIGH DENSITY POLYETHYLENE
HORZ	HORIZONTAL
IBC	INTERNATIONAL BUILDING CODE
INC	INCORPORATED
INV	INVERT
KSI	KIPS PER SQUARE INCH
KV	KILOVOLTS
L	LEFT
LF	LINEAR FEET
LLC	LIMITED LIABILITY CORPORATION
LS	LUMP SUM
MAX	MAXIMUM
MIN	MINIMUM
MISC.	MISCELLANEOUS
MODOT	MISSOURI DEPARTMENT OF TRANSPORTATION
N	NORTH, NORTHING
NAVAID	NAVIGATIONAL AID
N/E	NORTHING/EASTING
NE	NORTHEAST
NO	NUMBER
NOTAM	NOTICE TO AIRMEN
NW	NORTHWEST
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
OFA	OBJECT FREE AREA
OFF	OFFSET
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PAC	PRIMARY AIRPORT CONTROL
PCC	PORTLAND CEMENT CONCRETE
PI	POINT OF INTERSECTION
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS/RIGHT
R/W,RWY	RUNWAY
RCP	REINFORCED CONCRETE PIPE
RSA	RUNWAY SAFETY AREA
S	SOUTH
SAC	SECONDARY AIRPORT CONTROL
SD	STORM DRAIN
SE	SOUTHEAST
SF	SQUARE FEET
STA	STATION
STD	STANDARD
ST/SD	STORM
SW	SOUTHWEST
SY	SQUARE YARDS
TLOFA	TAXILANE OBJECT FREE AREA
TOFA	TAXIWAY OBJECT FREE AREA
TYP	TYPICAL
T/W,TWY	TAXIWAY
UD	UNDERDRAIN
UE	UNDERGROUND ELECTRIC
US	UNITED STATES
USGS	UNITED STATES GEOLOGICAL SURVEY
VC	VERTICAL CURVE
VERT	VERTICAL
W	WEST

BASE BID (APRON EXPANSION TO THE NORTH)

ITEM NO.	SPEC. ITEM NO.	DESCRIPTION OF WORK	UNITS	ESTIMATED QUANTITY
1	SP-1-2.1	TRAFFIC CONTROL	LS	1.00
2	C-100-14.1	CONTRACTOR QUALITY CONTROL PROGRAM (CQCP)	LS	1.00
3	C-102-5.1a	INSTALLATION AND REMOVAL OF SILT FENCE	LF	1,750.00
4	C-102-5.1b	INSTALLATION AND REMOVAL OF COMPOST FILTER SOCK	EA	15.00
5	C-105-6.1a	MOBILIZATION	LS	1.00
6	C-105-6.1b	TEMPORARY APRON ACCESS TAXILANE	LS	1.00
7	P-101-5.1	PAVEMENT REMOVAL	SY	30.00
8	P-101-5.2	REMOVAL OF 18" FLARED END SECTION	EA	2.00
9	P-101-5.3	REMOVAL OF UNDERDRAIN PIPE	LF	60.00
10	P-101-5.4	INSTALLATION OF AIRCRAFT TIE DOWN IN RIGID PAVEMENT	EA	18.00
11	P-101-5.5	REMOVAL OF RUNWAY HOLD SIGN AND CONCRETE FOUNDATION, AND RELOCATION OF SIGN TO NEW CONCRETE FOUNDATION	EA	1.00
12	P-152-4.1	UNCLASSIFIED EXCAVATION	CY	7,650.00
13	P-152-4.2	UNSUITABLE EXCAVATION	CY	300.00
14	P-155-8.1	12" LIME-TREATED SUBGRADE	SY	3,340.00
15	P-155-8.2	LIME	TON	110.00
16	P-209-5.1	CRUSHED AGGREGATE BASE COURSE (6")	SY	3,280.00
17	P-501-8.1	CONCRETE PAVEMENT (6")	SY	3,050.00
18	P-501-8.2	REINFORCED CONCRETE PAVEMENT (6")	SY	170.00
19	P-605-5.1	COLD-APPLIED JOINT SEAL	LF	4,700.00
20	P-620-5.1a	SURFACE PREPARATION	SF	1,550.00
21	P-620-5.1b	REFLECTORIZED PAVEMENT MARKING (YELLOW)	SF	700.00
22	P-620-5.1c	NONREFLECTORIZED PAVEMENT MARKING (BLACK)	SF	850.00
23	D-701-5.1	18-INCH DIAMETER REINFORCED CONCRETE PIPE (CLASS IV)	LF	104.00
24	D-701-5.2	18-INCH FLARED END SECTION (CLASS IV)	EA	2.00
25	D-705-5.1	4-INCH PERFORATED PVC UNDERDRAIN PIPE	LF	670.00
26	D-705-5.2	4-INCH NON-PERFORATED PVC UNDERDRAIN OUTLET PIPE	LF	35.00
27	D-705-5.3	PCC SLAB, FRAME, COVER FOR CLEANOUT ON PROPOSED UNDERDRAIN	EA	5.00
28	D-705-5.4	SPLASH PAD FOR UNDERDRAIN OUTLET	EA	1.00
29	D-705-5.5	CONNECT TO EXISTING UNDERDRAIN SYSTEM	EA	4.00
30	D-705-5.6	CONNECT TO EXISTING STORM PIPE	EA	1.00
31	D-751-5.1	5' X 5' AIRCRAFT RATED MANHOLE	EA	2.00
32	T-901-5.1	SEEDING	AC	3.00
33	T-904-5.1	SODDING	SY	240.00
34	T-905-5.1	4-INCH TOPSOIL	SY	2,200.00
35	T-908-5.1	MULCHING	AC	3.00
36	L-108-5.1	TRENCHING FOR DIRECT-BURIED CABLE, 18-INCH MINIMUM DEPTH	LF	310.00
37	L-108-5.2	NO. 8 AWG, 5 kV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK, OR CONDUIT	LF	1,240.00
38	L-108-5.3	NO. 6 AWG, 600V CABLE, INSTALLED IN TRENCH, DUCT BANK, OR CONDUIT	LF	620.00
39	L-108-5.4	TEMPORARY JUMPERS	LF	1,800.00
40	L-108-5.5	CABLE MARKERS	EA	2.00
41	L-110-5.1	CONCRETE ENCASED ELECTRICAL DUCT BANK, 3 WAY, 2-INCH	LF	230.00
42	L-125-5.1	RELOCATED TAXIWAY EDGE LIGHT ON NEW BASE CAN WITH NEW ISOLATION TRANSFORMER	EA	1.00
43	L-125-5.2	L-867 JUNCTION CAN	EA	1.00

GENERAL NOTES:

1. THE SCOPE OF THIS PROJECT IS TO CONSTRUCT A NEW APRON PAVEMENT SECTION ON THE NORTH SIDE OF THE EXISTING APRON FOR AIRCRAFT PARKING. THERE IS A BID ALTERNATE TO CONSTRUCT ADDITIONAL APRON PAVEMENT ON THE SOUTH SIDE OF THE EXISTING APRON FOR MORE AIRCRAFT PARKING.
2. THE PROJECT SHALL BE COMPLETED WITHIN 60 CALENDAR DAYS FROM THE NOTICE-TO-PROCEED IF ONLY THE BASE BID IS AWARDED. AN ADDITIONAL 15 CALENDAR DAYS WILL BE ADDED TO THE PROJECT SCHEDULE IF THE BID ALTERNATE IS AWARDED.
3. SEVEN DAYS PRIOR TO THE PRECONSTRUCTION MEETING, THE CONTRACTOR SHALL PROVIDE THE AIRPORT MANAGER AND THE RPR WITH THE PROJECT CONSTRUCTION SCHEDULE THAT SHALL IDENTIFY TASKS AND ANTICIPATED DATES FOR COMPLETION.
4. THE CONTRACTOR SHALL MAINTAIN ON THE SITE ONE SET OF REDLINE "AS CONSTRUCTED" DRAWINGS. THE SET SHALL BE DELIVERED TO THE RPR NO LATER THAN SEVEN (7) CALENDAR DAYS AFTER THE FINAL INSPECTION.
5. THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO ALL APPLICABLE STANDARDS AND SPECIFICATIONS IN THE PROJECT MANUAL.
6. ALL WORKMANSHIP AND MATERIAL SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE RPR (TYP).
7. LIMITS OF WORK SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO BEGINNING WORK. ANY DISCREPANCIES SHALL BE RECORDED AND DISCUSSED WITH THE RPR PRIOR TO BEGINNING WORK.
8. THE CONTRACTOR SHALL REMOVE STANDING WATER FROM THE PROJECT WORK LIMITS AS NECESSARY TO PROTECT THE UTILITY, SUBGRADE, SUBBASE, AND/OR BASE COURSE OF THE PROPOSED PAVEMENT AREAS, SURROUNDING PAVEMENT-TO-REMAIN, OR OTHER COMPLETED WORKS. NO DIRECT OR SEPARATE PAYMENT SHALL BE MADE FOR THIS DEWATERING EFFORT AS THE COST IS INCIDENTAL TO THE PROJECT.
9. THE CONTRACTOR SHALL CONTACT ALL ASSOCIATED UTILITY COMPANIES AND AGENCIES PRIOR TO COMMENCEMENT OF WORK FOR THE LOCATION OF UTILITIES.
10. THE LOCATIONS OF STRUCTURES AND UNDERGROUND UTILITIES AS INDICATED HAVE BEEN OBTAINED FROM EXISTING RECORDS AND FIELD SURVEYS. UNDERGROUND STRUCTURES AND UTILITIES MAY BE PRESENT WHICH ARE NOT DOCUMENTED OR LOCATED.
11. CONTRACTOR SHALL FIELD-VERIFY EXISTING STRUCTURES, UTILITIES, AND SURVEY INFORMATION, AND TAKE NECESSARY PRECAUTIONS DURING DEMOLITION AND CONSTRUCTION. THE CONTRACTOR SHALL FIELD-CHECK ALL EXISTING CONDITIONS AND BE THOROUGHLY FAMILIAR WITH THE SITE BEFORE ANY WORK COMMENCES. ANY DISCREPANCIES IN THE DRAWINGS SHALL BE IMMEDIATELY REPORTED TO THE RPR BEFORE ANY FURTHER WORK COMMENCES. IN THE EVENT AN UNEXPECTED UTILITY OR STRUCTURE INTERFERENCE IS ENCOUNTERED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE RPR.
12. THE CONTRACTOR SHALL PROTECT ITEMS NOT TO BE DAMAGED DURING DEMOLITION AND CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE DAMAGED OR DISTURBED ITEMS NOT SCHEDULED FOR REMOVAL OR DEMOLITION TO THE SATISFACTION OF THE OWNER AND AT THE CONTRACTORS EXPENSE .
13. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN AT THE CONTRACTORS OWN EXPENSE ALL UTILITY (WATER, ELECTRICITY & GAS) HOOK-UPS PURSUANT TO THE EXECUTION OF THE PROJECT.

BID ALTERNATE 1 (APRON EXPANSION TO THE SOUTH)

ITEM NO.	SPEC. ITEM NO.	DESCRIPTION OF WORK	UNITS	ESTIMATED QUANTITY
1	C-102-5.1a	INSTALLATION AND REMOVAL OF SILT FENCE	LF	150.00
2	C-102-5.1b	INSTALLATION AND REMOVAL OF COMPOST FILTER SOCK	EA	7.00
3	P-101-5.1	PAVEMENT REMOVAL	SY	30.00
4	P-101-5.4	INSTALLATION OF AIRCRAFT TIE DOWN IN RIGID PAVEMENT	EA	9.00
5	P-152-4.1	UNCLASSIFIED EXCAVATION	CY	950.00
6	P-152-4.2	UNSUITABLE EXCAVATION	CY	40.00
7	P-155-8.1	12" LIME-TREATED SUBGRADE	SY	1,280.00
8	P-155-8.2	LIME	TON	50.00
9	P-209-5.1	CRUSHED AGGREGATE BASE COURSE (6")	SY	1,250.00
10	P-501-8.1	CONCRETE PAVEMENT (6")	SY	1,050.00
11	P-501-8.2	REINFORCED CONCRETE PAVEMENT (6")	SY	180.00
12	P-605-5.1	COLD-APPLIED JOINT SEAL	LF	1,900.00
13	P-620-5.1a	SURFACE PREPARATION	SF	140.00
14	P-620-5.1b	REFLECTORIZED PAVEMENT MARKING (YELLOW)	SF	140.00
15	T-901-5.1	SEEDING	AC	0.30
16	T-904-5.1	SODDING	SY	110.00
17	T-905-5.1	4-INCH TOPSOIL	SY	1,400.00
18	T-908-5.1	MULCHING	AC	0.30

	Phase 1	Phase 2	
	Taxilane	Base Bid	Bid Alternate 1
CUT (CY)	330	7,650	1,000
FILL (CY)	105	1,150	50

LEGEND:

- CONTRACTOR ACCESS ROUTE
- CONTRACTOR'S STAGING AREA
- EXISTING STORM DRAIN
- BORING LOCATION
- CP# CONTROL POINT
- FLARED END SECTION
- MANHOLE
- PROPOSED RCP
- PROPOSED CONCRETE PAVEMENT (1 / CP501)
- EXISTING CONCRETE PAVEMENT
- AIRPORT FENCE
- SILT FENCE (1 / CP503)
- COMPOST FILTER SOCK (2 / CP503)
- A1 THICKENED EDGE ISOLATION JOINT (A / CP501)
- B HINGED CONTRACTION JOINT (B / CP501)
- C DOWELED CONTRACTION JOINT (C / CP501)
- D DUMMY CONTRACTION JOINT (D / CP501)
- E DOWELED CONSTRUCTION JOINT (E / CP501)
- REINFORCED CONCRETE PANEL (3 / CP501)
- PHASE 1 WORK AREA
- PHASE 2 WORK AREA
- STABILIZED CONSTRUCTION ENTRANCE
- BASE BID WORK AREA
- BID ALTERNATE WORK AREA
- PROPOSED SODDING
- UD EXISTING UNDERDRAIN PIPE
- UD PROPOSED UNDERDRAIN PIPE
- LIMITS OF DISTURBANCE
- UNDERDRAIN AND SPLASH PAD DEMOLITION
- PROPOSED UNDERDRAIN SPLASH PAD
- FLARED END SECTION DEMOLITION
- EXISTING UNDERDRAIN SPLASH PAD
- DITCH FLOW LINE
- PAVEMENT MARKING REMOVAL
- TEMPORARY RETROREFLECTIVE TAXIWAY EDGE MARKER (5 / CU500)
- TEMPORARY RETRORFLECTIVE RUNWAY GUIDANCE SIGNA AND PAD (6 / CU500)

no.	date	by	ckd	description
0	04/05/24	PB	RL	ISSUED FOR BID
1	06/14/24	PB	RL	ADDENDUM NO. 1

STATE OF MISSOURI — RYAN B. LORTON — NUMBER PE-2004017211 — PROFESSIONAL ENGINEER

6/14/2024
RYAN B. LORTON
PROFESSIONAL ENGINEER
PE-2004017211

ISSUED FOR BID - NOT FOR CONSTRUCTION

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSEE NO. 000165

date	detailed
04-05-2024	S. HART
designed	checked
P. BARNES	R. LORTON

WARSAW MISSOURI
WARSAW MUNICIPAL AIRPORT
WARSAW, MISSOURI

APRON EXPANSION
LEGEND, ABBREVIATIONS, AND SUMMARY OF QUANTITIES

project	FAA Proj No.
152252	22-023A-1

drawing **G-001** rev. **1**

sheet 2 of 27 sheets

file 152252G-001.dwg

Scale For Microfilming
Millimeters
Inches

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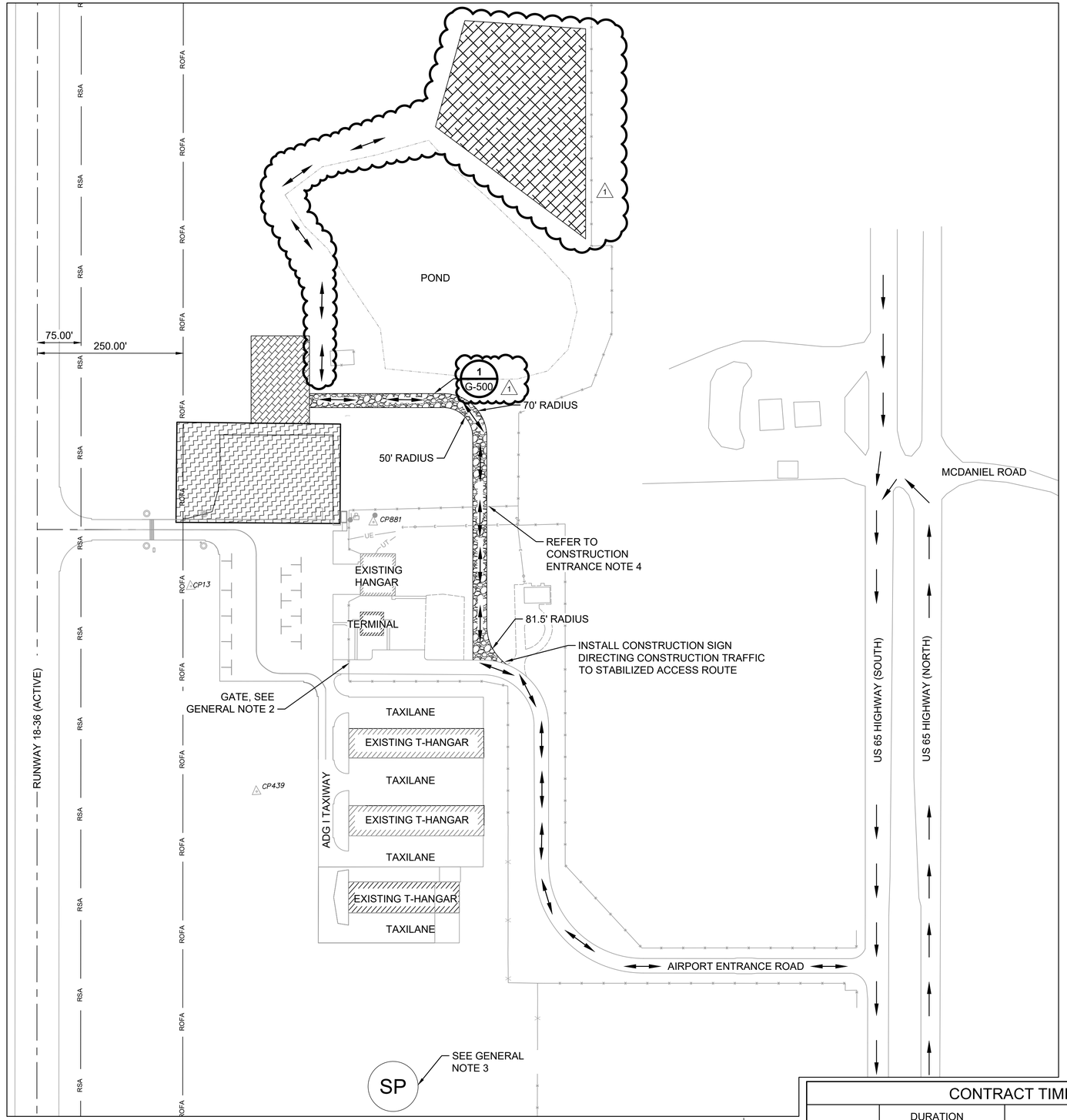


LEGEND:

- CONTRACTOR ACCESS ROUTE
- AIRPORT FENCE
- CONTRACTORS STAGING AREA
- BASE BID WORK AREA
- STABILIZED CONSTRUCTION ENTRANCE (1 / G-500)
- ADDITIONAL STOCKPILE AREA (SEE GENERAL NOTE 4) (1)

GENERAL NOTES:

1. SEE DRAWING G-004 FOR ACCESS AND SAFETY NOTES.
2. CONTRACTOR SHALL INSTALL SIGN(S) STATING "NO CONSTRUCTION TRAFFIC ALLOWED ON ACTIVE APRON/TAXIWAYS/ RUNWAY" PAYMENT SUBSIDIARY TO TRAFFIC CONTROL.
3. CONTRACTOR SHALL STOCKPILE EXCESS CUT MATERIAL SOUTH OF BID ALTERNATE 1 ACCESS ROAD. STOCKPILED MATERIAL SHALL NOT EXCEED 15-FT IN HEIGHT. STOCKPILED MATERIAL SHALL BE CONSTRAINED IN A MANNER TO PREVENT MOVEMENT RESULTING FROM WIND CONDITIONS.
4. (1) ADDITIONAL STOCKPILE AREA NORTH OF THE POND WILL ACCOMMODATE APPROXIMATELY HALF OF THE EXCESS BORROW MATERIAL TO BE STOCKPILED ON SITE. THE REMAINDER OF THE BORROW MATERIAL SHALL BE HAULED TO THE STOCKPILE LOCATION SOUTH OF THE T-HANGARS.

OVERALL PHASING PLAN NOTES:

1. RUNWAY AND APRON WILL BE CLOSED DURING THE CONSTRUCTION OF THE TEMPORARY TAXILANE ENTRANCE IN PHASE 1. THE RUNWAY, APRON, AND TAXILANES WILL BE OPEN DURING PHASE 2.
2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES 24 HOURS A DAY, 7 DAYS A WEEK. THE CONTRACTOR SHALL INSPECT ALL TRAFFIC CONTROL DEVICES PRIOR TO BEGINNING AND COMPLETING EACH DAY'S WORK TO ENSURE PROPER LOCATION AND OPERATION. ALL TRAFFIC CONTROL DEVICES FOUND TO BE OUT OF LOCATION AND/OR INOPERABLE SHALL BE CORRECTED BY THE CONTRACTOR PRIOR TO COMPLETING EACH DAY'S WORK.
3. BARRICADES SHALL BE PLACED WHERE INDICATED ON THE PHASING PLANS. BARRICADES ARE NOT SHOWN TO SCALE, THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE NUMBER OF BARRICADES FOR THE PROJECT.
4. PRIOR TO OPENING A CONSTRUCTION AREA TO AIRCRAFT TRAFFIC, THE CONTRACTOR SHALL COMPLETELY REMOVE ALL FOD FROM THE WORK AREAS. THE CONTRACTOR SHALL COORDINATE AN INSPECTION OF THE AREA TO BE OPENED WITH THE RPR AND THE AIRPORT MANAGER. AFTER APPROVAL FROM THE AIRPORT MANAGER, THE CONTRACTOR SHALL REMOVE ALL TRAFFIC CONTROL DEVICES.

TABLE OF STANDARDS

	TAXIWAY SAFETY AREA	TAXILANE OBJECT FREE AREA
ADG I TAXIWAY (25' WIDTH):	49'	79'
	RUNWAY SAFETY AREA	RUNWAY OBJECT FREE AREA
RUNWAY 18-36 (75' WIDTH):	150'	500'

CONTRACT TIME AND PHASING SCHEDULE

TASK NAME	DURATION (IN CALENDAR DAYS)	CALENDAR DAYS (0 10 20 30 40 50 60 70 80 90)
PHASE 1	5 DAYS	
PHASE 2	55 DAYS	

no.	date	by	ckd	description
0	04/05/24	PB	RL	ISSUED FOR BID
1	06/14/24	PB	RL	ADDENDUM NO. 1

ISSUED FOR BID - NOT FOR CONSTRUCTION

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSEE NO. 000165

date 04-05-2024 | detailed S. HART
designed P. BARNES | checked R. LORTON

WARSAW MISSOURI

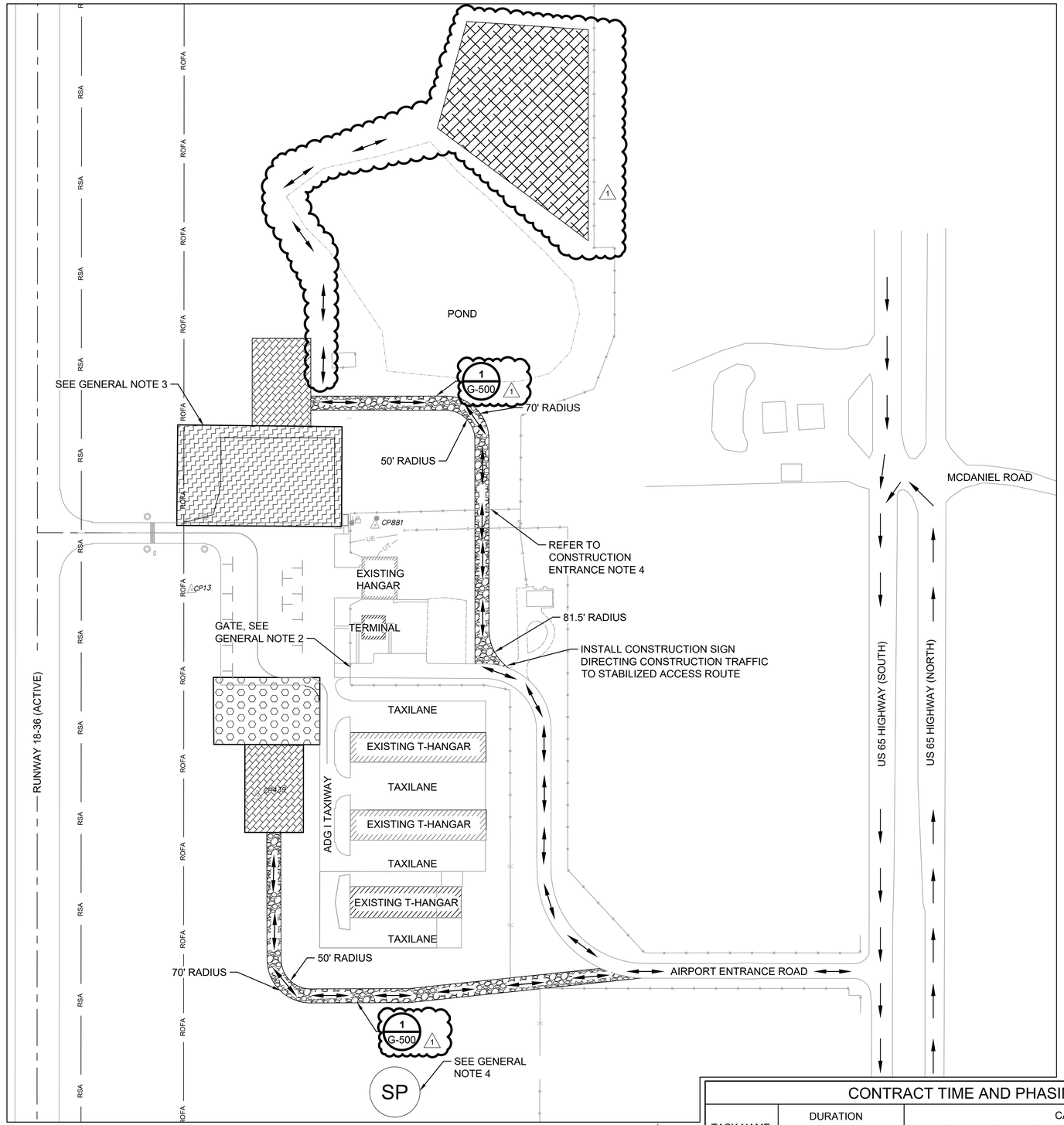
WARSAW MUNICIPAL AIRPORT
WARSAW, MISSOURI

APRON EXPANSION
ACCESS AND SAFETY PLAN

project 152252 | FAA Proj No. 22-023A-1
drawing G-002 | rev. 1
sheet 3 of 27 sheets
file 152252G-002.dwg

STATE OF MISSOURI — RYAN B. LORTON — NUMBER PE-2004017211 — PROFESSIONAL ENGINEER
6/14/2024
RYAN B. LORTON
PROFESSIONAL ENGINEER
PE-2004017211

Scale For Microfilming: Millimeters / Inches



LEGEND:

- CONTRACTOR ACCESS ROUTE
- AIRPORT FENCE
- CONTRACTORS STAGING AREA
- BASE BID WORK AREA
- STABILIZED CONSTRUCTION ENTRANCE (1 / G-500 / 1)
- BID ALTERNATIVE WORK AREA
- ADDITIONAL STOCKPILE AREA (SEE GENERAL NOTE 5) (1)

GENERAL NOTES:

1. SEE DRAWING G-004 FOR ACCESS AND SAFETY NOTES.
2. CONTRACTOR SHALL INSTALL SIGN(S) STATING "NO CONSTRUCTION TRAFFIC ALLOWED ON ACTIVE APRON/TAXIWAYS/ RUNWAY" PAYMENT SUBSIDIARY TO TRAFFIC CONTROL.
3. BASE BID AND BID ALTERNATE WORK MAY TAKE PLACE SIMULTANEOUSLY IN PHASE 2.
4. CONTRACTOR SHALL STOCKPILE EXCESS CUT MATERIAL SOUTH OF BID ALTERNATE 1 ACCESS ROAD. STOCKPILED MATERIAL SHALL NOT EXCEED 15-FT IN HEIGHT. STOCKPILED MATERIAL SHALL BE CONSTRAINED IN A MANNER TO PREVENT MOVEMENT RESULTING FROM WIND CONDITIONS.
5. (1) ADDITIONAL STOCKPILE AREA NORTH OF THE POND WILL ACCOMMODATE APPROXIMATELY HALF OF THE EXCESS BORROW MATERIAL TO BE STOCKPILED ON SITE. THE REMAINDER OF THE BORROW MATERIAL SHALL BE HAULED TO THE STOCKPILE LOCATION SOUTH OF THE T-HANGARS.

OVERALL PHASING PLAN NOTES:

1. RUNWAY AND APRON WILL BE CLOSED DURING THE CONSTRUCTION OF THE TEMPORARY TAXILANE ENTRANCE IN PHASE 1. THE RUNWAY, APRON, AND TAXILANES WILL BE OPEN DURING PHASE 2.
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3. BARRICADES SHALL BE PLACED WHERE INDICATED ON THE PHASING PLANS. BARRICADES ARE NOT SHOWN TO SCALE, THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE NUMBER OF BARRICADES FOR THE PROJECT.
4. PRIOR TO OPENING A CONSTRUCTION AREA TO AIRCRAFT TRAFFIC, THE CONTRACTOR SHALL COMPLETELY REMOVE ALL FOD FROM THE WORK AREAS. THE CONTRACTOR SHALL COORDINATE AN INSPECTION OF THE AREA TO BE OPENED WITH THE RPR AND THE AIRPORT MANAGER. AFTER APPROVAL FROM THE AIRPORT MANAGER, THE CONTRACTOR SHALL REMOVE ALL TRAFFIC CONTROL DEVICES.

TABLE OF STANDARDS

	TAXIWAY SAFETY AREA	TAXILANE OBJECT FREE AREA
ADG I TAXIWAY (25' WIDTH):	49'	79'
	RUNWAY SAFETY AREA	RUNWAY OBJECT FREE AREA
RUNWAY 18-36 (75' WIDTH):	150'	500'

CONTRACT TIME AND PHASING SCHEDULE

TASK NAME	DURATION (IN CALENDAR DAYS)	CALENDAR DAYS (0 10 20 30 40 50 60 70 80 90)
PHASE 1	5 DAYS	
PHASE 2*	70 DAYS	

* IF THE BID ALTERNATE IS AWARDED. AN ADDITIONAL 15 DAY WILL BE ADDED TO PHASE 2, FOR A TOTAL OF 70 CALENDAR DAYS IN PHASE 2

no.	date	by	ckd	description
0	04/05/24	PB	RL	ISSUED FOR BID
1	06/13/24	PB	RL	ADDENDUM NO. 1

ISSUED FOR BID - NOT FOR CONSTRUCTION

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSEE NO. 000165

date 04-05-2024 | detailed S. HART
designed P. BARNES | checked R. LORTON

WARSAW MISSOURI

WARSAW MUNICIPAL AIRPORT
WARSAW, MISSOURI

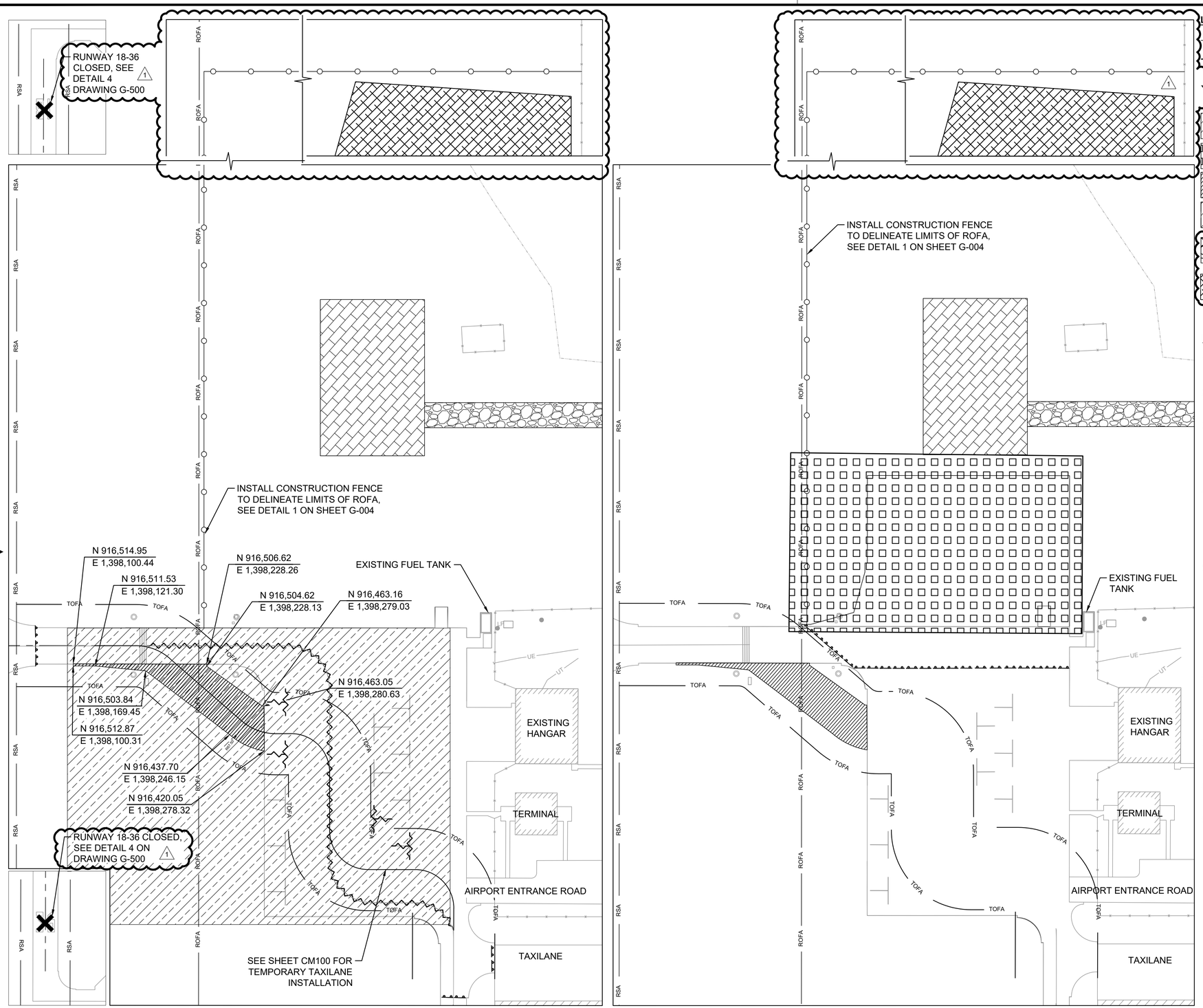
APRON EXPANSION
BID ALTERNATE ACCESS AND SAFETY PLAN

project 152252 | FAA Proj No. 22-023A-1
drawing G-003 | rev. 1
sheet 4 of 27 sheets
file 152252G-003.dwg

STATE OF MISSOURI
RYAN B. LORTON
NUMBER PE-2004017211
PROFESSIONAL ENGINEER

6/14/2024
RYAN B. LORTON
PROFESSIONAL ENGINEER
PE-2004017211

Scale For Microfilming
Millimeters
Inches



LEGEND:

- AIRPORT FENCE
- MARKING REMOVAL
- LOW PROFILE BARRICADES (3 / G-500)
- PHASE 1 WORK AREA
- PHASE 2 WORK AREA
- TEMPORARY ASPHALT PAVEMENT (5 / CP501)
- CONTRACTOR'S STAGING AREA
- STABILIZED CONSTRUCTION ENTRANCE (1 / G-500) (1)
- ADDITIONAL STOCKPILE AREA

NOTES:

1. PHASE 1 SHALL BE COMPLETED WITHIN 5 CALENDAR DAYS.
2. PHASE 2 SHALL BE COMPLETED WITHIN 55 CALENDAR DAYS.
3. WITH ESCORT FROM AIRPORT OR RPR, CONTRACTOR SHALL INSTALL LOW PROFILE BARRICADES. LOW PROFILE BARRICADES SHALL BE PLACED END TO END ACROSS PAVEMENT AT LOCATIONS INDICATED.
4. WHILE ON SITE, CONTRACTOR EQUIPMENT AND PERSONNEL ARE TO REMAIN IN THE PROJECT AND STAGING AREAS ONLY, WITH NO EXCEPTIONS, SO AS TO AVOID INADVERTENTLY ENTERING SAFETY AREAS AND ACTIVE PAVEMENTS.
5. PHASE 1 INCLUDES CONSTRUCTING A TEMPORARY ASPHALT TAXILANE TO PROVIDE ACCESS TO THE APRON DURING CONSTRUCTION. THE TAXILANE SURFACE WILL BE REMOVED AT THE END OF THE PROJECT AND THE SITE REGRADED. PHASE 2 INCLUDES CONSTRUCTING ALL ITEMS ASSOCIATED WITH THE PERMANENT CONCRETE APRON EXPANSION.
6. LOW-PROFILE BARRICADES SHALL BE PLACED END-TO-END ACROSS FULL WIDTH OF PAVEMENT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE NUMBER OF BARRICADES.
7. BARRICADES SHALL BE BRACED TO PREVENT TIP-OVER OR DISPLACEMENT AS MAY BE INDUCED BY WEATHER.
8. CONTRACTOR IS RESPONSIBLE FOR DAILY MAINTENANCE OF BARRICADES.
9. CONTRACTOR SHALL SURVEY AND/OR NOTE LOCATIONS AND DIMENSIONS OF EXISTING PAVEMENT MARKINGS IDENTIFIED FOR REMOVAL SO THEY MAY BE REAPPLIED IN THEIR ORIGINAL POSITIONS.

no.	date	by	ckd	description
0	04/05/24	PB	RL	ISSUED FOR BID
1	06/14/24	PB	RL	ADDENDUM NO. 1

ISSUED FOR BID - NOT FOR CONSTRUCTION

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSEE NO. 000165

date	detailed
04-05-2024	S. HART
designed	checked
P. BARNES	R. LORTON

WARSAW MISSOURI

WARSAW MUNICIPAL AIRPORT
WARSAW, MISSOURI

APRON EXPANSION
PHASING PLAN

project	FAA Proj No.
152252	22-023A-1

drawing **G-100** rev. **1**

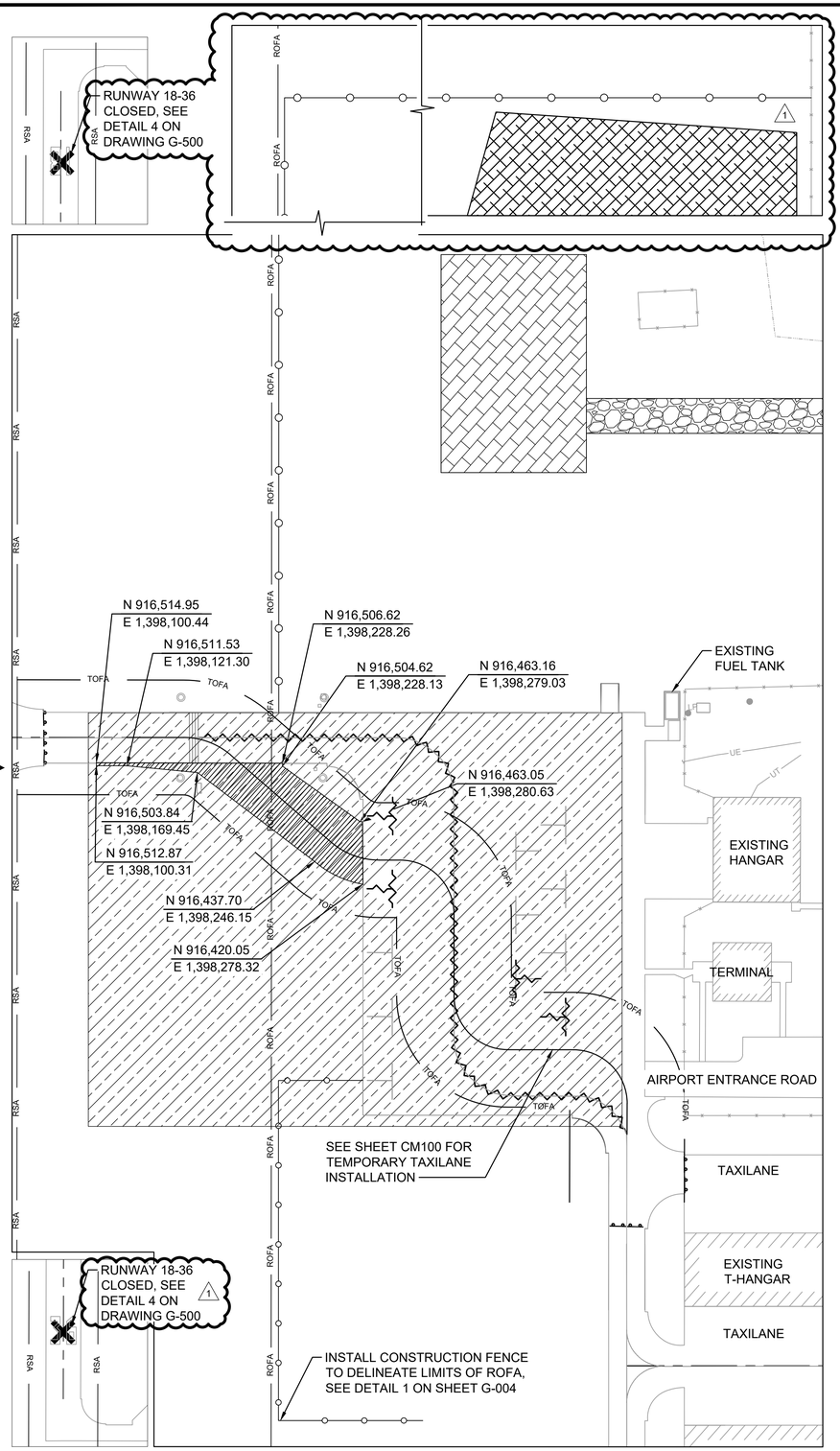
sheet 6 of 27 sheets

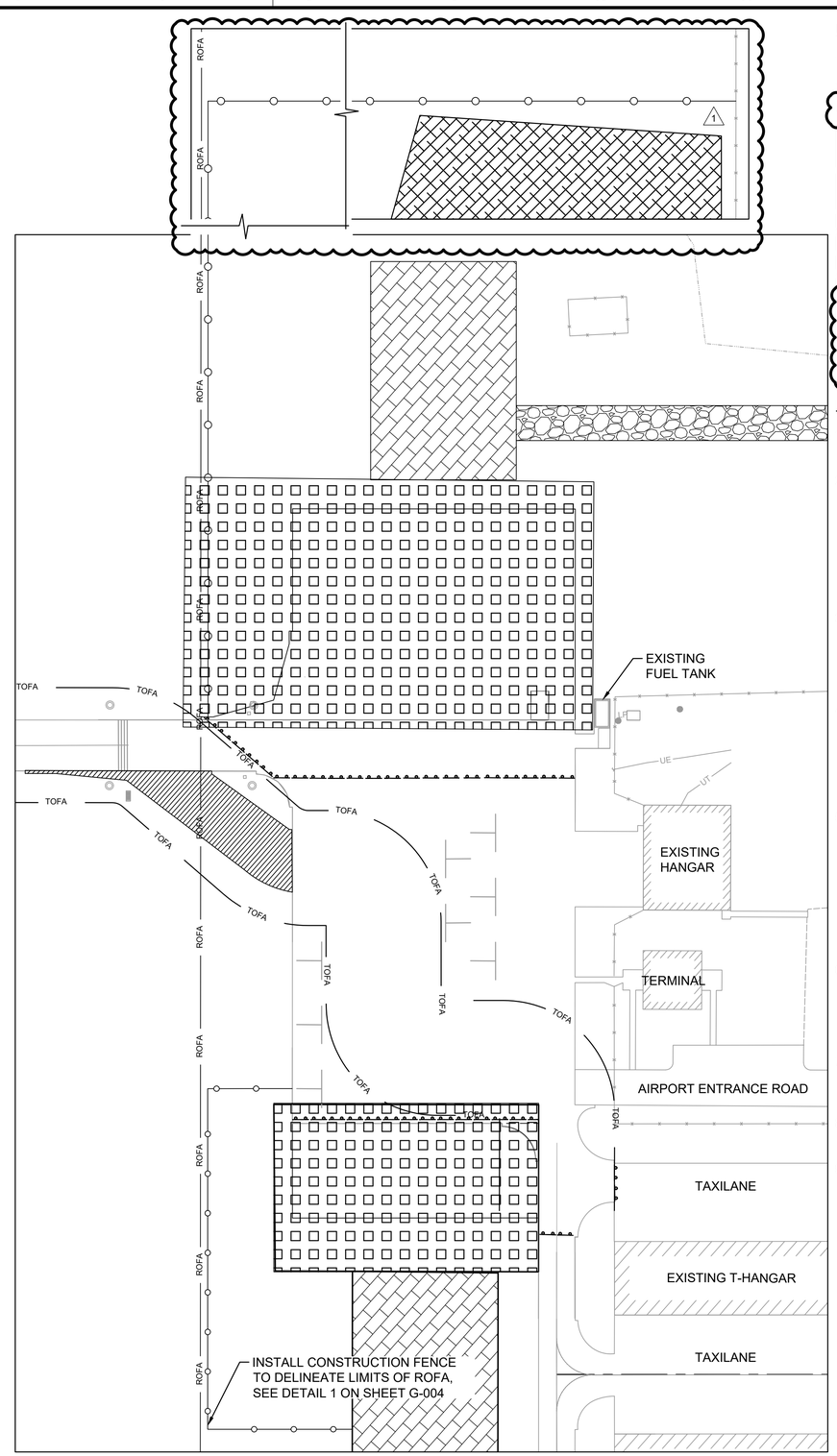
file 152252G-100.dwg

STATE OF MISSOURI
RYAN B. LORTON
NUMBER PE-2004017211
PROFESSIONAL ENGINEER

6/14/2024
RYAN B. LORTON
PROFESSIONAL ENGINEER
PE-2004017211

Scale For Microfilming
Millimeters
Inches





LEGEND:

- AIRPORT FENCE
- MARKING REMOVAL
- LOW PROFILE BARRICADE (3 / G-500, 1)
- PHASE 1 WORK AREA
- PHASE 2 WORK AREA
- TEMPORARY ASPHALT PAVEMENT (5 / CP501)
- CONTRACTOR'S STAGING AREA
- STABILIZED CONSTRUCTION ENTRANCE (1 / G-500, 1)
- ADDITIONAL STOCKPILE AREA

NOTES:

1. PHASE 1 SHALL BE COMPLETED WITHIN 5 CALENDAR DAYS.
2. PHASE 2 SHALL BE COMPLETED WITHIN 55 CALENDAR DAYS. IF THE BID ALTERNATE IS AWARDED AN ADDITIONAL 15 CALENDAR DAYS WILL BE ADDED TO PHASE 2, RESULTING IN A TOTAL OF 70 CALENDAR DAYS FOR PHASE 2. IF AWARDED, THE BID ALTERNATE CONSTRUCTION CAN TAKE PLACE AT THE SAME TIME AS THE BASE BID IN PHASE 2.
3. WITH ESCORT FROM AIRPORT OR RPR, CONTRACTOR SHALL INSTALL LOW PROFILE BARRICADES. LOW PROFILE BARRICADES SHALL BE PLACED END TO END ACROSS PAVEMENT AT LOCATIONS INDICATED.
4. WHILE ON SITE, CONTRACTOR EQUIPMENT AND PERSONNEL ARE TO REMAIN IN THE PROJECT WORK AREA AND STAGING AREAS ONLY, WITH NO EXCEPTIONS, SO AS TO AVOID INADVERTENTLY ENTERING SAFETY AREAS AND ACTIVE PAVEMENTS.
5. PHASE 1 INCLUDES CONSTRUCTING A TEMPORARY ASPHALT TAXILANE TO PROVIDE ACCESS TO THE APRON DURING CONSTRUCTION. THE TAXILANE SURFACE WILL BE REMOVED AT THE END OF THE PROJECT AND THE SITE REGRADED. PHASE 2 INCLUDES CONSTRUCTING ALL ITEMS ASSOCIATED WITH THE PERMANENT CONCRETE APRON EXPANSION.
6. LOW-PROFILE BARRICADES SHALL BE PLACED END-TO-END ACROSS FULL WIDTH OF PAVEMENT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE NUMBER OF BARRICADES.
7. BARRICADES SHALL BE BRACED TO PREVENT TIP-OVER OR DISPLACEMENT AS MAY BE INDUCED BY WEATHER.
8. CONTRACTOR IS RESPONSIBLE FOR DAILY MAINTENANCE OF BARRICADES.
9. CONTRACTOR SHALL SURVEY AND/OR NOTE LOCATIONS AND DIMENSIONS OF EXISTING PAVEMENT MARKINGS IDENTIFIED FOR REMOVAL SO THEY MAY BE REAPPLIED IN THEIR ORIGINAL POSITIONS.

no.	date	by	ckd	description
0	04/05/24	PB	RL	ISSUED FOR BID
1	06/14/24	PB	RL	ADDENDUM NO. 1

ISSUED FOR BID - NOT FOR CONSTRUCTION

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSEE NO. 000165

date	detailed
04-05-2024	S. HART
designed	checked
P. BARNES	R. LORTON

WARSAW MISSOURI

WARSAW MUNICIPAL AIRPORT
WARSAW, MISSOURI

APRON EXPANSION
BID ALTERNATE PHASING PLAN

project	FAA Proj No.
152252	22-023A-1

drawing **G-101** rev. **1**

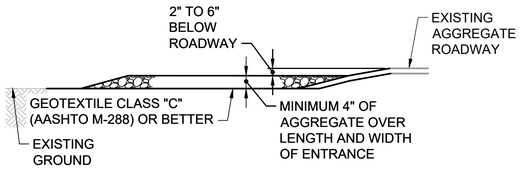
sheet 7 of 27 sheets

file 152252G-101.dwg

STATE OF MISSOURI
RYAN B. LORTON
NUMBER PE-2004017211
PROFESSIONAL ENGINEER

6/14/2024
RYAN B. LORTON
PROFESSIONAL ENGINEER
PE-2004017211

Millimeters
Inches
Scale For Microfilming

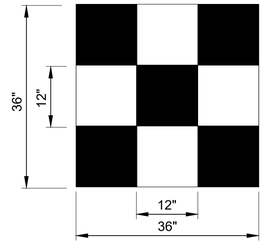


PROFILE

NOTES:

1. PAYMENT FOR THE STABILIZED CONSTRUCTION ENTRANCE ROAD SHALL BE SUBSIDIARY TO SP-1 TRAFFIC CONTROL.
2. GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE.
3. STONE - CRUSHED AGGREGATE (1" OR LESS) OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 4" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
4. THE SIDE SLOPES OFF THE CONSTRUCTION ENTRANCE SHALL BE 6' HORIZONTAL TO 1' VERTICAL OR FLATTER AND SHALL BE SEEDED AND MULCHED.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ACCESS THROUGH THE FENCE AT THE LOCATION SHOWN ON THIS SHEET AND THE CONTRACTOR SHALL RESTORE THE FENCE TO THE PRE-CONSTRUCTION CONDITION AT THE CONCLUSION OF THE PROJECT.
6. THE CONTRACTOR MUST REMOVE THE STABILIZED CONSTRUCTION ENTRANCE ROAD AT THE CONCLUSION OF THE PROJECT AND RESTORE THE SITE TO PRE-CONSTRUCTION CONDITION, INCLUDING SEEDING AND MULCHING THE DISTURBED AREAS.

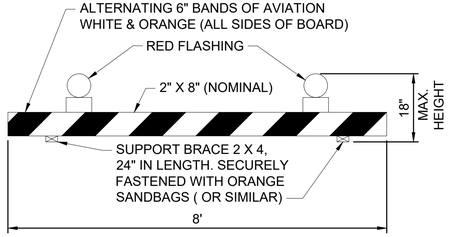
STABILIZED CONSTRUCTION ENTRANCE DETAIL — 1



NOTES:

1. ALL WARNING DEVICES SHALL MEET THE REQUIREMENTS OF AC 150/5370-2F AND PART 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. ALL WARNING LIGHTS SHALL BE KEPT IN OPERATIONAL ORDER BY CONTRACTOR.
3. THE TRAFFIC CONTROL SHOWN IS A MINIMUM REQUIREMENT NECESSARY TO ASSIST CONTRACTOR IN DETERMINING COST FOR PROVIDING NECESSARY TRAFFIC CONTROL. THE CONTRACTOR MAY ADD ADDITIONAL WARNING DEVICES UPON APPROVAL OF THE RPR.

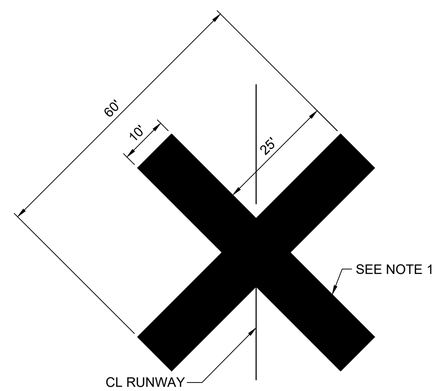
VEHICLE WARNING FLAG DETAIL — 2



NOTES:

1. FLASHER OR STEADY BURN LIGHTS SHALL BE BATTERY OR SOLAR POWER OPERATED. LENS SHALL BE RED AND BE ABLE TO ROTATE 90°. BATTERY REPLACEMENT SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
2. SUPPORT BRACES SHALL BE SECURELY ATTACHED TO 2" X 8".
3. SAND BAGS (OR SIMILAR) SHALL BE PLACED ON EACH SUPPORT BRACE. ALL SANDBAGS (OR SIMILAR) USED TO SECURE BARRICADES SHALL BE ORANGE.
4. FACING OF 2" X 8" TO BE COVERED WITH REFLECTIVE TAPE OR PAINT.
5. LOW-PROFILE BARRICADES SHALL BE PLACED END-TO-END ACROSS FULL WIDTH OF PAVEMENT.
6. BARRICADES SHALL BE BRACED TO PREVENT TIP-OVER OR DISPLACEMENT AS MAY BE INDUCED BY WEATHER.
7. CONTRACTOR IS RESPONSIBLE FOR DAILY MAINTENANCE OF BARRICADES. MATERIALS NOT MEETING REQUIREMENTS OF THIS DETAIL SHALL BE REPLACED/CORRECTED IMMEDIATELY BY THE CONTRACTOR.

LOW-PROFILE BARRICADE — 3



NOTES:

1. RUNWAY CLOSURE X SHALL BE BY YELLOW TARP OR PLYWOOD.
2. ANY MATERIAL USED SHALL PROVIDE A SOLID APPEARANCE.
3. TEMPORARY RUNWAY CLOSURE MARKINGS SHALL BE SECURED TO RESIST DISPLACEMENT BY WIND TO THE SATISFACTION OF THE AIRPORT AND THE RPR. IF SANDBAGS ARE USED TO SECURE MARKINGS, THE CONTRACTOR SHALL MAINTAIN SANDBAGS SO THEY DO NOT BECOME A FOD HAZARD.
4. ALL WEIGHTS AND SANDBAGS USED TO SECURE TEMPORARY CLOSURE MARKINGS SHALL BE YELLOW.
5. THE TRAFFIC CONTROL DEVICES SHOWN ARE A MINIMUM REQUIREMENT NECESSARY TO ASSIST CONTRACTOR IN DETERMINING COST FOR PROVIDING NECESSARY TRAFFIC CONTROL. THE CONTRACTOR MAY ADD ADDITIONAL WARNING DEVICES UPON APPROVAL OF THE RPR.

TEMPORARY RUNWAY CLOSURE DETAIL — 4
NOT TO SCALE

STATE OF MISSOURI
RYAN B. LORTON
NUMBER PE-2004017211
PROFESSIONAL ENGINEER

6/14/2024
RYAN B. LORTON
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PE-2004017211

no.	date	by	ckd	description
0	06/13/24	PB	RL	ADDENDUM NO. 1

ISSUED FOR BID - NOT FOR CONSTRUCTION

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9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
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Warsaw MISSOURI

WARSAW MUNICIPAL AIRPORT
WARSAW, MISSOURI

APRON EXPANSION
ACCESS AND SAFETY DETAILS

project	FAA Proj No.
152252	22-023A-1

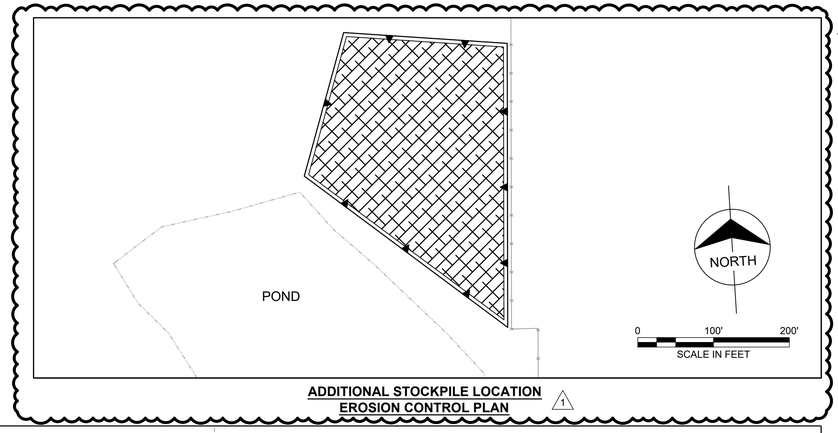
drawing **G-500** – rev. **0**

sheet 26 of 27 sheets
file 152252G-500.dwg

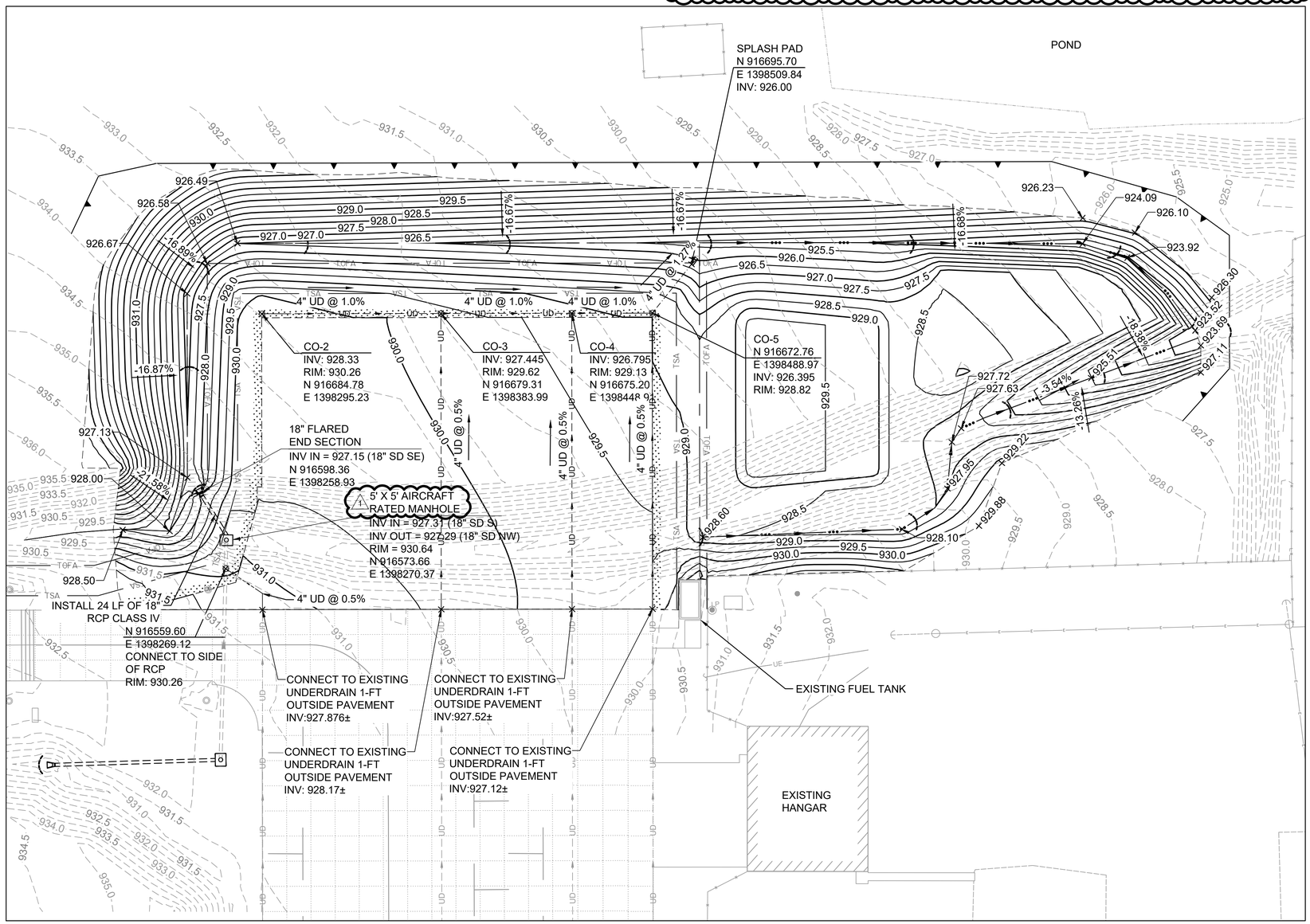
Scale For Microfilming
Millimeters
Inches

LEGEND:

- AIRPORT FENCE
- SILT FENCE
- COMPOST FILTER SOCK (1 CP503, 2 CP503)
- FLARED END SECTION WITH RIPRAP PROTECTION (5 CP503)
- PROPOSED MANHOLE
- 932.0 PROPOSED MAJOR ELEVATION CONTOUR
- 932.0 PROPOSED MINOR ELEVATION CONTOUR
- 932.0 EXISTING ELEVATION CONTOUR
- EXISTING STORM PIPE
- PROPOSED STORM PIPE
- DITCH FLOW LINE
- LIMITS OF DISTURBANCE
- PROPOSED UNDERDRAIN PIPE NON - PERF
- UD PROPOSED UNDERDRAIN PIPE PERF
- UD EXISTING UNDERDRAIN PIPE
- CO CLEAN OUT
- PROPOSED SODDING
- EXISTING UNDERDRAIN SPLASH PAD
- PROPOSED UNDERDRAIN SPLASH PAD
- ADDITIONAL STOCKPILE AREA (1)



ADDITIONAL STOCKPILE LOCATION
EROSION CONTROL PLAN (1)



NOTES:

1. TOPSOIL SHALL BE STRIPPED FROM ALL AREAS WITHIN THE LIMITS OF GRADING AND STOCKPILED FOR REPLACEMENT PER SPECIFICATION T-905.
2. PROPOSED ELEVATIONS SHOWN ARE FOR TOP OF FINISHED GRADE UNLESS INDICATED OTHERWISE.
3. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE SEEDED PER SPECIFICATION T-901.
4. SOD SHALL BE PLACED 48" WIDE ALONG EDGE OF ALL PROPOSED PAVEMENTS.
5. CONTRACTOR SHALL SEED AND SOD ALL DISTURBED AREAS AS SOON AFTER ACHIEVING FINAL GRADES AS POSSIBLE.
6. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. ANY DRAINAGE FEATURE OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO EXISTING CONDITIONS OR BETTER SUBJECT TO THE APPROVAL OF THE OWNER/RPR.
7. CONTRACTOR SHALL REMOVE STANDING WATER FROM THE PROJECT WORK LIMITS AS NECESSARY TO PROTECT EXISTING OR NEW PAVEMENTS OR OTHER SITE FEATURES AT THE DIRECTION OF THE OWNER/RPR.
8. CONTRACTOR SHALL PLACE SILT FENCE LOCATED BEYOND LIMITS OF GRADING AND COMPOST FILTER SOCK PRIOR TO DISTURBING TURFED AREAS. CONTRACTOR SHALL PLACE REMAINDER OF EROSION CONTROL DEVICES IMMEDIATELY UPON COMPLETION OF FINAL GRADING. EROSION CONTROL DEVICES SHALL BE PLACED DOWN-SLOPE OF DISTURBED AREAS AS SHOWN AND DIRECTED BY THE RPR.
9. SILT FENCE AND COMPOST FILTER SOCK SHALL BE CLEANED AND REPAIRED WHEN SEDIMENT BUILDUP REACHES ONE-THIRD OF THE DEVICE HEIGHT. AFTER EACH RAINFALL EVENT CONTRACTOR SHALL INSPECT ALL EROSION CONTROL DEVICES FOR SILT BUILD-UP THAT INTERFERES WITH THE PERFORMANCE OF THE EROSION CONTROL DEVICE AND REPAIR OR REPLACE THOSE DEVICES AS NECESSARY.
10. ALL EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL VEGETATION HAS BEEN ADEQUATELY ESTABLISHED TO PREVENT SOIL EROSION. WRITTEN APPROVAL FROM THE OWNER/RPR IS REQUIRED PRIOR TO REMOVAL OF ANY EROSION CONTROL DEVICE.
11. SLOPED SURFACES UPON WHICH EMBANKMENT WILL BE CONSTRUCTED SHALL BE PLOWED, STEPPED, BENCHED, OR BROKEN UP SO THAT FILL MATERIAL WILL BOND WITH THE EXISTING MATERIAL.
12. DEPENDING ON THE MOISTURE CONTENT OF THE IN-SITU SOILS, THE CONTRACTOR SHALL AERATE OR WET SOILS AS NEEDED TO ACHIEVE SPECIFIED COMPACTION WITHIN THE SPECIFIED MOISTURE RANGE.

no.	date	by	ckd	description
0	04/05/24	PB	RL	ISSUED FOR BID
1	06/14/24	PB	RL	ADDENDUM NO. 1

ISSUED FOR BID - NOT FOR CONSTRUCTION

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSEE NO. 000165

date	detailed
04-05-2024	S. HART
designed	checked
P. BARNES	R. LORTON

WARSAW MISSOURI

WARSAW MUNICIPAL AIRPORT
WARSAW, MISSOURI

APRON EXPANSION
GRADING & DRAINAGE PLAN

project	FAA Proj No.
152252	22-023A-1

drawing **CG101** rev. —

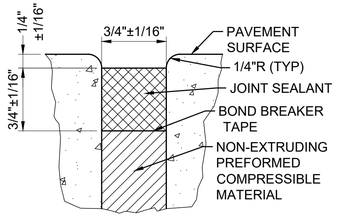
sheet 14 of 27 sheets

file 152252CG101.dwg

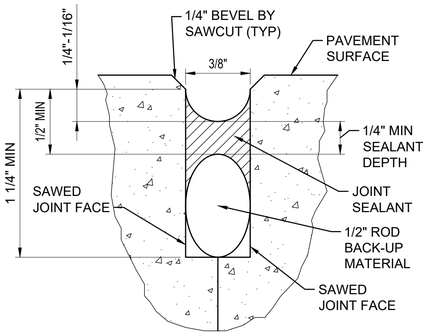
STATE OF MISSOURI
RYAN B. LORTON
NUMBER PE-2004017211
PROFESSIONAL ENGINEER

6/14/2024
RYAN B. LORTON
PROFESSIONAL ENGINEER
PE-2004017211

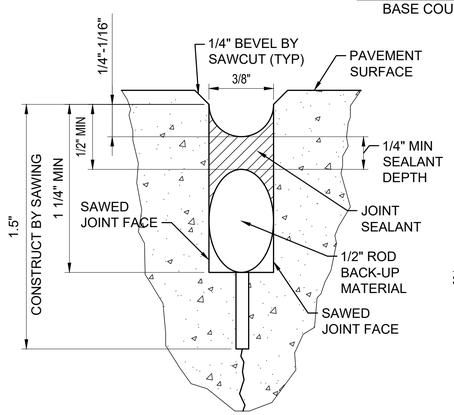
Millimeters
Scale For Microfilming
Inches



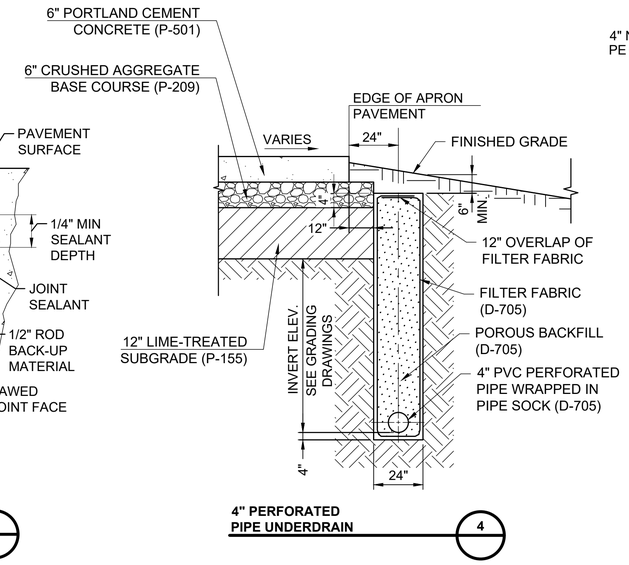
ISOLATION JOINT — 1



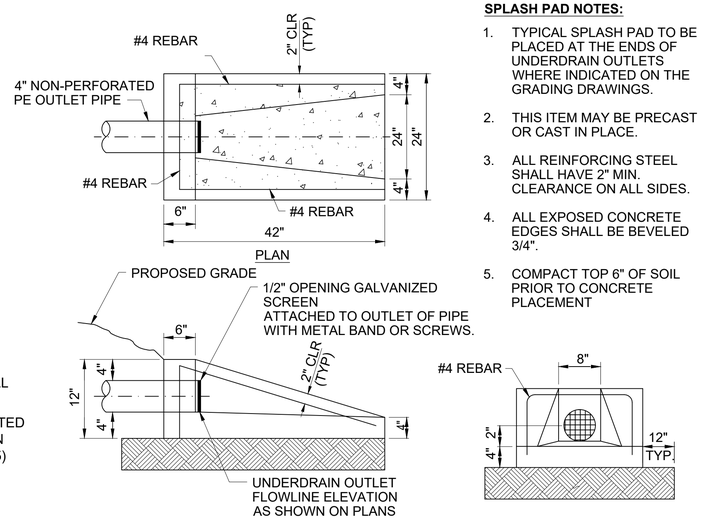
HOT POUR CONTRACTION JOINT — 2



HOT POUR CONTRACTION JOINT — 3



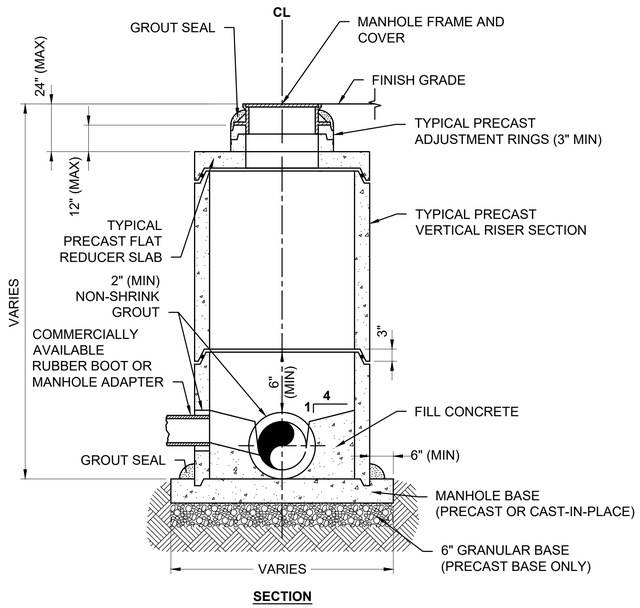
4" PERFORATED PIPE UNDERDRAIN — 4



PRECAST SPLASH PAD — 5

SPLASH PAD NOTES:

1. TYPICAL SPLASH PAD TO BE PLACED AT THE ENDS OF UNDERDRAIN OUTLETS WHERE INDICATED ON THE GRADING DRAWINGS.
2. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
3. ALL REINFORCING STEEL SHALL HAVE 2" MIN. CLEARANCE ON ALL SIDES.
4. ALL EXPOSED CONCRETE EDGES SHALL BE BEVELED 3/4".
5. COMPACT TOP 6" OF SOIL PRIOR TO CONCRETE PLACEMENT



SECTION

PRECAST MANHOLE — 6

MANHOLE NOTES:

1. ALL PRECAST MANHOLE SECTIONS SHALL CONFORM TO ASTM C478.
2. ALL UTILITY STRUCTURES ARE TO BE HS20 RATED UNLESS INDICATED OTHERWISE.
3. DELEGATED FOUNDATION DESIGN: CONTRACTOR TO HIRE A LICENSED ENGINEER REGISTERED IN THE STATE OF MISSOURI FOR THE DESIGN OF THE MANHOLES FOR THIS PROJECT PER LOCAL CODES AND REGULATIONS. CONTRACTOR TO PROVIDE SEALED REPORTS, CALCULATIONS, AND DRAWINGS FOR REVIEW TO OWNER. MANHOLES SHALL BE DESIGNED PER LOADINGS AND REQUIREMENTS ON THIS DRAWING. CONTRACTOR SHALL NOT BE PERMITTED TO USE OWNER'S ENGINEER FOR THIS DESIGN.
4. COVERS AND CASTINGS OF MANHOLES AND STRUCTURES SHALL BE STAMPED PER THE APPROPRIATE UTILITY TYPE OR PER THE LOCAL STANDARDS, AND SHALL BE STAMPED PER THE ORIGIN OF MANUFACTURE.
5. COVERS AND CASTINGS SHALL BE TAMPER-PROOF FOR STRUCTURES LOCATED IN PEDESTRIAN AREAS, EASEMENT AREAS, AND AREAS WITH SPECIAL SECURITY RESTRICTIONS.
6. COVERS THAT MAY BE SUBMERGED SHALL BE WATERTIGHT.
7. FRAME AND ADJUSTMENT RINGS SHALL BE SEALED WITH NON-SHRINK GROUT, PREFORMED PLASTIC, OR RUBBER RING TO FORM WATERTIGHT SEAL.
8. ALL JOINTS SHALL BE SEALED WITH JOINT COMPOUND OR GROUTED WITH MORTAR.
9. ANY LIFT LOOPS FOR UTILITY STRUCTURES SHALL BE GROUTED FLUSH AFTER INSTALLATION.
10. ALL MANHOLE BASES (PRECAST OR CAST-IN-PLACE) SHALL HAVE #4 @ 12" ON CENTER EACH WAY REINFORCEMENT.
11. ALL REINFORCEMENT SHALL BE PLACED 2" CLEAR OF NEAREST FACE OF CONCRETE UNLESS INDICATED OTHERWISE.
12. PIPE MAY EXTEND 2.00" MAXIMUM BEYOND INTERIOR MANHOLE WALL.
13. MANHOLE STEPS SHALL BE PLACED INTO MANHOLE WALL DURING MANUFACTURE OR MORTARED INTO HOLES AFTER CONCRETE HAS CURED.

UNDERDRAIN CLEANOUT — 7

UNDERDRAIN AND CLEANOUT NOTES:

1. UNDERDRAIN FRAME AND COVER SHALL BE DUCTILE IRON DESIGNED TO MEET AASHTO HS20 LOADINGS.
2. NO LOAD SHALL BE TRANSFERRED FROM MANHOLE FRAME AND COVER TO 4" PVC UNDERDRAIN CLEANOUT/COLLECTION STRUCTURE.
3. HOLE SHALL BE CUT IN TOP OF FILTER FABRIC FOR PLACEMENT OF RISER PIPE.
4. STANDARD MANUFACTURER FITTINGS SHALL BE USED TO CONNECT VERTICAL UNDERDRAINS TO 4" PVC UNDERDRAINS AND OUTLET PIPES.
5. ALL UNDERDRAIN CLEANOUT AND COLLECTION STRUCTURE COVERS SHALL BE BOLT DOWN TYPE.
6. REINFORCEMENT SHALL HAVE 3" CLEARANCE BETWEEN BARS AND EDGE OF PCC PAD.

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designed	checked
P. BARNES	R. LORTON

Warsaw MISSOURI

WARSAW MUNICIPAL AIRPORT
WARSAW, MISSOURI

APRON EXPANSION
PAVEMENT DETAILS - 2

project	FAA Proj No.
152252	22-023A-1

drawing **CP502** rev. **—** **---**

sheet 22 of 27 sheets
file 152252C-500.dwg

Scale For Microfilming
Millimeters
Inches

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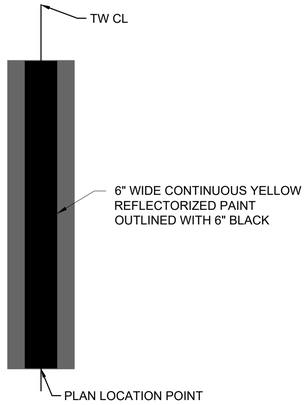
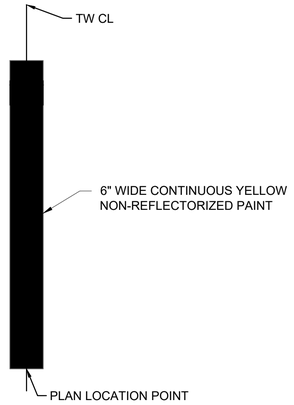
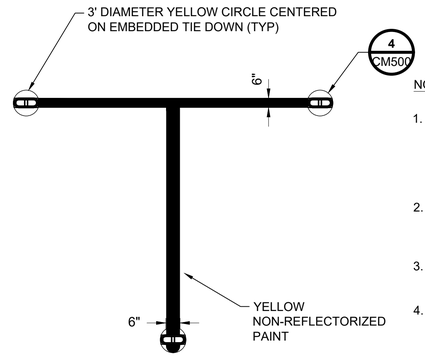


CL TAXIWAY MARKING 1



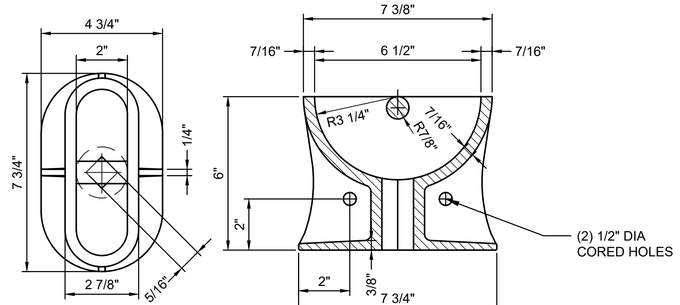
TEMPORARY
TAXIWAY CL MARKING 2



AIRCRAFT PARKING POSITION 3

NOTES:

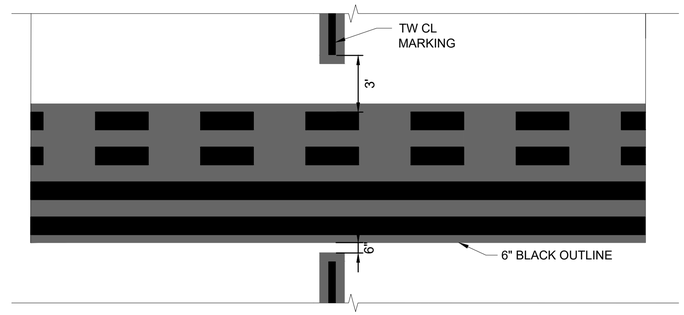
1. CONTRACTOR SHALL RECORD LOCATIONS OF AIRCRAFT PARKING POSITION AND TIE DOWN LOCATIONS PRIOR TO MARKING REMOVAL.
2. ALL PARKING POSITION MARKINGS SHALL BE REPLACED IN THEIR EXISTING LOCATIONS.
3. AIRCRAFT PARKING POSITIONS SHALL NOT HAVE A BLACK OUTLINE.
4. EMBEDDED TIE DOWNS SHALL NOT BE PAINTED YELLOW.



NOTES:

1. AIRCRAFT TIE DOWN SHALL BE NEENAH R-3490-A, EAST JORDAN IRON WORKS 00599600, OR RPR APPROVED EQUAL.
2. INSTALLATION SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
3. REBAR SHALL BE INSERTED THROUGH 1/2" DIA. CORED HOLES PER MANUFACTURER'S RECOMMENDATIONS.
4. AIRCRAFT TIE DOWN SHALL BE NO CLOSER THAN ONE FOOT FROM JOINT AND NO CLOSER THAN SIX INCHES FROM DOWEL BAR. COORDINATE WITH RPR IF PROVIDED LOCATION COORDINATE CONFLICTS WITH JOINT OR DOWEL BARS.
5. SEE DETAIL 3, CM500 FOR ORIENTATION OF AIRCRAFT TIE DOWN.

AIRCRAFT TIE-DOWN 4



NOTES:

1. EXISTING RUNWAY HOLD POSITION MARKING SHALL BE REPAINTED.
2. BLACK PAINT SHALL NOT RECEIVE GLASS BEADS.

RUNWAY HOLD POSITION MARKING 5

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WARSAW MUNICIPAL AIRPORT
WARSAW, MISSOURI

APRON EXPANSION
PAVEMENT MARKING & AIRCRAFT TIE-DOWN DETAILS

project	FAA Proj No.
152252	22-023A-1

drawing **CM500 – 1** rev.

sheet 27 of 27 sheets

file 152252_CM500.dwg

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