



Addendum #2

TULSA AIRPORT IMPROVEMENT TRUST (TAIT)

TULSA RIVERSIDE AIRPORT (RVS)

**TAXILANE TB AND PERIMETER ROAD
REALIGNMENT PROJECT**

TAIT PROJECT #70722

December 10, 2025

Prepared by:
The logo for RDM (Riley, Dyer, and McRae). It features a stylized globe icon inside a blue square, with the letters "RDM" in a large, bold, blue font to the right. Below the globe and "RDM" are the words "Engineering", "Technology", and "Research" in a smaller, blue font.

43671 Trade Center PI

Suite 130

Sterling, VA 20166

703.709.2540

Addendum No. 2

December 10th, 2025

Tulsa Airport Improvement Trust (TAIT)
Tulsa Riverside Airport (RVS)
Taxilane TB and Perimeter Road Realignment Project

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Project Drawings, Project Quantities, and Project Technical Specifications dated November 17, 2025, by RDM International Inc. Acknowledge receipt of the Addendum in the space provided on the Proposal Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of the following revisions:

A. Project Drawings

1. Replace full set of Project Drawings dated November 17, 2025, with an Addendum 1 dated December 05, 2025, with the reissued Drawings that contain “Addendum 2” dated December 10, 2025, within the revision block.
 - a. Updates include but are not limited to:
 - i. Primary updates are due to improvements in the grading plan. This impacts sheets throughout due to the grading utilized as a background on multiple plan sheets and typical / cross section surfaces.
 - ii. Stylistic and Labeling updates throughout the plans for uniformity.
 - iii. Updates to the coordination between plan and detail references throughout.

B. Project Quantities

- a. Replace Bid Tab sheet named and dated, Addendum 1, December 05, 2025, with Bid Tab sheet named and dated, Addendum 2, December 10, 2025.
 - i. Item No. 10, P-152-4.1, “Unclassified Excavation (Cut & Fill)” quantity has decreased from 4,650 to 2,600 CY.
 - ii. Item No. 11, P-152-4.2, “Spoils (Haul Out or Stockpile on Site)” quantity has decreased from 1,200 to 750 CY.
 - iii. Item No. 22, T-905-5.1, “Topsoil (Obtained on Site or Removed from Stockpile)” quantity has decreased from 3,500 to 2,050 CY.

C. Project Technical Specifications

- a. Replace P-101 (Preparation/Removal of Existing Pavements) dated November 17, 2025, with P-101 (Preparation/Removal of Existing Pavements) dated December 10, 2025.
 - i. Added the following to Paragraph P-101-4.1:
 1. A portion of millings generated from cold milling and pavement removal are to be utilized in the regrading of the existing parking area near north of the “gazebo” as shown in the plans. Any/all work pertaining to this shall be paid incidentally under the P-101 Pay Items.
- b. Replace P-403 (Asphalt Mix Pavement) dated November 17, 2025, with P-403 (Asphalt Mix Pavement) dated December 10, 2025.
 - i. Updated Section P-403-2.3:
 1. Asphalt Binder (PG) “70-22”, updated to, Asphalt Binder (PG) “70-28”.
- c. Replace T-905 (Topsoil) dated November 17, 2025, with P-101 (Demolition and Temporary Work) dated December 10, 2025.
 - i. Added the following Paragraph:
 1. 905-5.3 Payment in both situations (905-5.1 & 905-5.2) shall be made at the contract unit price per cubic yard of topsoil obtained. Payment for the stockpiling, relocating, spreading, and all other incidentals necessary to install topsoil shall be incidental to the contract unit price for Pay Item T-905-5.1.

BID SHEETS

REALIGNED TAXILANE TB AND PERIMETER ROAD PROJECT

Addendum 02 – 12/10/2025

Bidder's Name: _____

To the Tulsa Airport Improvement Trust (TAIT):

In compliance with the Notice Inviting Bids, the undersigned hereby agrees to execute the construction agreement to furnish all labor, materials, equipment and supplies for the Project in accordance with the Contract Documents to the satisfaction and under the direction of the Director of Engineering and Maintenance, at the following prices:

BASE AMOUNT:

ITEM NO.	SPEC - ITEM NO.	ITEM DESCRIPTION	UNIT	Bid Set QUANTITY	UNIT PRICE	EXTENDED AMOUNT
1	C-105-6.1	Mobilization	LS	1		
2	C-104-5.1	Site Survey	LS	1		
3	C-102-5.1	Construction Safety Fence	LF	1,630		
4	C-102-5.2	Straw Wattle Fence	LF	2,300		
5	C-102-5.3	Silt Fence	LF	1,560		
6	C-102-5.4	Rock Filter Dams (30'x50')	LS	1		
7	P-101-5.1	Cold Milling (2" Tie-in)	SY	240		
8	P-101-5.2	Pavement Removal (Up to 12" Depth)	SY	4,300		
9	P-101-5.3	Removal of Pipe and other Burried Structures	LS	1		
10	P-152-4.1	Unclassified Excavation (Cut & Fill)	CY	2,600		
11	P-152-4.2	Spoils (Haul Out or Stockpile on Site)	CY	750		
12	P-209-5.1	Crushed Aggregate Base Course (8" Depth)	SY	5,600		
13	P-403-8.1	Asphalt Surface Course	TON	1,400		
14	P-603-5.1	Emulsified Asphalt Tack Coat	GL	600		
15	P-620-5.1	Permanent Marking with Reflective Media	SF	600		
16	P-620-5.3	Temporary marking with Reflective Media	SF	600		

ITEM NO.	SPEC - ITEM NO.	ITEM DESCRIPTION	UNIT	Bid Set QUANTITY	UNIT PRICE	EXTENDED AMOUNT
17	D-701-5.1	18-Inch RCP, Class III	LF	300		
18	D-751-5.1	Catch Basin	LS	1		
19	D-752-5.1	2-Pipe Wingwall	LS	1		
20	T- 901-5.1	Seeding	SY	12,000		
21	T-904-5.1	Sodding	SY	600		
22	T-905-5.1	Topsoil (Obtained on Site or Removed from Stockpile)	CY	2,050		
23	L-100-5.1	Remove and Salvage Gate Arm and Operator	LS	1		
24	L-100-5.2	Remove and Salvage Four Bollards	LS	1		
25	L-100-5.3	Remove and Salvage Light Pole and Fixture	LS	1		
26	L-100-5.4	Remove and Salvage Keypad and Stanchion	LS	1		
27	L-100-5.5	Remove and Salvage Electrical Rack	LS	1		
28	L-100-5.6	Remove Non-Encased Duct Bank, 24" deep, 1W-PVC in turf	LF	855		
29	L-100-5.7	Demolish and Remove Concrete Foundations	LS	1		
30	L-110-5.1	Construct New Foundations	LS	1		
31	L-110-5.2	Furnish and Install Conduit and Cable in Turf	LF	60		
32	L-110-5.3	Furnish and Install Conduit and Cable Under Pavement	LF	40		
33	L-110-5.4	Install Gate Arm and Operator	LS	1		
34	L-110-5.5	Cut Asphalt, Furnish and Install Loop Detector Cables	LS	1		
35	L-110-5.6	Install Four Bollards	LS	1		

36	L-110-5.7	Install Keypad and Stanchion	LS	1		
37	L-110-5.8	Install Light Pole and Fixture	LS	1		
38	L-110-5.9	Install Electrical Rack	LS	1		

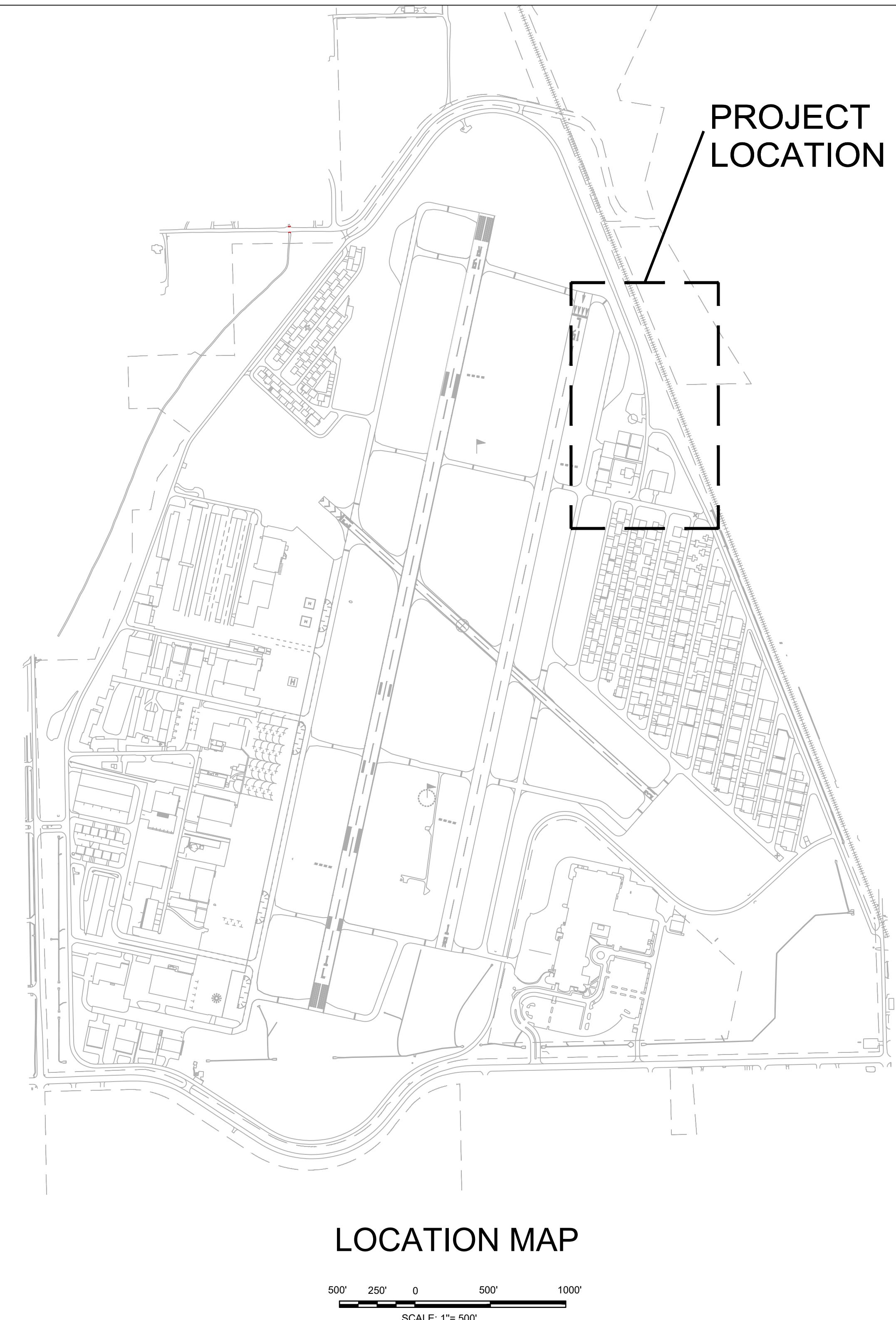
Note: Items may be adjusted or deleted. Any changes to the quantities for these items shall not constitute a substantial change as referenced in Section listed above in the Standard Specifications. Therefore, regardless of total actual volume (percentage) compared to estimated quantities, the unit prices provided above by the bidder shall be applied to the final quantity when payment is calculated for these items. No adjustment in the unit prices will be allowed. The TAIT reserves the right to not use any of the estimated quantities; and if this right is exercised, the Contractor will not be entitled to any additional compensation. Cost of all export of material shall be included in the above unit costs; no additional compensation will be granted for such expenses.

TOTAL BID PRICE = BASE AMOUNT

TOTAL BID PRICE IN DIGITS: \$_____

TOTAL BID PRICE IN WORDS: _____

References must be provided upon request



TULSA RIVERSIDE AIRPORT (RVS)



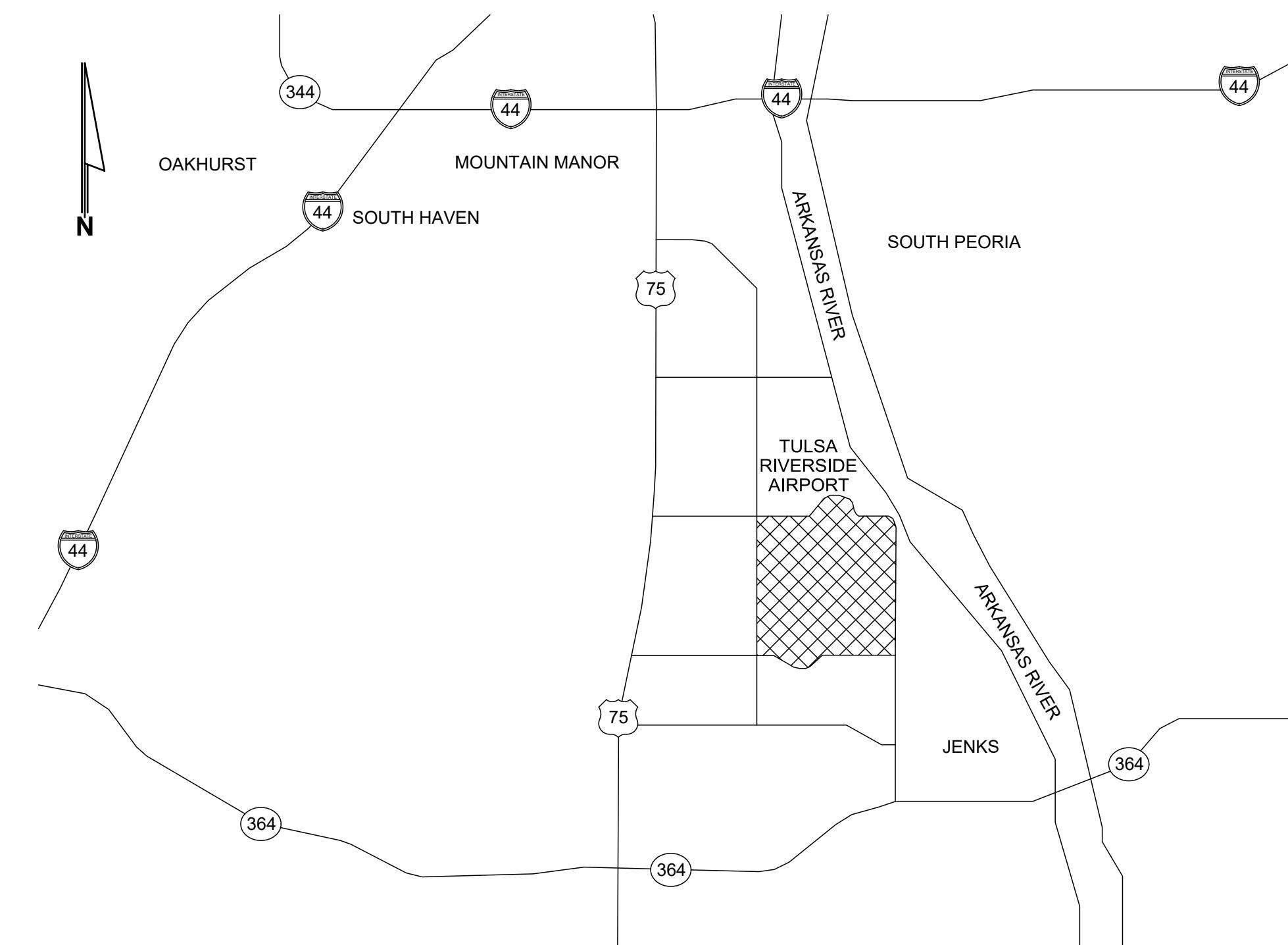
TAXILANE TB AND PERIMETER ROAD TAIT PROJECT #70722

CONSTRUCTION DOCUMENTS

NOVEMBER 17, 2025

VOLUME 1 OF 1

VICINITY MAP



ADDENDUM 2	12/10/2025
REVISION	DATE



BID SET

TULSA AIRPORTS IMPROVEMENT TRUST (TAIT)

ACCEPTED BY THOMAS D. MCGANN
SPECIAL PROJECTS MANAGER
TULSA AIRPORTS IMPROVEMENT TRUST
(TAIT)

SUBMITTED BY THOMAS D. MCGANN
SPECIAL PROJECTS MANAGER
TULSA AIRPORTS IMPROVEMENT TRUST
(TAIT)

APPROVED BY THOMAS D. MCGANN
SPECIAL PROJECTS MANAGER
TULSA AIRPORTS IMPROVEMENT TRUST
(TAIT)

DATE _____

PROJECT IDENTIFIER TAIT #70722
SHEET NAME GN00.0001
VOLUME NUMBER 1 OF 1
SHEET NUMBER 1 OF 48

PLAN	DRAWING	PLAN TITLE
1	GN00.0001	COVER SHEET
2	GN01.0001	INDEX OF DRAWINGS & GENERAL NOTES
3	GN01.0002	SUMMARY OF QUANITIES, LEGEND & ABBREVIATIONS
4	GN02.0001	CONTRACTOR SITE, STAGING, & ACCESS NOTES
5	GN03.0001	WORK AREA AND TRAFFIC CONTROL
6	GN04.0001	MAINTENANCE OF TRAFFIC DETAILS
7	GN05.0001	EROSION CONTROL PLAN - OVERALL
8	GN05.0002	EROSION CONTROL PLAN - 1
9	GN05.0003	EROSION CONTROL PLAN - 2
10	GN05.0004	EROSION CONTROL PLAN - 3
11	GN05.0101	EROSION CONTROL DETAILS
12	GN06.0000	CORING & BORING LAYOUT - HORIZONTAL & VERTICAL CONTROL
13	GN06.0001	CORING LOGS - 1
14	GN06.0002	CORING LOGS - 2
15	GN06.0003	CORING LOGS - 3
16	GN06.0101	BORING LOGS - 1
17	GN06.0102	BORING LOGS - 2
18	GN06.0103	BORING LOGS - 3
19	CV01.0000	EXISTING CONDITIONS - OVERALL
20	CV01.0001	EXISTING CONDITIONS - 1
21	CV01.0002	EXISTING CONDITIONS - 2
22	CV01.0003	EXISTING CONDITIONS - 3
23	CV02.0000	DEMOLITION PLAN - OVERALL
24	CV02.0001	DEMOLITION PLAN - 1
25	CV02.0002	DEMOLITION PLAN - 2
26	CV02.0003	DEMOLITION PLAN - 3
27	CV03.0000	GRADING PLAN - OVERALL
28	CV03.0001	GRADING PLAN - 1
29	CV03.0002	GRADING PLAN - 2
30	CV03.0003	GRADING PLAN - 3
31	CV04.0000	GEOMETRY & PAVING PLAN - OVERALL
32	CV04.0001	GEOMETRY & PAVING PLAN - 1
33	CV04.0002	GEOMETRY & PAVING PLAN - 2
34	CV04.0003	GEOMETRY & PAVING PLAN - 3
35	CV05.0001	PLAN AND PROFILE - 1
36	CV05.0002	PLAN AND PROFILE - 2
37	CV05.0003	PLAN AND PROFILE - 3
38	CV06.0001	TYPICAL PAVEMENT SECTIONS - 1
39	CV06.0002	TYPICAL PAVEMENT SECTIONS - 2
40	CV06.0003	TYPICAL PAVEMENT SECTIONS - 3
41	CV07.0001	CONSTRUCTION DETAILS
42	CV08.0001	STORM DRAIN PROFILES
43	CV08.0101	STORM DRAINAGE DETAILS
44	CV09.0001	PAVEMENT MARKING PLAN & DETAILS
45	EL01.0001	ELECTRICAL PLAN
46	EL02.0001	ELECTRICAL DETAILS
47	EL02.0002	ELECTRICAL DETAILS 2
48	EL02.0003	ELECTRICAL DETAILS 3

GENERAL NOTES:

1. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS. THE PROJECT IS SUBJECT TO INSPECTION BY REPRESENTATIVES OF THE TULSA AIRPORT IMPROVEMENT TRUST (TAIT), OKLAHOMA DEPARTMENT OF TRANSPORTATION (ODOT), REPRESENTATIVES OF THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY, AND THE OKLAHOMA DEPARTMENT OF WILDLIFE CONSERVATION. THE CONTRACTOR SHALL PROVIDE UNRESTRICTED ACCESS TO THE SITE FOR INSPECTION PURPOSES DURING THE ENTIRE CONSTRUCTION PERIOD.
2. CONTRACTOR ACCESS TO THE WORK SITE SHALL BE AS SHOWN UNLESS OTHERWISE APPROVED BY THE RPR. THE CONTRACTOR SHALL AT ALL TIMES ENSURE AGAINST UNAUTHORIZED ENTRY OR ACCESS TO THE WORK AREA.
3. ALL CONTRACTOR AND SUBCONTRACTOR PERSONNEL, VEHICLES, EQUIPMENT, AND MATERIALS SHALL REMAIN WITHIN THE LIMITS OF CONSTRUCTION AND WITHIN THE SITE ACCESS AND HAUL ROUTES DESIGNATED ON THE PLANS.
4. ALL EQUIPMENT, WHEN NOT IN USE, SHALL BE STORED OR PARKED IN THE CONTRACTOR STAGING AREA, AND SHALL NOT INTERFERE WITH AIRPORT OPERATIONS. ALL MATERIALS SHALL BE STORED IN THE CONTRACTOR STAGING AREA OR MATERIAL STORAGE AREAS, AND SHALL NOT INTERFERE WITH AIRPORT OPERATIONS.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE OFF-AIRPORT HAUL ROUTES WITH THE APPROPRIATE AUTHORITIES. ON-AIRPORT HAULING SHALL NOT INTERFERE WITH AIRPORT OPERATIONS.
6. CONTRACTOR TO VERIFY DEPTH OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF WORK.
7. THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED DURING THE PROJECT TO ORIGINAL CONDITION TO SATISFACTION OF THE ENGINEER AND OR TAIT. THESE AREAS INCLUDE, BUT ARE NOT LIMITED TO, THE STAGING AREA AND TEMPORARY MATERIAL STORAGE AREAS. COSTS RELATED TO RESTORATION ACTIVITIES WILL NOT BE PAID FOR SEPARATELY AND SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
8. ALL WORK, MOVEMENT, AND PARKING OF EQUIPMENT SHALL, IN ADDITION TO THE REQUIREMENTS OF THESE SPECIFICATIONS AND ORDERS OF THE RPR, BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TULSA AIRPORT IMPROVEMENT TRUST CONSTRUCTION SAFETY MANUAL.
9. CONTRACTOR SHALL PROTECT AND PRESERVE AUTHORITY MONUMENTS WITHIN AND ADJACENT TO PROJECT SITE UNLESS DESIGNATED FOR REMOVAL. ANY DAMAGE CAUSED BY CONTRACTOR OPERATIONS SHALL BE REPAIRED TO SATISFACTION OF RPR. THIS SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
10. CONTRACTOR SHALL REVIEW ALL ALERT RESPONSE ROUTES FOR FIRE APPARATUS IN AND AROUND THE AREA OF CONSTRUCTION PRIOR TO MOBILIZATION. RESPONSE ROUTES MUST BE KEPT CLEAR AT ALL TIMES. REFER TO THE TAIT CONSTRUCTION SAFETY MANUAL FOR MORE INFORMATION.
11. THE CONTRACTOR SHALL COMPLY WITH ALL CURRENT VEHICLE OPERATIONAL ORDERS AND INSTRUCTIONS PUBLISHED BY THE TULSA AIRPORT IMPROVEMENT TRUST. THE ORDERS AND INSTRUCTIONS ARE CONTAINED IN THE CONTRACT DOCUMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE SURE ALL THE SUBCONTRACTORS, SUPPLIERS, VENDORS, ETC. RECEIVE AND COMPLY WITH THE REQUIREMENTS IN THESE PUBLICATIONS.
12. ALL CONTRACTOR AND SUBCONTRACTOR PERSONNEL, VEHICLES, EQUIPMENT AND MATERIALS SHALL REMAIN WITHIN THE LIMITS OF CONSTRUCTION AND WITHIN THE SITE ACCESS AND HAUL ROUTES.
13. THE CONTRACTOR SHALL COORDINATE ALL PAVEMENT REMOVAL AND ALL DEMOLITION DEBRIS TO BE REMOVED OFFSITE WITH NO STOCKPILING WITH THE RPR.
14. ACCESS TO ALL FIRE HYDRANTS AND STAND PIPES SHALL BE MAINTAINED AT ALL TIMES UNLESS OTHERWISE NOTED.
15. PROVISIONS OF THE OKLAHOMA FIRE PREVENTION CODE WILL BE ENFORCED DURING CONSTRUCTION.
16. DUMP TRUCKS SHALL USE LOAD COVERS AND SHALL BE LOADED BY THE CONTRACTOR SUCH THAT NO SPILLAGE OCCURS DURING TRANSIT ON THE STATE, MUNICIPAL, OR AIRPORT ROADWAYS.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EFFORT AND COST OF THE IMMEDIATE CLEANING OF DEBRIS TRACKING AND SPILLS ON PAVED SURFACES RESULTING FROM THE CONTRACTOR'S OPERATIONS. NO DIRECT PAYMENT WILL BE MADE.
18. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE RPR AND OTHER CONTRACTORS WORKING IN CLOSE PROXIMITY TO THIS PROJECT. FINAL AUTHORITY IN THE APPROVAL OF CONSTRUCTION ACTIVITIES AND SEQUENCING LIES WITH THE RPR.
19. ALL WORK AREAS ON OR ADJACENT TO THE AOA SHALL BE IDENTIFIED. THE BARRICADES SHALL CONFORM TO THE BARRICADE DETAILS SHOWN IN THESE PLANS OR AS DIRECTED BY THE RPR.
20. THE MAXIMUM HEIGHT OF CONSTRUCTION EQUIPMENT SHALL NOT EXCEED 20-FEET ABOVE THE GROUND. IF ADDITIONAL HEIGHT IS NEEDED, CONTRACTOR SHALL COORDINATE WITH THE RPR FOR APPROVAL.
21. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL SUBMIT TO THE RPR A NAME AND PHONE NUMBER OF ONE OR TWO INDIVIDUALS WHO WILL BE AVAILABLE ON A 24 HOUR CALL BASIS FOR EMERGENCY BARRICADE AND BARRICADE LIGHTING MAINTENANCE.

GENERAL SURVEY NOTES:

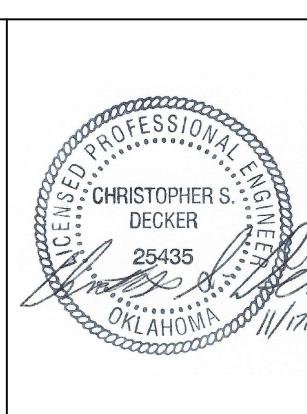
1. SURVEY INFORMATION IS BASED ON THE STATE PLANE OKLAHOMA NORTH COORDINATE SYSTEM OF 1983 (NAD83). THIS SURVEY WAS PREPARED TO SHOW EXISTING CONDITIONS IN THE AREA OF INTEREST AS OF AUGUST, 2025 AND DOES NOT CERTIFY TO CHANGES TO SITE CONDITIONS WHICH OCCUR SUBSEQUENT TO THIS DATE AND/OR TO PROPOSED IMPROVEMENTS. THE SURVEY WAS PREPARED FOR RDM INTERNATIONAL, INC. BY TULSA LAND SURVEYING LLC.
2. THE CONTRACTOR IS ADVISED THAT PHYSICAL FEATURES AND EXISTING UTILITIES AS DEPICTED MAY NOT BE ENTIRELY ACCURATE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE ACCURACY OF THIS INFORMATION BEFORE STARTING THE CONSTRUCTION.
3. THE CONTRACTOR SHALL EXERCISE CARE NOT TO DAMAGE OR DESTROY EXISTING MONUMENTS. SHOULD ANY MONUMENT BE DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL RESET ANY DAMAGED MONUMENT IN ACCORDANCE WITH THE SPECIFICATIONS AND WITH THE GUIDANCE FROM TAIT.
4. THE POSITIONS OF THE CONTROL POINTS SHOWN HEREON HAVE BEEN OBTAINED FROM CONVENTIONAL AND GPS MEASUREMENTS RELATED TO TAIT MONUMENTS.
5. ALL ELEVATIONS ARE IN FEET (MSL) AND REFER TO NAVD 1988.
6. THIS SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY NOR A SUBDIVISION OF LAND.
7. THIS SURVEY DOES NOT INTEND TO DEPICT ANY WETLANDS, HAZARDOUS WASTE AND ENVIRONMENTAL FEATURES THAT MAY AFFECT SAID PROPERTY SHOWN HEREON EXCEPT AS SHOWN.
8. NO SUBSURFACE UTILITY ENGINEERING (SUE) WAS PERFORMED AS PART OF THIS TASK. UTILITY LINES SHOWN WERE DELINEATED BY OTHERS.
9. THE TOPOGRAPHY AND PHYSICAL FEATURES SHOWN ON THIS MAP WERE OBTAINED UNDER THE DIRECT AND RESPONSIBLE CHARGE AND SUPERVISION OF HANK TREMEL, PLS. THIS PLAT, MAP, OR DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.

EXISTING UTILITIES:

THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON THE PLANS HAS BEEN OBTAINED FROM EXISTING RECORDS AND FIELD SURVEYS. NEITHER THE AUTHORITY NOR THE RPR NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION AND ELEVATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE RPR OF HIS OPERATIONAL PLANS. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR DETAILED INFORMATION AND ASSISTANCE IN LOCATING UTILITIES TO THE SATISFACTION OF THE RPR. CONTRACTOR SHALL NOTIFY RPR FOR VERIFICATION OF UTILITY MARKINGS, PROVIDING A MINIMUM OF FIVE (5) DAYS NOTICE PRIOR TO START OF CONSTRUCTION. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE RPR. ANY SUCH MAINS AND/OR SERVICES DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE RPR.

1	ADDENDUM 1	12/05/2025
2	ADDENDUM 2	12/10/2025
NO.	REVISION	DATE



TULSA AIRPORTS IMPROVEMENT TRUST (TAIT)

**TAXILANE TB AND PERIMETER ROAD
REALIGNMENT PROJECT**

**TULSA RIVERSIDE AIRPORT (RVS)
TULSA, OK**

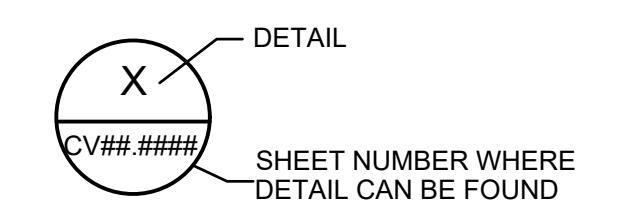
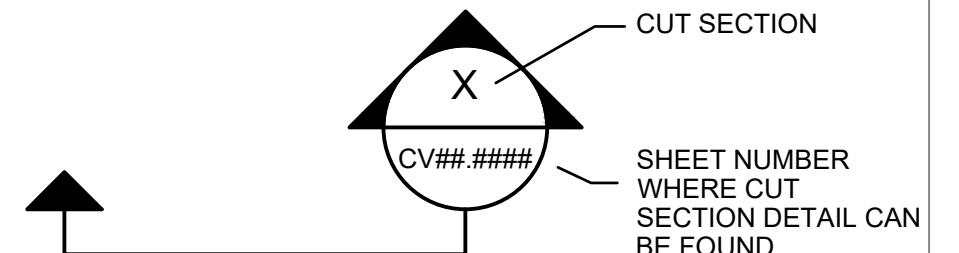
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2

ABBREVIATIONS		
AB	AGGREGATE BASE	FT. FEET
AC	ASPHALT CONCRETE	G. GAS LINE
ADG	AIRPORT DESIGN GROUP	GA. GAUGE
AE	AIRPORT ENGINEER	GAL. GALLON
AOA	AIRCRAFT OPERATIONS AREA	GALV. GALVANIZED
APPROX.	APPROXIMATELY	GB. GRADE BREAK
ATG	ADJUST TO GRADE	GS. GROUND SHOT
AVE	AVENUE	HDPE. HIGH DENSITY POLYETHYLENE
BIT	BITUMINOUS (ASPHALTIC)	HMA. HOT MIX ASPHALT
BLDG	BUILDING	HORIZ. HORIZONTAL
BLVD	BOULEVARD	HP. HIGH POINT
BM	BENCHMARK	HRS. HOURS
CABC	CRUSHED AGGREGATE BASE COURSE	I.E. INVERT ELEVATION
CF	CUBIC FEET	IN. INCHES
CL	CENTERLINE	JT. JOINT
CLF	CHAIN LINK FENCE	L. LENGTH
CLR.	CLEAR	LBS. POUNDS
CB	CATCH BASIN	LF. LINEAR FEET
OLSM	CONTROLLED LOW STRENGTH MATERIAL	LT. LEFT
CMP	CORRUGATED METAL PIPE	MAX. MAXIMUM
COTR	CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE	MIN. MINIMUM
CSPP	CONSTRUCTION SAFETY AND PHASING PLAN	MISC. MISCELLANEOUS
CTB	CEMENT TREATED BASE COURSE	MPH. MILES PER HOUR
CTR.	CENTER	N. NORTH OR NORTHING
DIA or Ø	DIAMETER	(N) NEW
EX.	EXISTING	N/A. NOT APPLICABLE
E.	EAST OR EASTING	NO. NUMBER
EG	EXISTING GRADE (OR GROUND)	NTS. NOT TO SCALE
ELEV.	ELEVATION	O.C. ON CENTER
EP	EDGE OF PAVEMENT	PCC. PORTLAND CEMENT CONCRETE
ETR	EXISTING TO REMAIN	PIP. PROTECT IN PLACE
FAA	FEDERAL AVIATION ADMINISTRATION	PVC. POLY-VINYL CHLORIDE
FBO	FIXED BASE OPERATOR	R. REINFORCEMENT
FF	FINISH FLOOR	RAD. RADIUS
FG	FINISH GRADE	R&R. REMOVE & REPLACE
FH	FIRE HYDRANT	RC. REINFORCED CONCRETE
FL	FLOW LINE	RCP. REINFORCED CONCRETE PIPE
		RT. RIGHT

SYMBOLS

SYMBOLS		LINESTYLES	
	ACS MONUMENT		STAGING AREA
	ROAD OFF LIMITS TO CONTRACTOR VEHICLES		CLOSURE BARRICADES
	DESIGNATED CONTRACTOR HAUL ROUTE		WORK AREA
	DESIGNATED TEMPORARY VSR ROUTE		AOA SECURITY FENCE
	INLET PROTECTION		LEASE AREAS
	EXISTING SPOT ELEVATION		EXISTING STORM SEWER PIPE
	PROPOSED SPOT ELEVATION		EXISTING FIBER OPTIC LINE
	REFLECTIVE PAVEMENT MARKER		EXISTING COMMUNICATION LINE
	EXISTING INLET		EXISTING WATER PIPE
	EXISTING SIGN		EXISTING GAS LINE
	EXISTING CLEANOUT		EXISTING ELECTRICAL LINE
	EXISTING TAXIWAY LIGHTS		EXISTING CONTOUR
			PROPOSED MAJOR CONTOUR
			PROPOSED MINOR CONTOUR

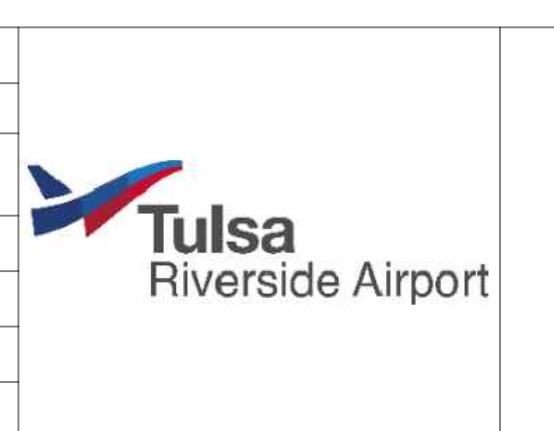


	ADDENDUM 1	12/05/2025
	ADDENDUM 2	12/10/2025


RDM
 Engineering Technology Research
 RDM International, Inc.
 43671 Trade Center Pl.
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 Sterling, VA 20166
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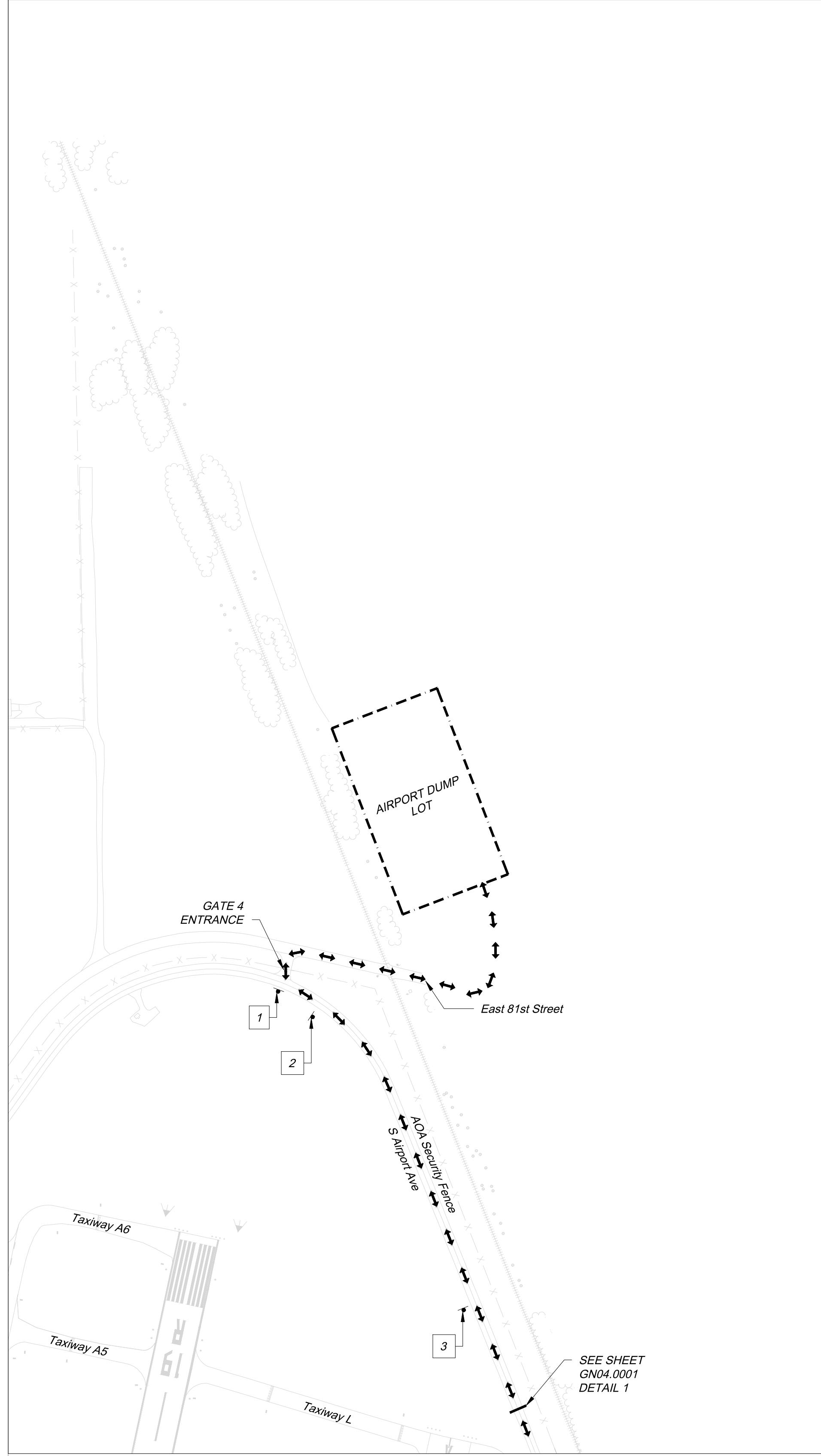
DATE
11/17/2025
SCALE
AS NOTED
DECKER
CHRISTOPHER S.
PE, FASCE
26485
ACCEPTED
DAS
SUBMITTED
CSD, PE, FASCE
APPROVED
CSD, PE, FASCE



TULSA AIRPORTS IMPROVEMENT TRUST (TAIT)

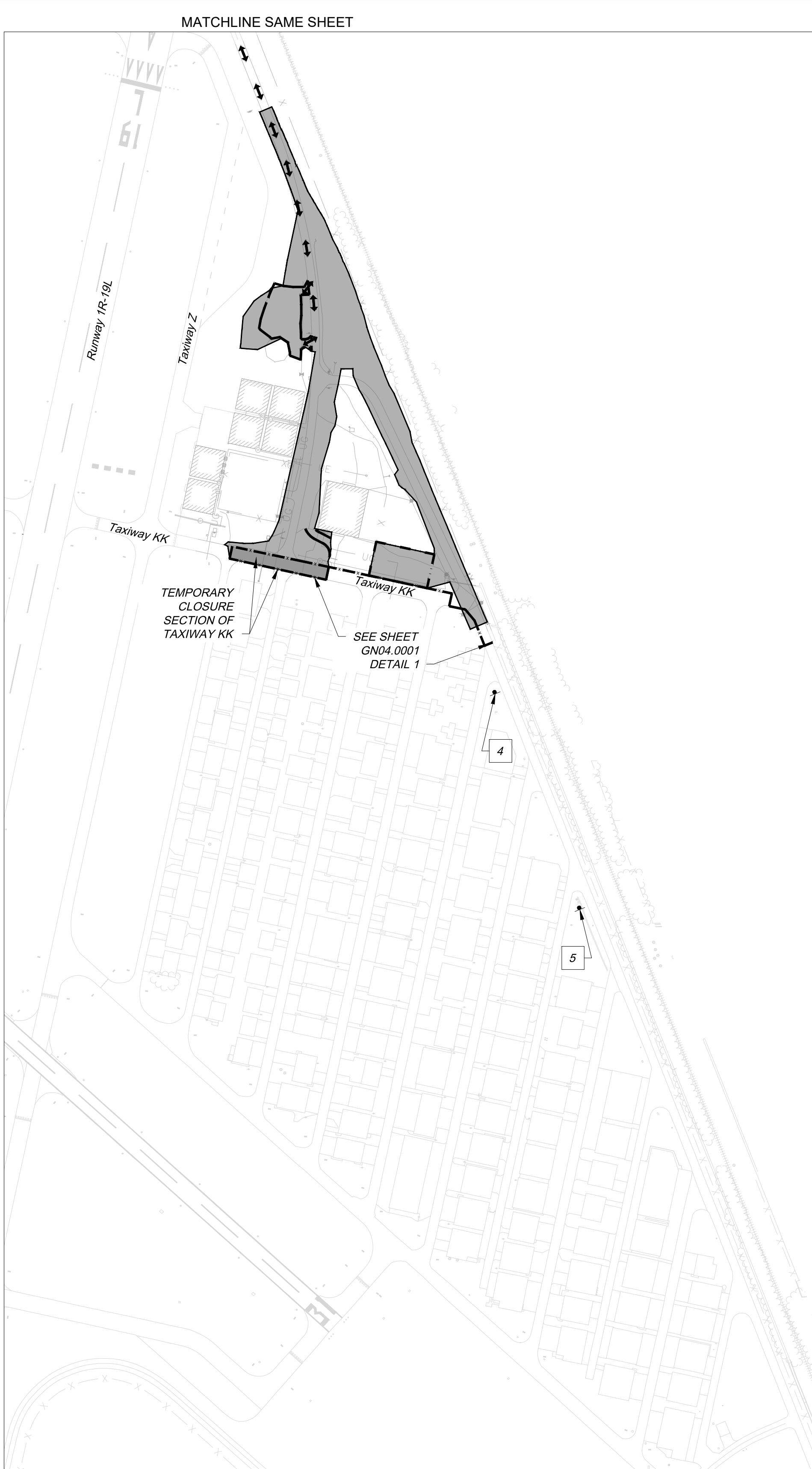
TAXILANE TB AND PERIMETER ROAD
REALIGNMENT PROJECT
TULSA RIVERSIDE AIRPORT (RVS)
TULSA, OK
SUMMARY OF QUANTITIES,
LEGEND & ABBREVIATIONS

PROJECT IDENTIFIER 70722
SHEET NAME GN01.0002
VOLUME NUMBER 1 of 1
SHEET NUMBER 3 of 48



ADDENDUM 2	12/10/2025	 RDM Engineering Technology Research RDM International, Inc. 43671 Trade Center Pl. Suite 130 Sterling, VA 20166 T.703.709.2540 F.703.709.2550 www.rdmintlinc.com
NO.	REVISION	DATE

BID SET



CONTRACTOR ACCESS AND HAUL ROAD NOTES:

1. ALL CONSTRUCTION TRAFFIC SHALL TRAVEL ON THE ON-SITE HAUL ROADS AS SHOWN ON THIS DRAWING.
2. AIRPORT EMERGENCY VEHICLES MUST HAVE UNRESTRICTED USE OF THE EXISTING ON-SITE HAUL ROADS AT ALL TIMES. THE CONTRACTOR USE OF THE ON-SITE HAUL ROADS SHALL BE SUCH THAT THE EMERGENCY RESPONSE VEHICLES CAN OPERATE ON THESE ROADS WITHOUT DELAYS TO THE EMERGENCY RESPONSE TIME.
3. SHOULD THE CONTRACTOR NEED TO BE ON THE AIRFIELD OUTSIDE OF DESIGNATED WORK HOURS TO SERVICE AND/OR REMOVE EQUIPMENT ETC., A QUALIFIED AIRFIELD ESCORT WILL BE REQUIRED FOR ALL CONTRACTOR VEHICLES AND RPR MUST BE NOTIFIED A MINIMUM OF 12 HOURS IN ADVANCE.

SECURITY NOTES:

1. NORTH GATE 4 MAY REMAIN OPEN DURING CONSTRUCTION. CONTRACTOR MUST PROVIDE PERSONNEL TO SIT AND MAN THE GATE TO MAINTAIN REASONABLE CONTROL.
2. ALL PERSONS ENTERING THE SECURITY IDENTIFICATION DISPLAY AREA (SIDA) ARE REQUIRED TO DISPLAY AN IDENTIFICATION CARD ISSUED BY THE AUTHORITY OR TO BE ESCORTED AT ALL TIMES BY A PERSON DISPLAYING AN AUTHORITY-ISSUED IDENTIFICATION CARD.
3. VEHICLES ENTERING THE AOA ARE SUBJECT TO SEARCH AND INSPECTION PRIOR TO ENTERING. THE PROCEDURES WILL BE OUTLINED, AND CONTRACTORS ARE EXPECTED TO FAMILIARIZE THEMSELVES WITH AND COMPLY WITH THESE PROCEDURES.
4. VEHICLES ENTERING THE SIDA MUST DISPLAY ALL NECESSARY IDENTIFICATION MATERIALS AS OUTLINED IN THE AUTHORITY'S ORDERS AND INSTRUCTIONS. ONLY PERSONS HOLDING VALID SIDA DRIVER'S PERMITS MAY DRIVE UNESCORTED WITHIN THE SIDA. UNAUTHORIZED VEHICLES MAY ENTER ONLY UNDER ESCORT FROM AUTHORIZED VEHICLES.
5. FAILURE TO COMPLY WITH THESE RULES IS GROUNDS FOR IMMEDIATE REMOVAL FROM THE AIRPORT AND FURTHER DISCIPLINARY ACTION.

WASTE MATERIAL NOTES:

1. THE CONTRACTOR SHALL DISPOSE OF ALL WASTE MATERIALS LEGALLY OFF OF AIRPORT PROPERTY.

EXCESS CUT/FILL MATERIALS:

1. THE CONTRACTOR SHALL DISPOSE OF ALL EXCESS CUT/FILL MATERIALS FROM THE PROJECT SITE TO THE AIRPORT DUMP LOT. THIS INCLUDES MATERIALS THAT HAVE BEEN PLACED IN THE TEMPORARY STOCK PILE LOCATION DURING CONSTRUCTION.
2. THE CONTRACTOR IS TO CONFIRM AIRPORT DUMP LOT LOCATION WITH OPERATIONS PRIOR TO CONSTRUCTION START.

TEMPORARY CLOSURE SECTION OF TAXIWAY KK

1. THE CONTRACTOR SHALL COORDINATE WITH AIRPORT OPERATIONS TO PERFORM WORK ON THE TAXIWAY KK SECTION DURING DESIGNATED AIRPORT CLOSURE HOURS TO MINIMIZE DISRUPTION TO AIRCRAFT MOVEMENT. THIS WORK SHALL INCLUDE THE CONSTRUCTION OF THE PROPOSED TAXILANE TIE-IN TO TAXIWAY KK.

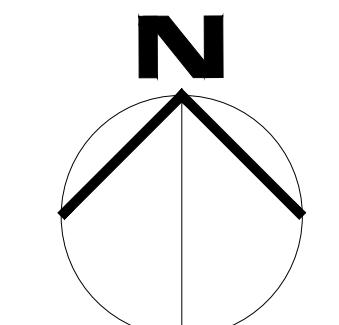
TEMPORARY ROAD FOR MAINTENANCE

1. THE CONTRACTOR SHALL COORDINATE WITH AIRPORT OPERATIONS TO ESTABLISH A TEMPORARY ROAD FOR AIRPORT MAINTENANCE TO THEIR SATISFACTION. DIMENSIONS FOR THE ROAD INCLUDE A 20 FOOT WIDTH WITH A TURN/CURVE RADIUS OF 30 FEET FOR EASIER ACCESS OF DUMP TRUCKS.

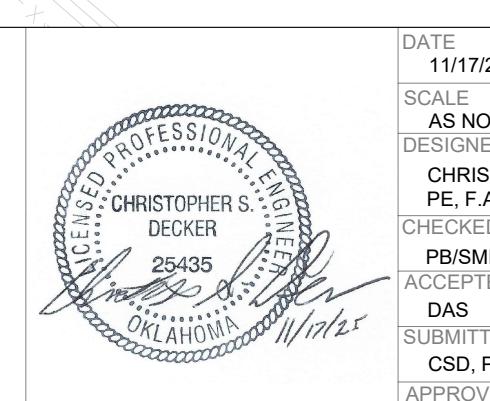
PROPOSED SIGNAGE POINTS					
POINT #	NORTHING	EASTING	SIGN TYPE	DETAIL*	DESCRIPTION
1	387778.53	2564655.23	R3-5 (R)	6	LOCATE SIGN ON NEW SIGN POST AS DEFINED ON THE DRAWINGS.
2	387716.69	2564739.00	W20-3	5	LOCATE SIGN ON NEW SIGN POST AS DEFINED ON THE DRAWINGS.
3	387005.57	2565105.52	W20-3	3	LOCATE SIGN ON NEW SIGN POST AS DEFINED ON THE DRAWINGS.
4	385069.97	2565904.46	W20-3	3	LOCATE SIGN ON NEW SIGN POST AS DEFINED ON THE DRAWINGS.
5	384544.71	2566110.70	W20-3	5	LOCATE SIGN ON NEW SIGN POST AS DEFINED ON THE DRAWINGS.

LEGEND

- WORK AREA
- STAGING AREA
- AOA SECURITY FENCE
- ↔ HAUL ROUTE
- CLOSURE BARRICADES (NOT TO SCALE)
- TEMPORARY STOCK PILE LOCATION
- AIRPORT DUMP LOT
- TEMPORARY ROAD FOR MAINTENANCE
- TEMPORARY SIGNAGE LOCATION MARKERS



200' 0 200' 400'
SCALE: 1" = 150'



**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME GN02.0001
CONTRACTOR SITE, STAGING, & ACCESS NOTES	VOLUME NUMBER 1 of 1
	SHEET NUMBER 4 of 48

OPERATIONAL IMPACTS				
WORK AREA DESCRIPTION	WORK HOUR RESTRICTIONS	IMPACTS	WORK START DATE	DAY*
VSR & VSR TIE-IN	NONE	WORK VEHICLES SHALL ENTER/EXIT THROUGH NORTH GATE #4. ENTRANCES AND EXITS ON THE PROJECT SITE SHALL BE LIMITED TO CONSTRUCTION TRAFFIC ONLY.	NTP + 17	49
TAXILANE	NONE	WORK VEHICLES SHALL ENTER/EXIT THROUGH NORTH GATE #4. ENTRANCES AND EXITS ON THE PROJECT SITE SHALL BE LIMITED TO CONSTRUCTION TRAFFIC ONLY.	NTP + 17	49

NOTE: DAYS* = MAXIMUM DURATION IN CONSECUTIVE CALENDAR DAYS.

GENERAL NOTES:

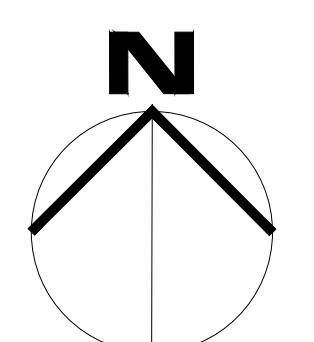
1. THE CONTRACTOR SHALL COMPLETE ALL WORK ASSOCIATED WITH THE PROJECT WITHIN 72 CALENDAR DAYS FROM THE ISSUANCE OF THE NOTICE TO PROCEED (NTP).
2. TRAFFIC DELINEATION IN THIS PLAN IS APPROXIMATE. ACTUAL LAYOUT SHALL BE APPROVED BY RPR PRIOR TO CONSTRUCTION ACTIVITIES.
3. WORK AREAS DESCRIBED IN THE OPERATIONAL IMPACTS TABLE ABOVE ARE TO ACT AS ONE OVERALL PHASE.
4. THE CONTRACTOR SHALL COORDINATE AND CONFIRM WITH THE RPR FOR THE CONSTRUCTION OF THE TEMPORARY ACCESS ROAD ABOUT WIDTH AND LOCATION. MATERIAL FOR THE ROAD SHALL CONSIST OF EXCESS DEMOLITION FROM OVERALL DEMOLITION. AT THE END OF THE PROJECT, THE CONTRACTOR SHALL REMOVE THE TEMPORARY ROAD AND DISMANTLE MATERIALS TO PERMANENT STOCK PILE LOCATIONS.
5. REFER TO CONTRACTOR NOTES FOR FULL VIEW OF TEMPORARY AND PERMANENT STOCK PILE LOCATIONS.
6. REFER TO CONTRACTOR NOTES FOR FULL VIEW OF HAUL ROUTES.

CONSTRUCTION SEQUENCE:

1. ESTABLISH WORK ZONE
 - 1.1. ESTABLISH HAUL ROUTE THROUGH EXISTING ACCESS ROADS
 - 1.2. ESTABLISH STAGING AREA
 - 1.3. ESTABLISH TEMPORARY MAINTENANCE ROAD AND EXTRA STOCK PILE
 - 1.4. ESTABLISH PROJECT STAKEOUT
 - 1.5. ESTABLISH A STORMWATER POLLUTION PROTECTION PLAN (SWPPP) AND SILT FENCE
 - 1.6. ESTABLISH PROJECT SITE CLOSURE
2. DEMOLITION
 - 2.1. STRIPPING OF TOP SOIL
 - 2.2. COLD MILLING (P-101-5.1)
 - 2.3. UNCLASSIFIED EXCAVATION (CUT AND FILL) (P-152-4.1)
 - 2.4. ELECTRICAL DEMOLITION
3. PROPOSED WORK (VSR & TAXILANE)
 - 3.1. DEMOLITION FILL FOR PROPOSED GRADE
 - 3.2. STORM WATER DRAINAGE STRUCTURE IMPROVEMENTS
 - 3.3. CRUSHED AGGREGATE BASE COURSE
 - 3.4. ELECTRICAL CONDUITS
 - 3.5. ASPHALT SURFACE COURSE
 - 3.6. SEEDING AND SODDING
 - 3.7. ELECTRICAL FIXTURES
 - 3.8. TEMPORARY AND PERMANENT PAVEMENT MARKING
4. DISSOLVE WORK ZONES
5. DEMOBILIZE
6. FINAL MARKINGS

LEGEND

- Overall Grading Limits
- VSR & Tie-in Pavement Limits
- Taxilane Pavement Limits
- Temporary Closure Section
- Staging Area
- Temporary Stock Pile Location
- Closure Barricades (Not to Scale)
- Temporary Road for Maintenance



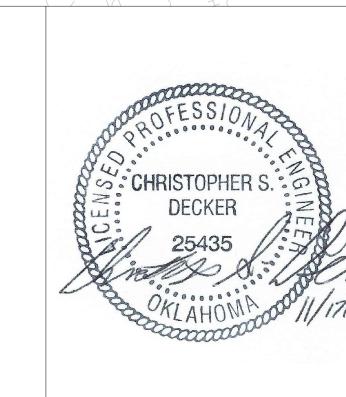
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ADDENDUM 2	12/10/2025
NO.	REVISION
DATE	



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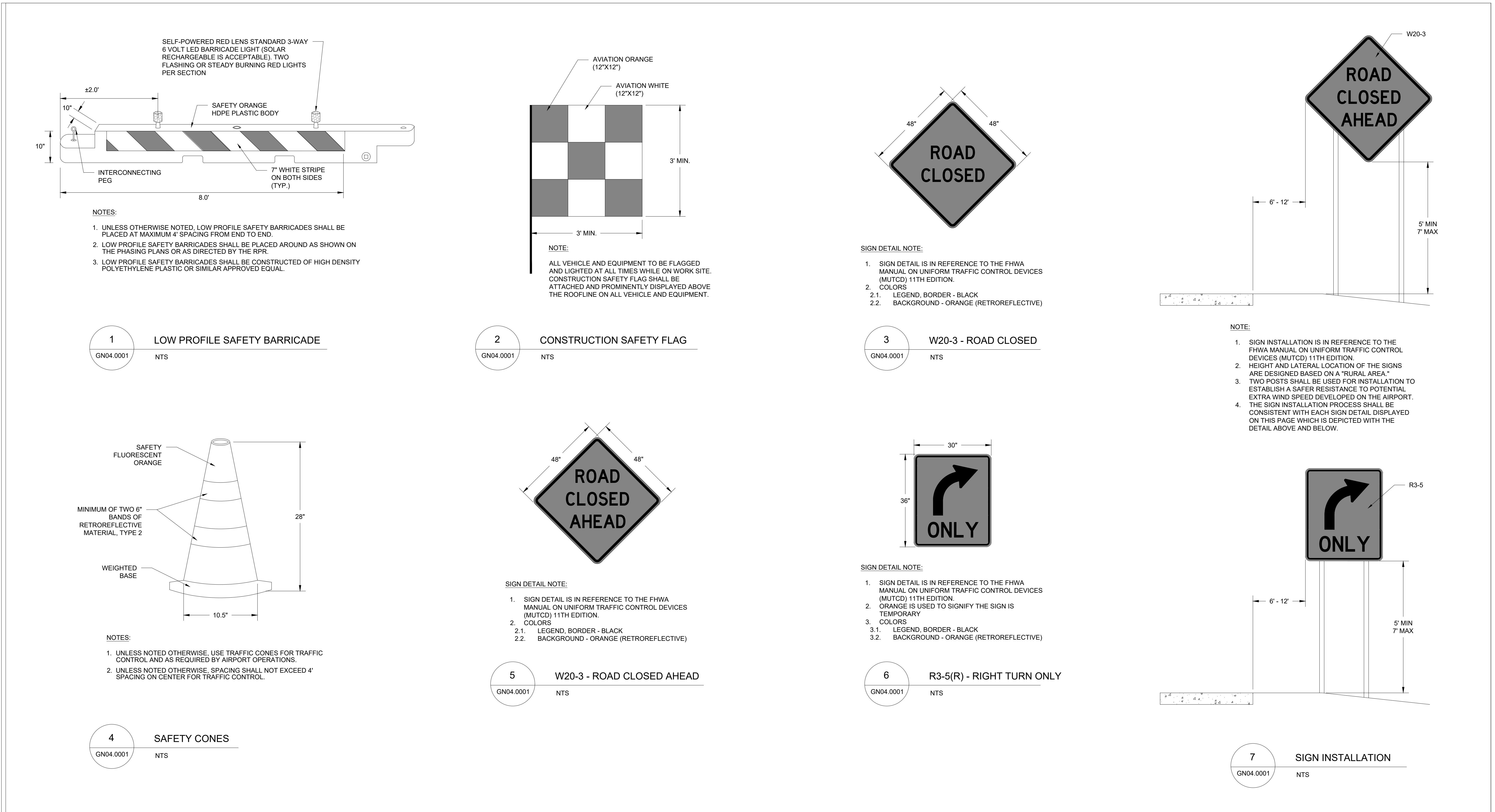


DATE
11/17/2025
SCALE
AS NOTED
DESIGNER
CHRISTOPHER S. DECKER,
PE, FASCE
26485
ACCEPTED
PBMH DRAWN
TEC / GLD
SUBMITTED
DAS
CSD, PE, FASCE
APPROVED
CSD, PE, FASCE



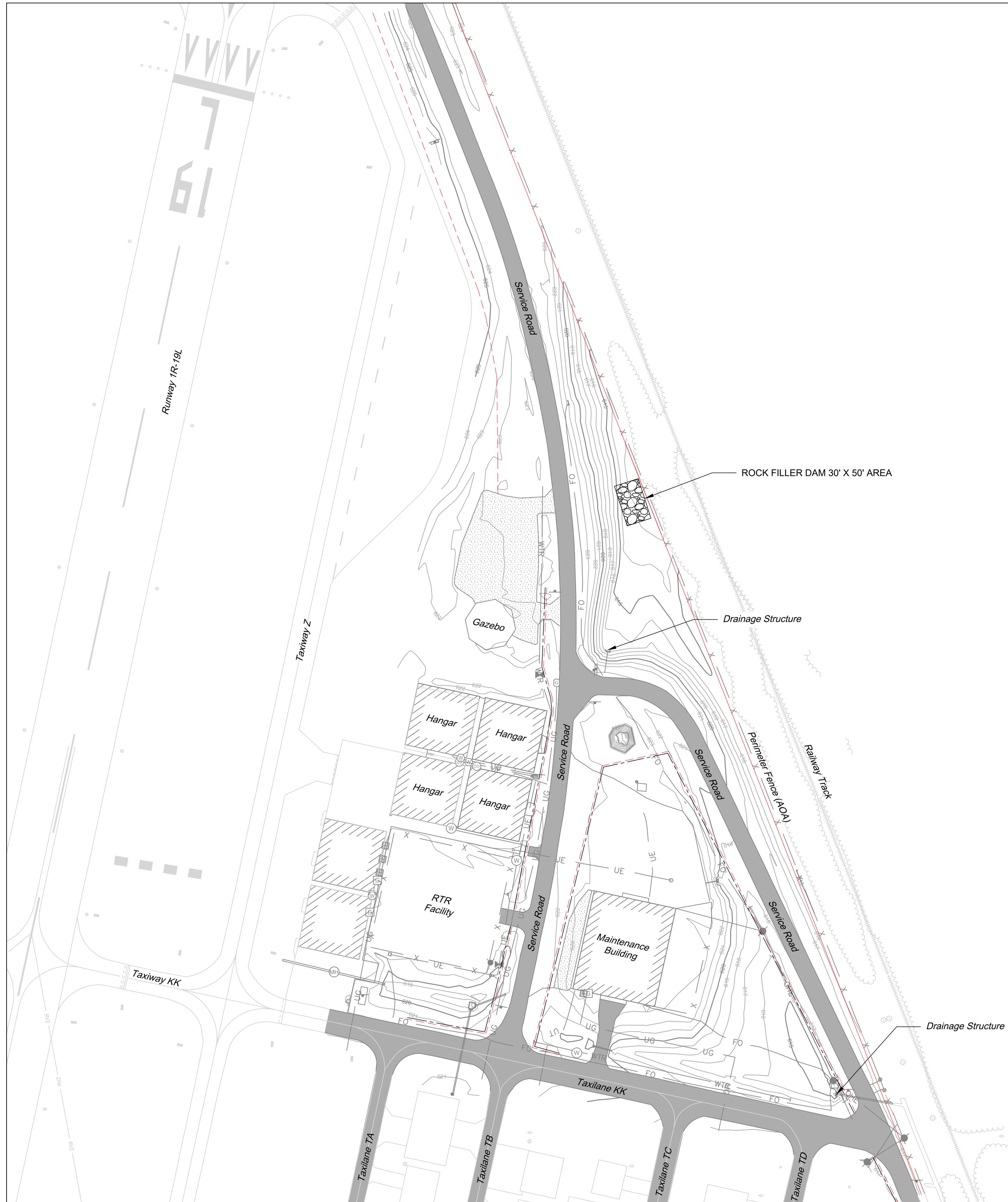
**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME GN03.0001
WORK AREA AND TRAFFIC CONTROL	VOLUME NUMBER 1 of 1
	SHEET NUMBER 5 of 48



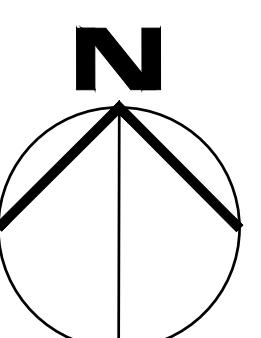
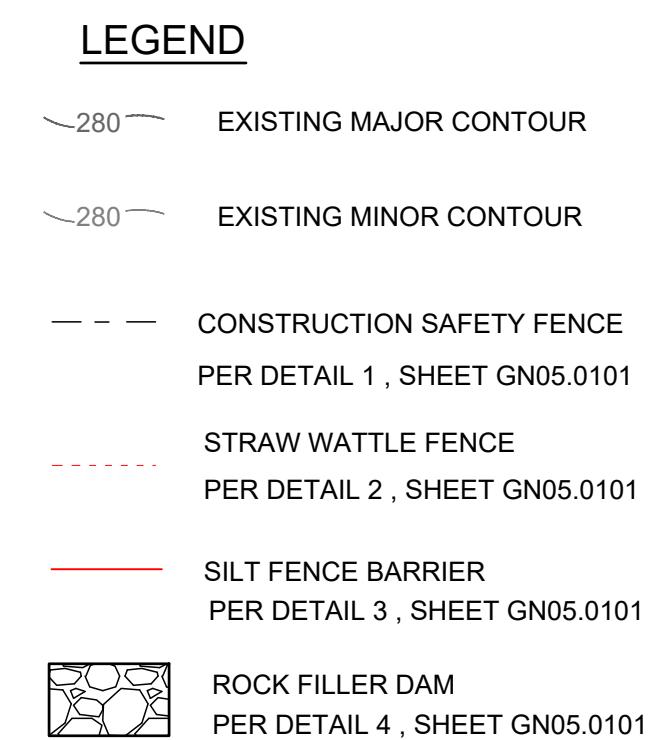
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NO.	REVISION	DATE

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME GN04.0001
MAINTENANCE OF TRAFFIC DETAILS	VOLUME NUMBER 1 of 1
	SHEET NUMBER 6 of 48



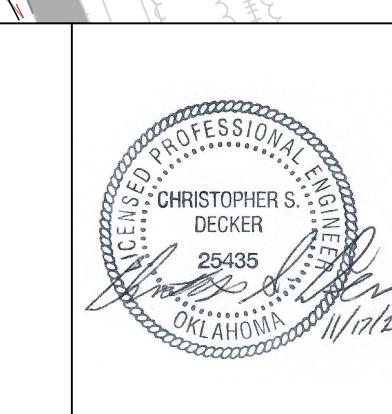
NOTES:

1. STRAW WATTLE FENCE TO BE INSTALLED AFTER INSTALLATION OF STORM DRAIN SYSTEM MODIFICATION, GRADING, AND SEEDING OF AREA. THE STRAW WATTLE FENCE ARE FOR SEDIMENT CONTROL OF THE NEW SEEDING AREA. OTHER SEDIMENT CONTROL MAY APPLY PER OKLAHOMA TRANSPORTATION DEPARTMENT.
2. CONTRACTOR TO MAINTAIN E&S MEASURES AROUND THE STAGING AREA



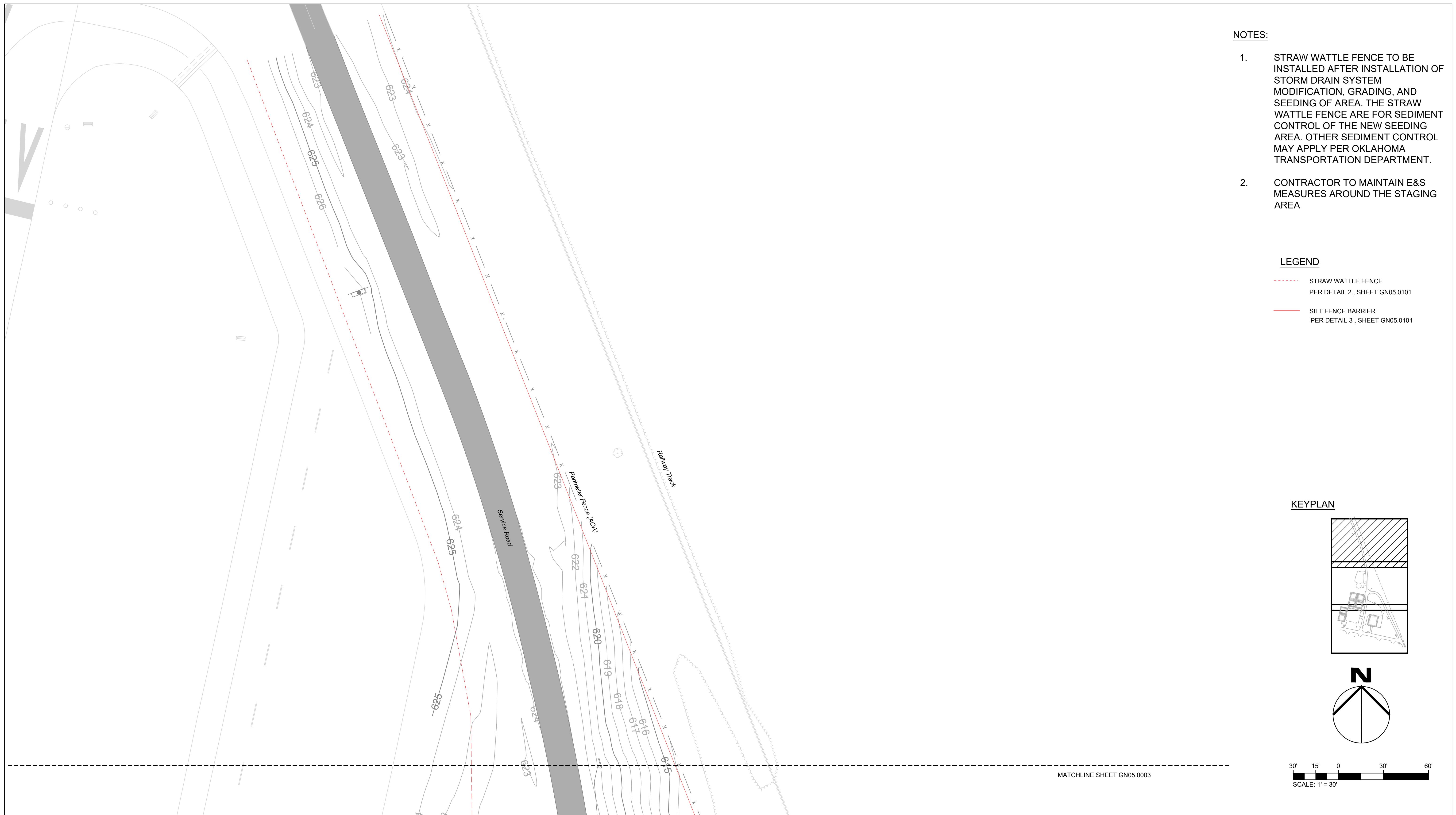
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ADDENDUM 2	12/10/2025
NO.	REVISION

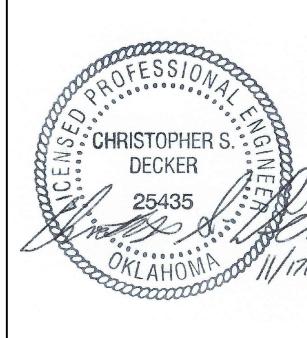


**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER
	70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME
	GN05.0001
EROSION CONTROL PLAN - OVERALL	VOLUME NUMBER
	1 of 1
	SHEET NUMBER
	7 of 48



BID SET



DATE	11/17/2025
SCALE	AS NOTED
DESIGNED	CHRISTOPHER S PE, F.ASCE
CHECKED	PB/SMH
ACCEPTED	DAS
SUBMITTED	CSD, PE, F.ASCE
APPROVED	CSD, PE, F.ASCE



TULSA AIRPORTS IMPROVEMENT TRUST (TAIT)

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME GN05.0002
EROSION CONTROL PLAN - 1	VOLUME NUMBER 1 of 1
	SHEET NUMBER 8 of 48



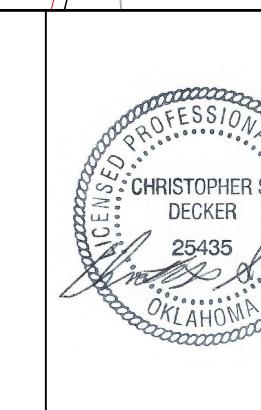
NOTES:

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2. CONTRACTOR TO MAINTAIN E&S MEASURES AROUND THE STAGING AREA

△	ADDENDUM 2	12/10/2025

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DATE
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DETAILED
CHRISTOPHER S. DECKER,
PE, FASCE
26485
OKLAHOMA
PBMH
ACCEPTED
DAS
SUBMITTED
CSD, PE, FASCE
APPROVED
CSD, PE, FASCE



**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME GN05.0003
EROSION CONTROL PLAN - 2	VOLUME NUMBER 1 of 1
	SHEET NUMBER 9 of 48



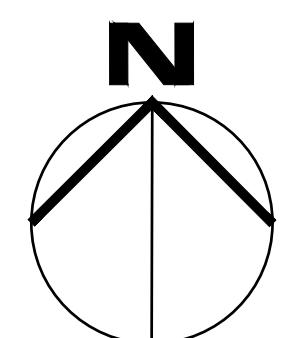
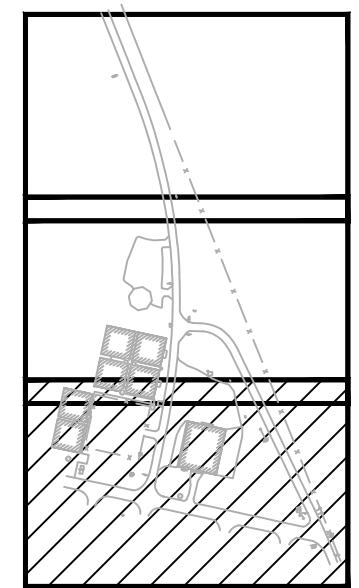
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2. CONTRACTOR TO MAINTAIN E&S MEASURES AROUND THE STAGING AREA

LEGEND

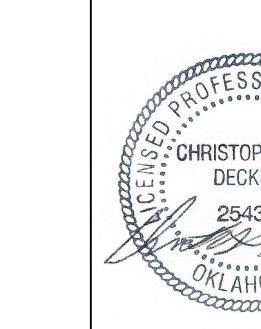
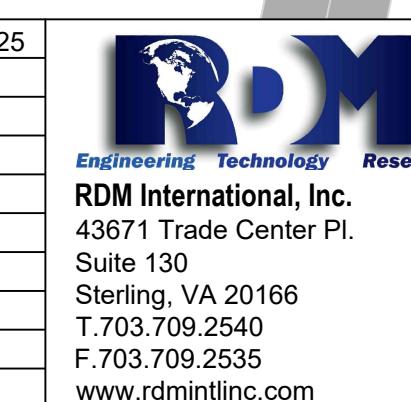
- CONSTRUCTION SAFETY FENCE
PER DETAIL 1, SHEET GN05.0101
- - - STRAW WATTLE FENCE
PER DETAIL 2, SHEET GN05.0101
- SILT FENCE BARRIER
PER DETAIL 3, SHEET GN05.0101

KEYPLAN



30' 15' 0 30' 60'
SCALE: 1' = 30'

△	ADDENDUM 2	12/10/2025

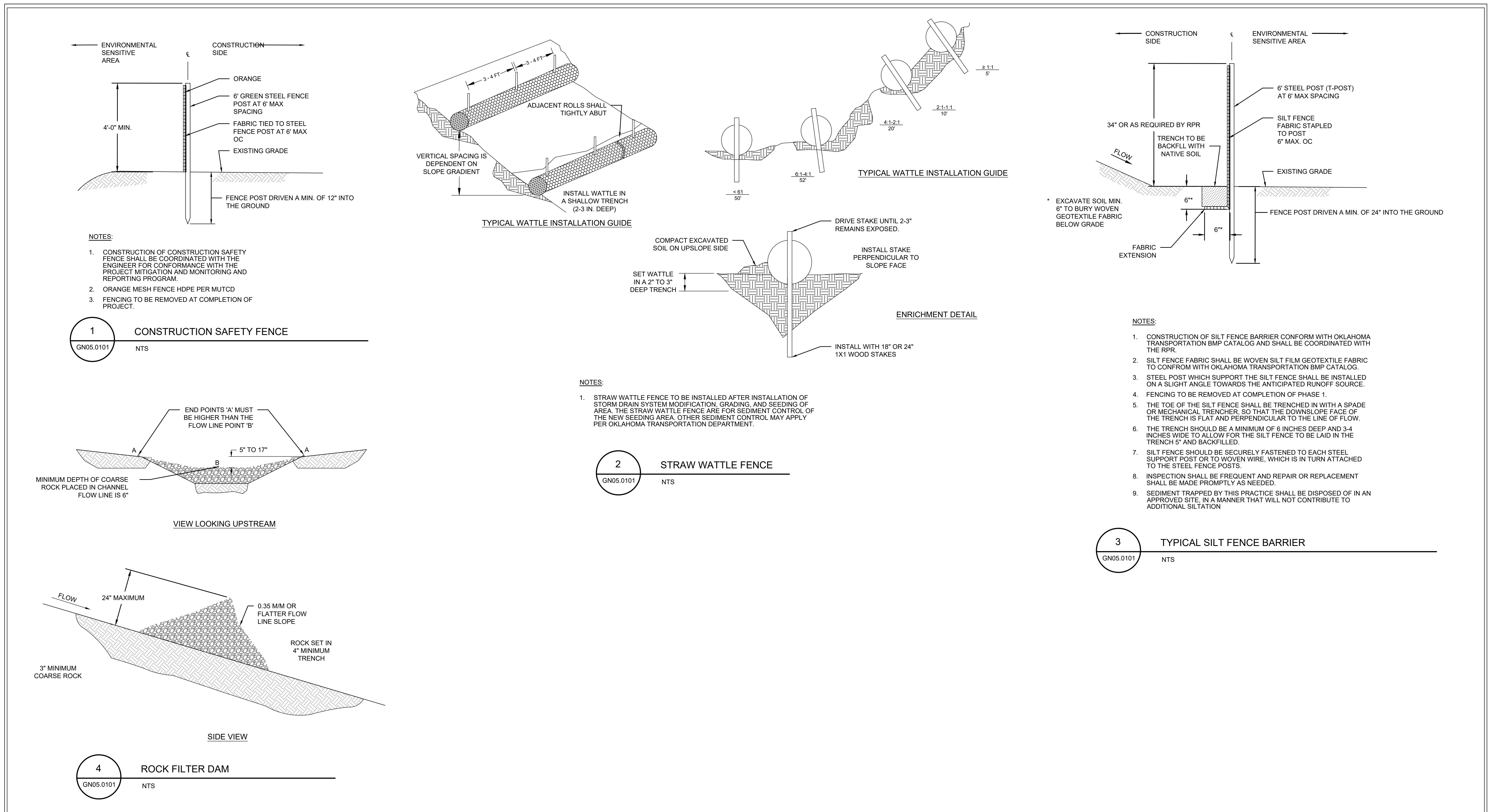


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SCALE
AS NOTED
DESIGNED
CHRISTOPHER S. DECKER,
PE, FASCE
CHECKED
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APPROVED
CSD, PE, FASCE

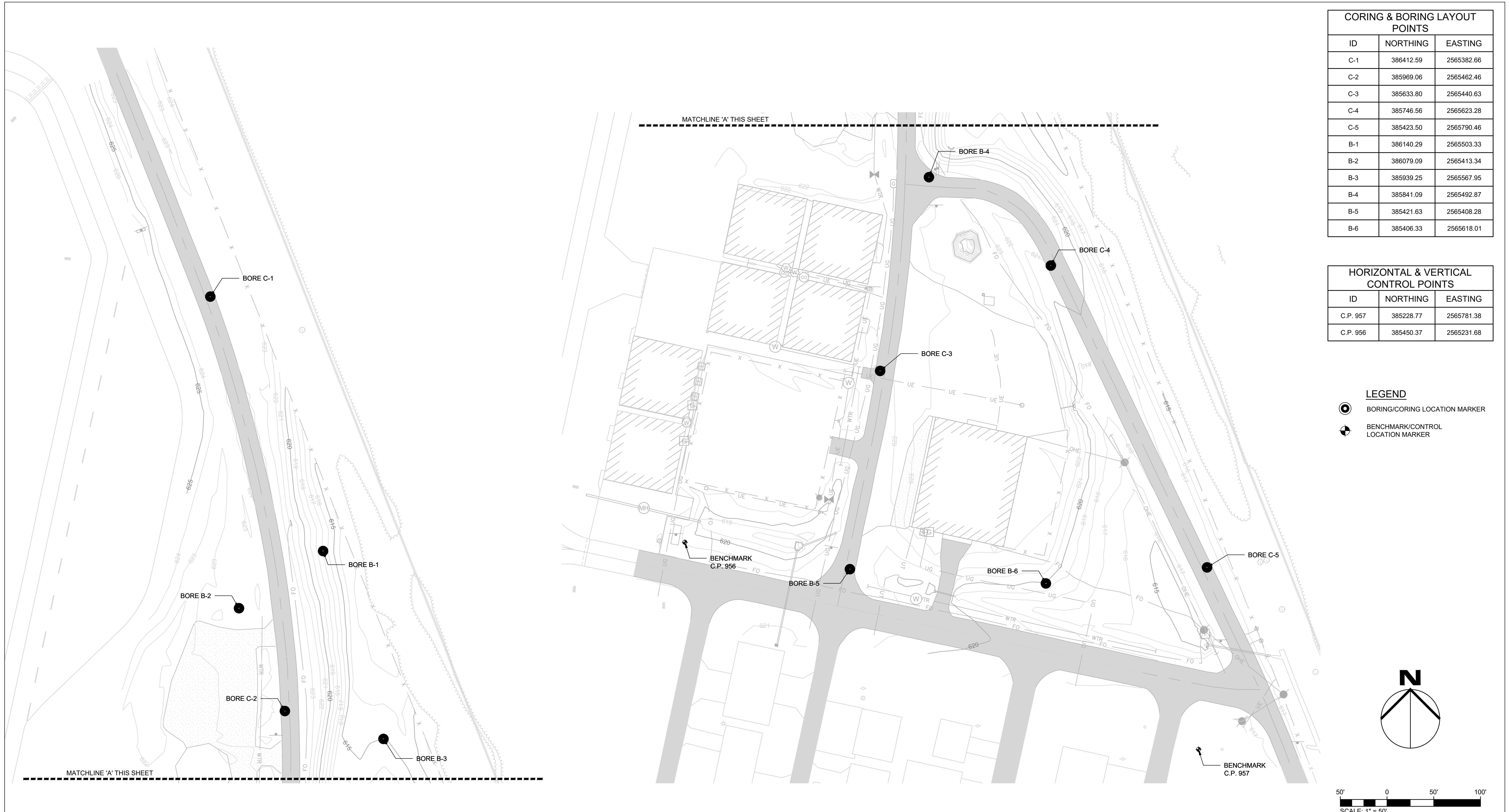


**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME GN05.0004
EROSION CONTROL PLAN - 3	VOLUME NUMBER 1 of 1
	SHEET NUMBER 10 of 48



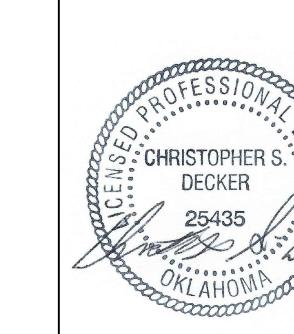
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NO.	REVISION	DATE



△	ADDENDUM 2	12/10/2025



BID SET



DATE
11/17/2025
SCALE
AS NOTED
DESIGNED
CHRISTOPHER S. DECKER,
PE, FASCE
CHECKED
PBMH
DRAWN
TEC / GLD
ACCEPTED
DAS
SUBMITTED
CSD, PE, FASCE
APPROVED
CSD, PE, FASCE



**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME GN06.0000
CORING & BORING LAYOUT - HORIZONTAL & VERTICAL CONTROL	VOLUME NUMBER 1 of 1
	SHEET NUMBER 12 of 48

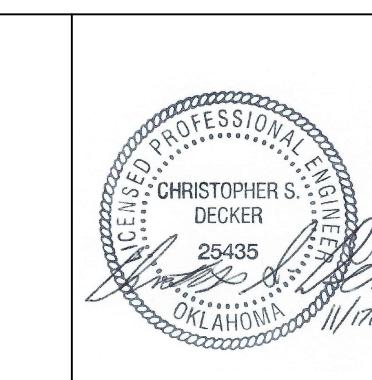
 <p>Top</p>		<p>Coring C-1</p> <p>Surveyed By: Christopher Sidwell</p> <p>Date Surveyed: August 18, 2025</p>																																																																								
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NO.	REVISION	DATE



BID SET



DATE: 11/17/2025
SCALE: AS NOTED
DETERMINED: CHRISTOPHER S. DECKER, P.E. F.ASCE
CHECKED: 26485 DRAWN: PBMH TEC / GLD
ACCEPTED: DAS
SUBMITTED: CSD, P.E., F.ASCE
APPROVED: CSD, P.E., F.ASCE



**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	PROJECT IDENTIFIER 70722
	SHEET NAME GN06.0001
CORING LOGS - 1	VOLUME NUMBER 1 of 1
	SHEET NUMBER 13 of 48

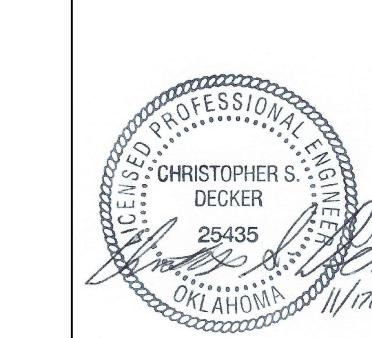
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NO.	REVISION	DATE



BID SET



DATE
11/17/2025
SCALE
AS NOTED
DETERMINED
CHRISTOPHER S.
DECKER,
PE, FASCE
26485
CHECKED
DRAWN
PBMH TEC / GLD
ACCEPTED
DAS
SUBMITTED
CSD, PE, FASCE
APPROVED
CSD, PE, FASCE



**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

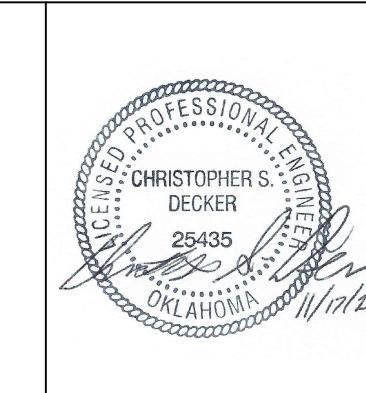
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	SHEET NAME GN06.0002
CORING LOGS - 2	VOLUME NUMBER 1 of 1
	SHEET NUMBER 14 of 48

		Coring C-5		
		Surveyed By: Christopher Sidwell		
		Date Surveyed: August 18, 2025		
CORE LOG <p> RRC No. 25080 Location RVS Airport County Tulsa Core C-5 Coring Location Center of Lane Lane Direction NB Latitude 36.041742 Longitude -95.979567 </p>	CORE LAYER DATA (FROM TOP TO BOTTOM)			
	Sample No.	Layer Type	Layer Thickness (in.)	Layer Characteristics
	1	Asphalt Concrete	4 3/4	Type B, tack layer at 2 1/4 inches
	Total Core Thickness		4 3/4	<u>AASHTO</u>
	2	AGGREGATE BASE	8 3/4	<u>OSI</u>
	*Asphalt type based on visual observation only			
	CORE DATA <p> Surface Material Type: <input checked="" type="checkbox"/> A.C. <input type="checkbox"/> P.C.C. <input type="checkbox"/> Continuously Reinforced Concrete Stripping and/or Separation: <input type="checkbox"/> Stripping <input type="checkbox"/> Separation <input type="checkbox"/> N/A Honeycomb or "D" Cracking in PCC: <input type="checkbox"/> Honeycomb <input type="checkbox"/> "D" <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Unknown Stabilized Subgrade Beneath Pavement or Sub-base? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </p>			
				

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BID SET



TULSA AIRPORTS IMPROVEMENT TRUST (TAIT)

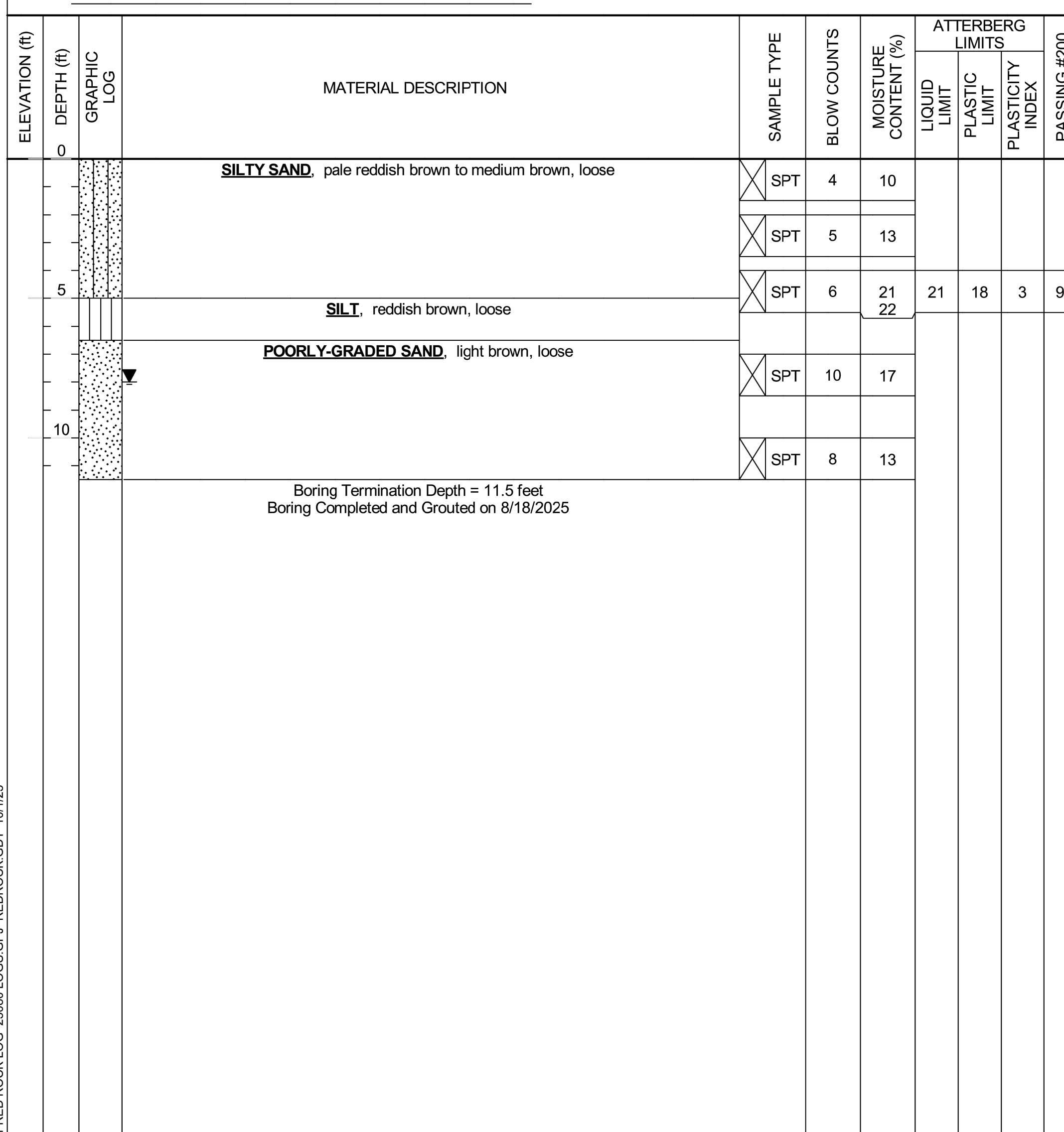
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TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	VOLUME NUMBER 1 of 1
CORING LOGS - 3	SHEET NUMBER 15 of 48

RED ROCK CONSULTING
PO Box 30591
Edmond, OK 73003
405-562-3268

BORING NUMBER B-01

PAGE 1 OF 1

CLIENT RDM International, Inc. PROJECT NAME RVS Taxilane TB and Perimeter Road
PROJECT NUMBER 25080 PROJECT LOCATION Tulsa, Oklahoma
DATE STARTED 8/18/25 COMPLETED 8/18/25 GROUND ELEVATION _____ STATION _____ OFFSET _____
DRILLING CONTRACTOR DSO - Drilling Services of Oklahoma GROUND WATER LEVELS: _____
DRILLING METHOD 4.5" augers - CME 55 Truck ▽ DURING DRILLING 8 ft
LOGGED BY EDC CHECKED BY JWB ▼ 0 hrs AFTER DRILLING 8 ft
NOTES _____

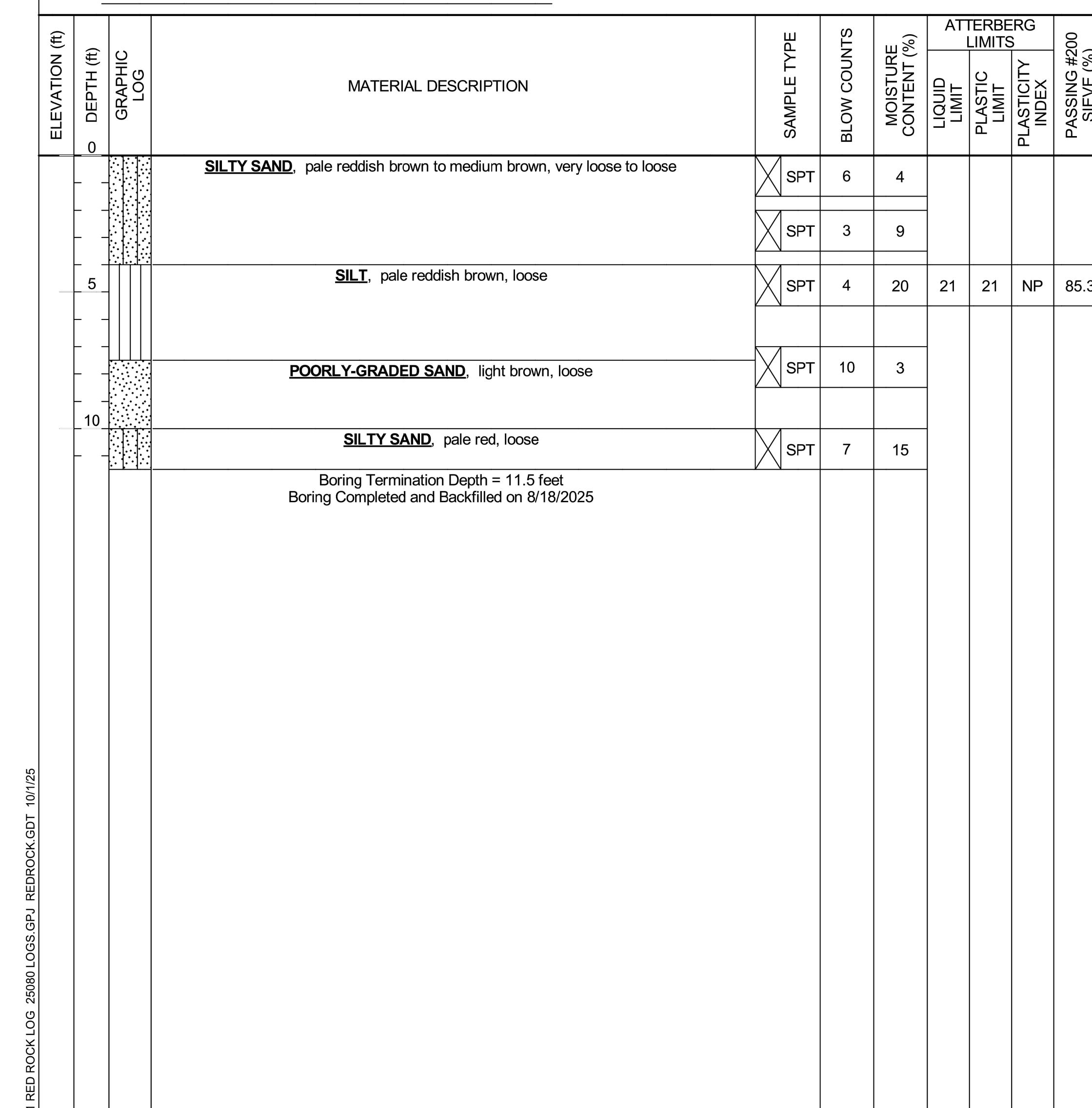


RED ROCK CONSULTING
PO Box 30591
Edmond, OK 73003
405-562-3268

BORING NUMBER B-02

PAGE 1 OF 1

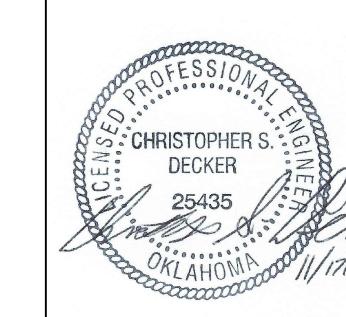
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CHECKED DRAWN
PBMH TEC / GLD
ACCEPTED
SUBMITTED
DAS
CSD, PE, FASCE
APPROVED
CSD, PE, FASCE



**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

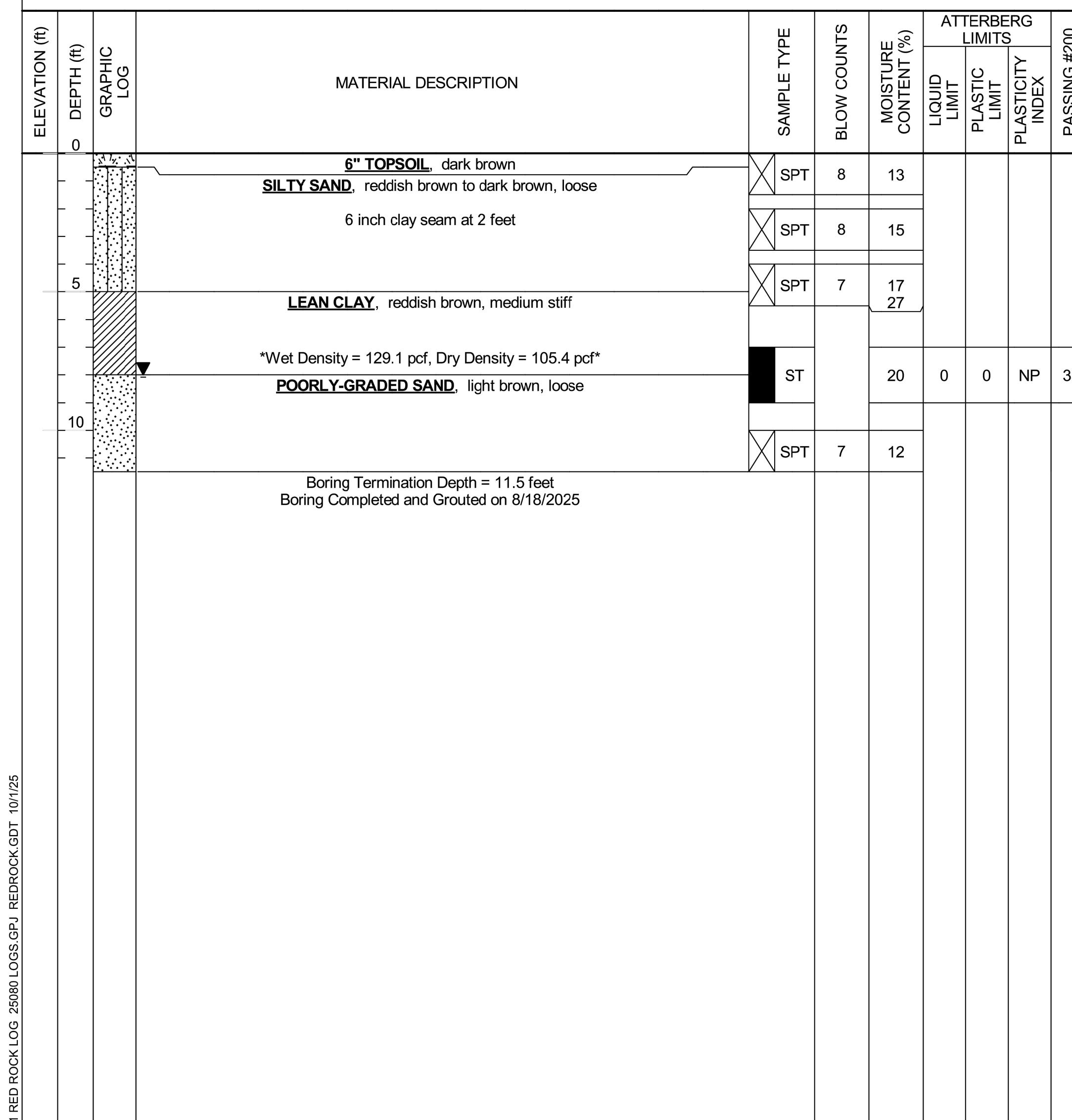
TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	PROJECT IDENTIFIER 70722
	SHEET NAME GN06.0101
	VOLUME NUMBER 1 of 1
	SHEET NUMBER 16 of 48

RED ROCK CONSULTING
PO Box 30591
Edmond, OK 73003
405-562-3268

BORING NUMBER B-03

PAGE 1 OF 1

CLIENT RDM International, Inc. PROJECT NAME RVS Taxilane TB and Perimeter Road
PROJECT NUMBER 25080 PROJECT LOCATION Tulsa, Oklahoma
DATE STARTED 8/18/25 COMPLETED 8/18/25 GROUND ELEVATION STATION OFFSET
DRILLING CONTRACTOR DSO - Drilling Services of Oklahoma GROUND WATER LEVELS:
DRILLING METHOD 4.5" augers - CME 55 Truck ▽ DURING DRILLING 8 ft
LOGGED BY EDC CHECKED BY JWB ▼ 0 hrs AFTER DRILLING 8 ft
NOTES _____



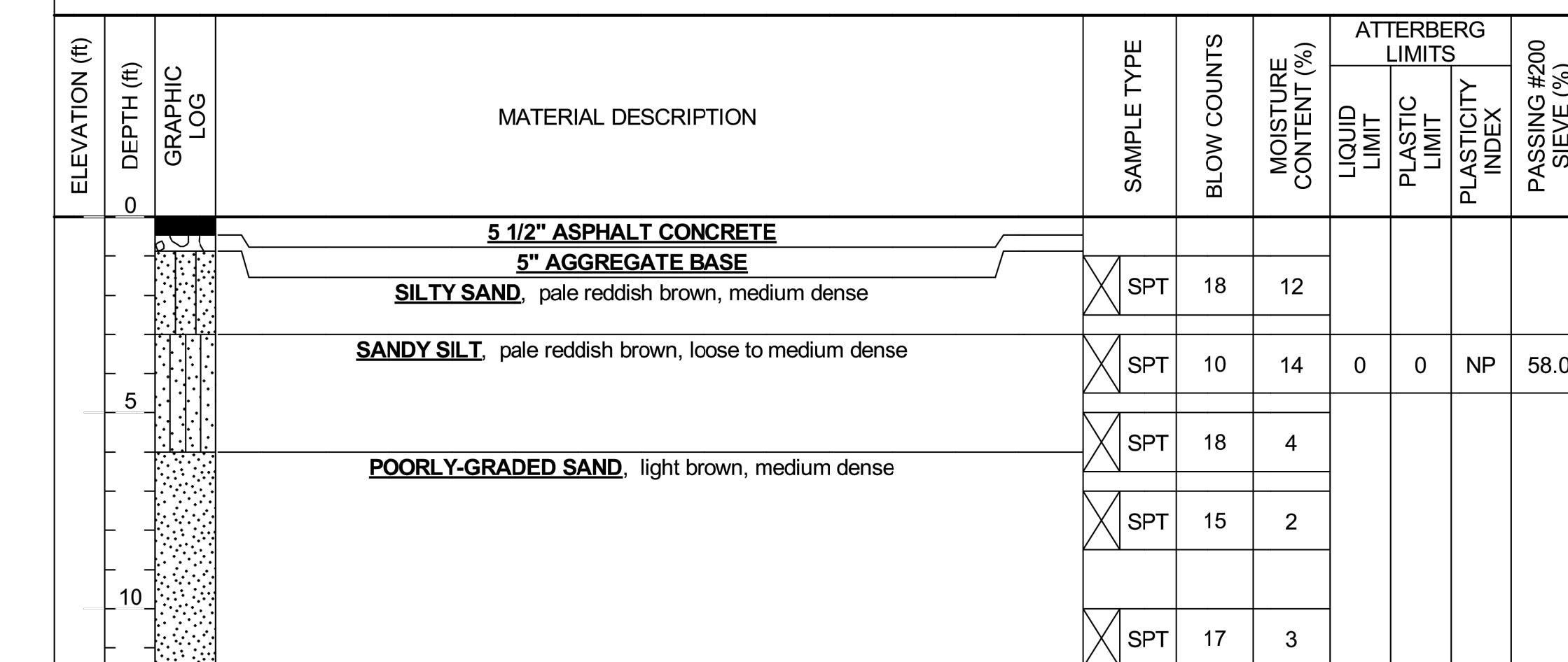
1 RED ROCK LOG 25080 LOGS.GPJ REDROCK GDT 10/1/25

RED ROCK CONSULTING
PO Box 30591
Edmond, OK 73003
405-562-3268

BORING NUMBER B-04

PAGE 1 OF 1

CLIENT RDM International, Inc. PROJECT NAME RVS Taxilane TB and Perimeter Road
PROJECT NUMBER 25080 PROJECT LOCATION Tulsa, Oklahoma
DATE STARTED 8/18/25 COMPLETED 8/18/25 GROUND ELEVATION STATION OFFSET
DRILLING CONTRACTOR DSO - Drilling Services of Oklahoma GROUND WATER LEVELS:
DRILLING METHOD 4.5" augers - CME 55 Truck DURING DRILLING dry
LOGGED BY EDC CHECKED BY JWB 0 hrs AFTER DRILLING dry
NOTES _____

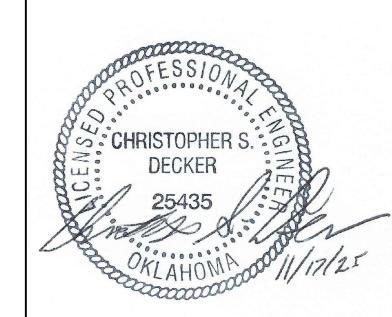


1 RED ROCK LOG 25080 LOGS.GPJ REDROCK GDT 10/1/25

△	ADDENDUM 2	12/10/2025
NO.	REVISION	DATE



BID SET



DATE 11/17/2025
SCALE AS NOTED
DETERMINED
CHRISTOPHER S. DECKER,
P.E. F.ASCE
256-85
ACCEPTED DRAWN
PBMH TEC / GLD
SUBMITTED DAS
CSD, P.E., F.ASCE
APPROVED CSD, P.E., F.ASCE



**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD
REALIGNMENT PROJECT
TULSA RIVERSIDE AIRPORT (RVS)
TULSA, OK
BORING LOGS - 2
1 of 1
SHEET NUMBER
17 of 48

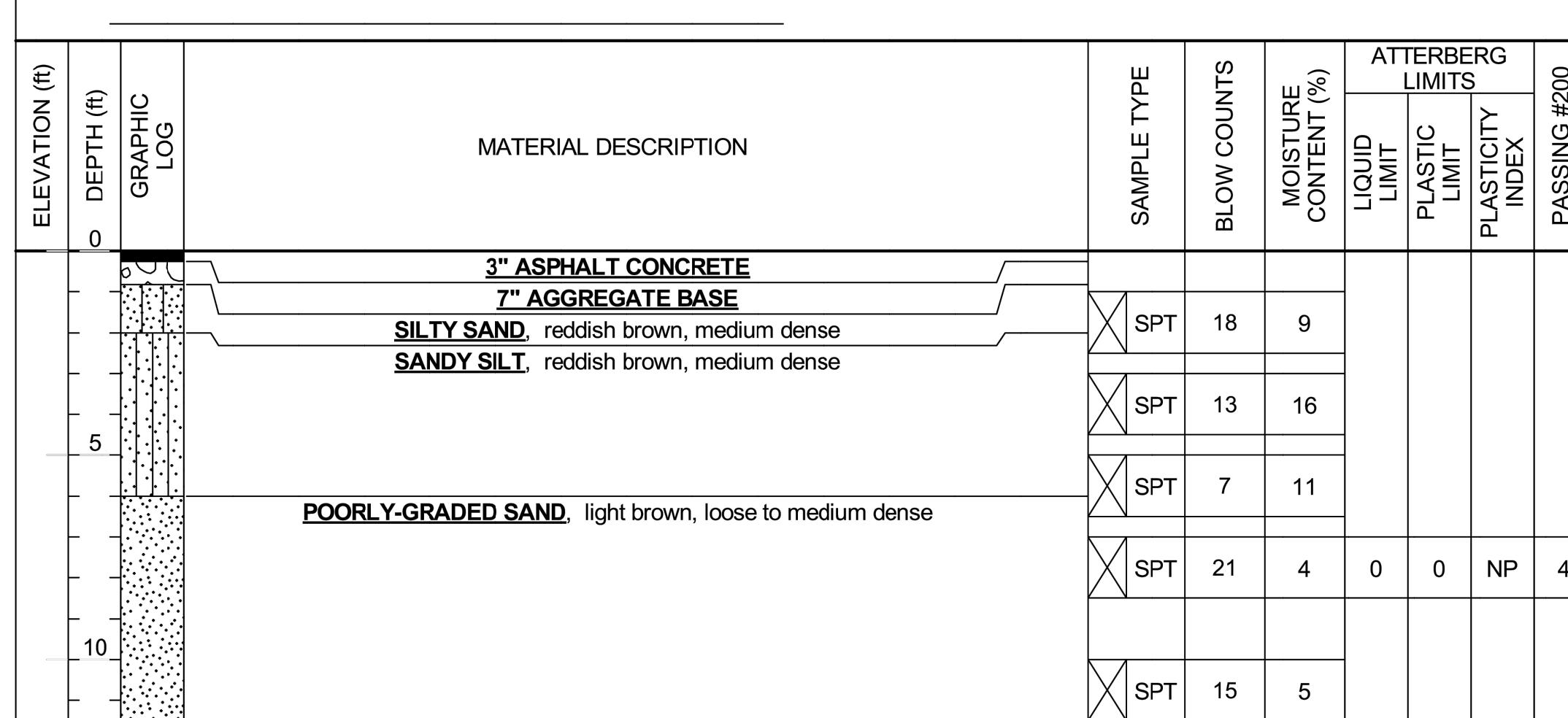
PROJECT IDENTIFIER
70722
SHEET NAME
GN06.0102
VOLUME NUMBER
1 of 1
SHEET NUMBER
17 of 48

RED ROCK CONSULTING
PO Box 30591
Edmond, OK 73003
405-562-3268

BORING NUMBER B-05

PAGE 1 OF 1

CLIENT RDM International, Inc. PROJECT NAME RVS Taxilane TB and Perimeter Road
PROJECT NUMBER 25080 PROJECT LOCATION Tulsa, Oklahoma
DATE STARTED 8/18/25 COMPLETED 8/18/25 GROUND ELEVATION _____ STATION _____ OFFSET _____
DRILLING CONTRACTOR DSO - Drilling Services of Oklahoma GROUND WATER LEVELS: _____
DRILLING METHOD 4.5" augers - CME 55 Truck DURING DRILLING dry
LOGGED BY EDC CHECKED BY JWB 0 hrs AFTER DRILLING dry
NOTES _____



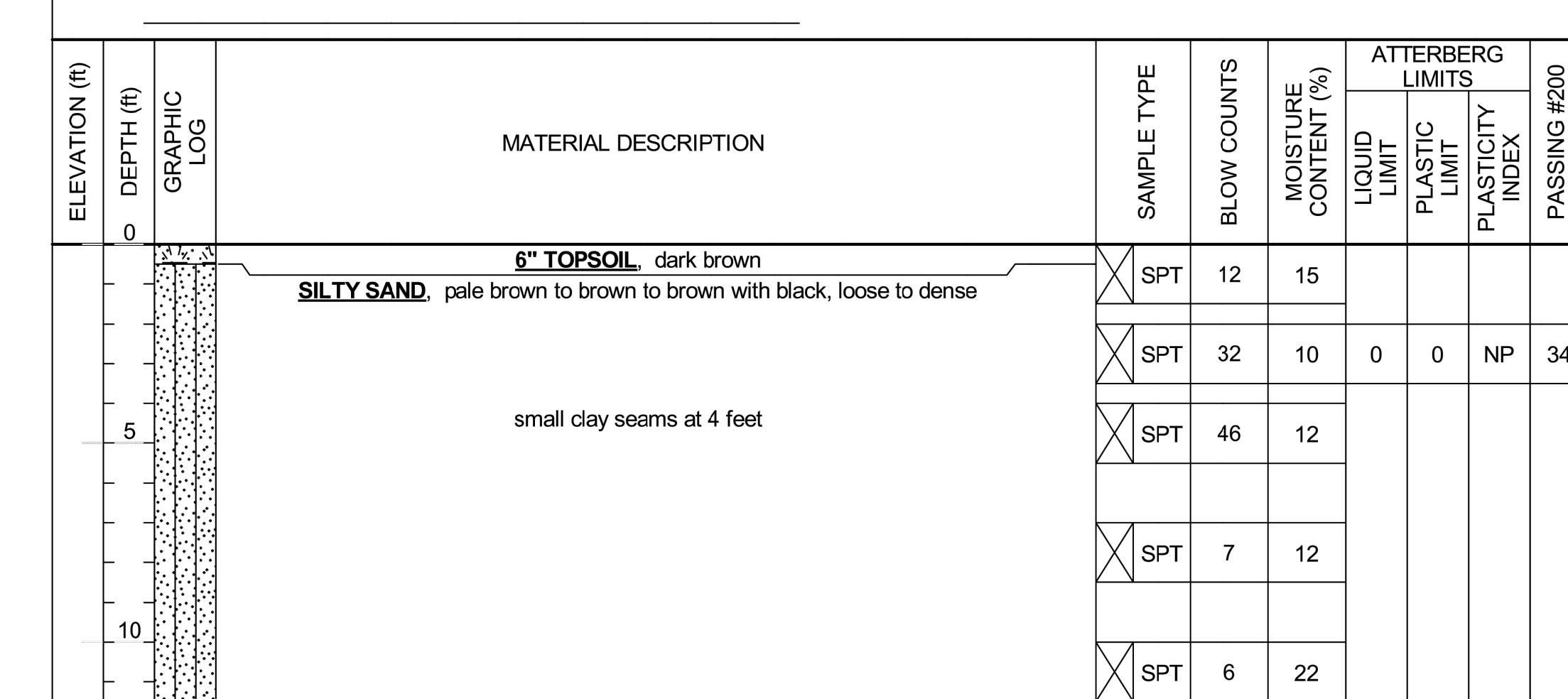
1 RED ROCK LOG 25080 LOGS.GPJ REDROCK.GDT 10/1/25

RED ROCK CONSULTING
PO Box 30591
Edmond, OK 73003
405-562-3268

BORING NUMBER B-06

PAGE 1 OF 1

CLIENT RDM International, Inc. PROJECT NAME RVS Taxilane TB and Perimeter Road
PROJECT NUMBER 25080 PROJECT LOCATION Tulsa, Oklahoma
DATE STARTED 8/18/25 COMPLETED 8/18/25 GROUND ELEVATION _____ STATION _____ OFFSET _____
DRILLING CONTRACTOR DSO - Drilling Services of Oklahoma GROUND WATER LEVELS: _____
DRILLING METHOD 4.5" augers - CME 55 Truck DURING DRILLING dry
LOGGED BY EDC CHECKED BY JWB 0 hrs AFTER DRILLING dry
NOTES _____

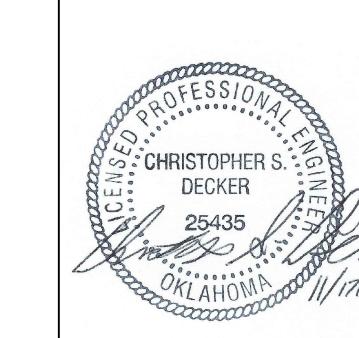


1 RED ROCK LOG 25080 LOGS.GPJ REDROCK.GDT 10/1/25

△	ADDENDUM 2	12/10/2025
NO.	REVISION	DATE



BID SET



DATE
11/17/2025
SCALE
AS NOTED
DETERMINED
CHRISTOPHER S. DECKER,
PE, FASCE
25485
CHECKED
DRAWN
PBMH TEC / GLD
ACCEPTED
DAS
SUBMITTED
CSD, PE, FASCE
APPROVED
CSD, PE, FASCE



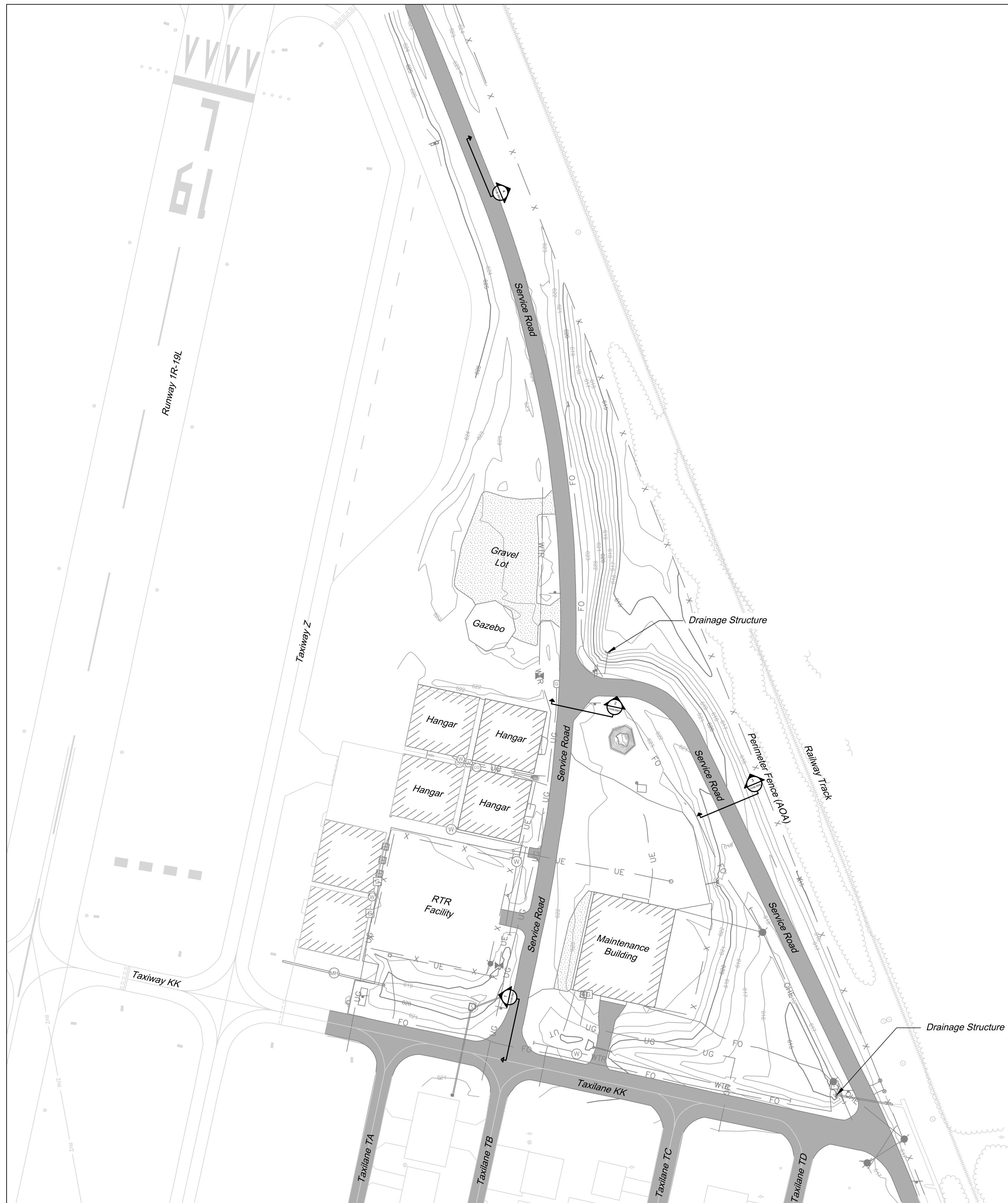
**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

**TAXILANE TB AND PERIMETER ROAD
REALIGNMENT PROJECT**
TULSA RIVERSIDE AIRPORT (RVS)
TULSA, OK
BORING LOGS - 3

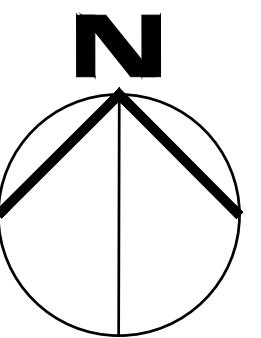
PROJECT IDENTIFIER
70722
SHEET NAME
GN06.0103
VOLUME NUMBER
1 of 1
SHEET NUMBER
18 of 48

GENERAL NOTES:

1. SURVEY MAP AREA IS LIMITED TO THE WORKING LIMITS THUS NOT EXPANDING A FURTHER AREA.
2. CONTRACTOR TO VERIFY SURVEY INFORMATION PRIOR TO START OF CONSTRUCTION.

**LEGEND**

—620— EXISTING MAJOR CONTOUR
—617— EXISTING MINOR CONTOUR

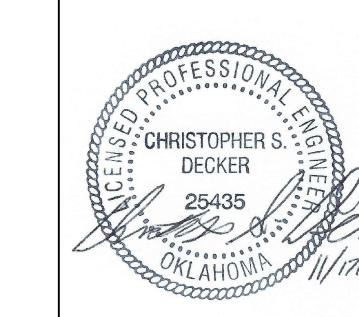


80' 40' 0 80' 160'
SCALE: 1" = 80'

△	ADDENDUM 2	12/10/2025



BID SET

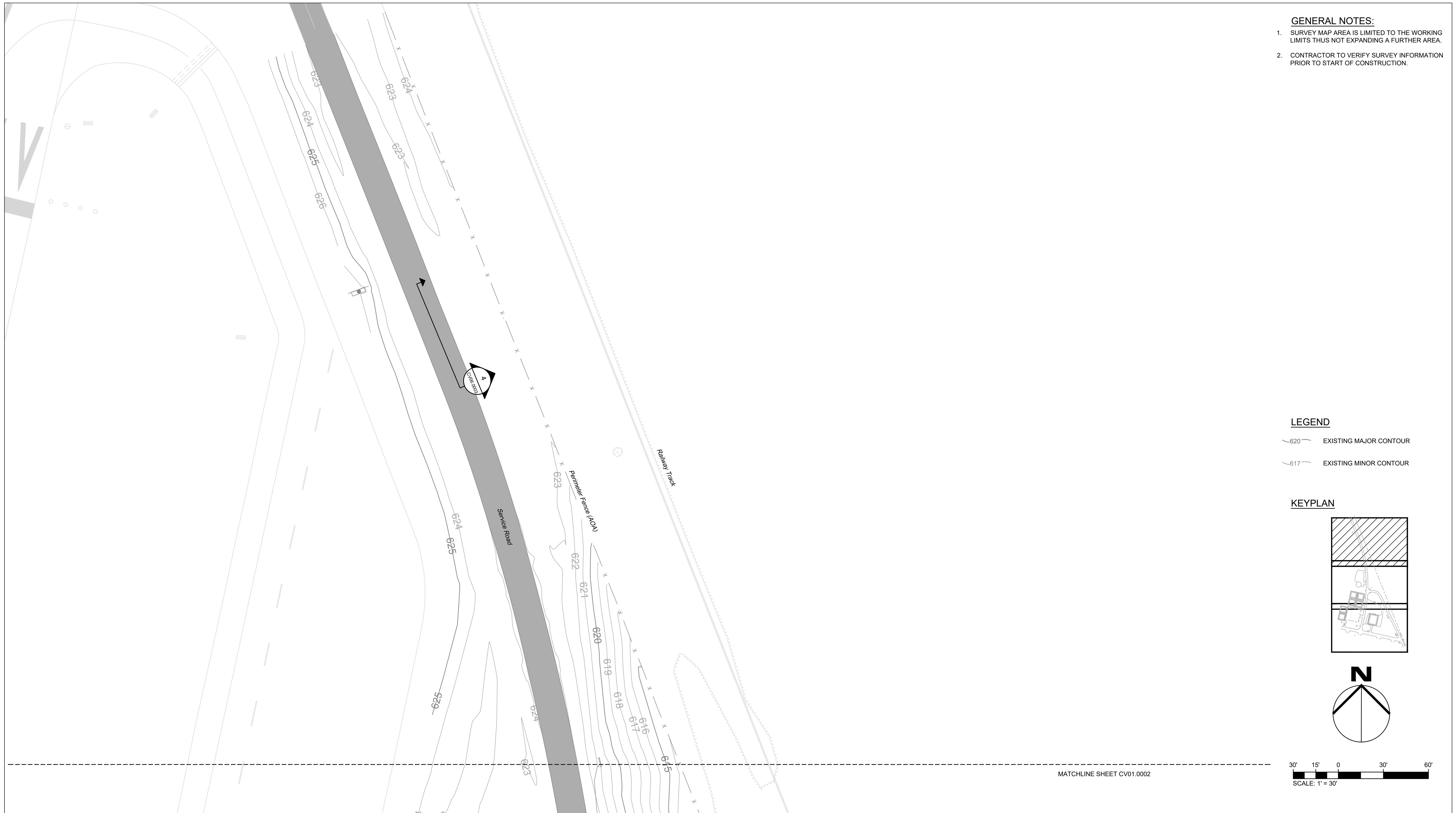


DATE 11/17/2025
SCALE AS NOTED
DETERMINED CHRISTOPHER S. DECKER, PE, FASCE
CHECKED PBMH DRAWN TEC / GLD
ACCEPTED DAS
SUBMITTED CSD, PE, FASCE
APPROVED CSD, PE, FASCE

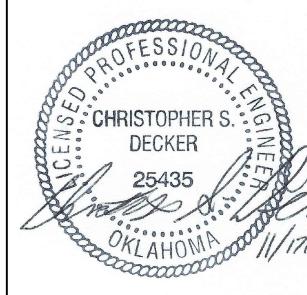


**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK SHEET NAME CV01.0000	PROJECT IDENTIFIER 70722
	VOLUME NUMBER 1 of 1
	SHEET NUMBER 19 of 48
EXISTING CONDITIONS - OVERALL	



BID SET



DATE 11/17/2025	
SCALE AS NOTED	
DESIGNED CHRISTOPHER S. I. PE, F.ASCE	
CHECKED PB/SMH	DR
ACCEPTED DAS	
SUBMITTED CSD, PE, F.ASCE	
APPROVED CSD, PE, F.ASCE	



TULSA AIRPORTS IMPROVEMENT TRUST (TAIT)

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME CV01.0001
EXISTING CONDITIONS - 1	VOLUME NUMBER 1 of 1
	SHEET NUMBER 20 of 48

GENERAL NOTES:

1. SURVEY MAP AREA IS LIMITED TO THE WORKING LIMITS THUS NOT EXPANDING A FURTHER AREA.
2. CONTRACTOR TO VERIFY SURVEY INFORMATION PRIOR TO START OF CONSTRUCTION.

MATCHLINE SHEET CV01.0001



TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME CV01.0002
1 of 1	VOLUME NUMBER
21 of 48	SHEET NUMBER

△ ADDENDUM 2	12/10/2025
RDM International, Inc.	
Engineering Technology Research	
43671 Trade Center Pl.	
Suite 130	
Sterling, VA 20166	
T.703.709.2540	
F.703.709.2536	
www.rdmintlinc.com	
NO.	REVISION
DATE	

BID SET

DATE 11/17/2025
SCALE AS NOTED
DEPARTMENT CHRISTOPHER S. DECKER, PE, FASCE
CHECKED 26485
DRAWN PBMH TEC / GLD
ACCEPTED DAS
SUBMITTED CSD, PE, FASCE
APPROVED CSD, PE, FASCE



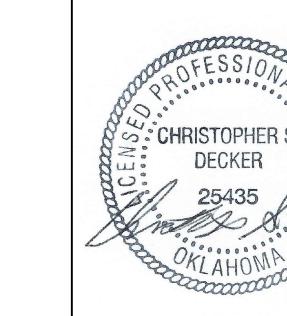
**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**



△	ADDENDUM 2	12/10/2025



BID SET



DATE
11/17/2025
SCALE
AS NOTED
DESIGNED
CHRISTOPHER S. DECKER,
PE, FASCE
CHECKED
PBMH
ACCEPTED
DAS
SUBMITTED
CSD, PE, FASCE
APPROVED
CSD, PE, FASCE



**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME CV01.0003
EXISTING CONDITIONS - 3	VOLUME NUMBER 1 of 1
	SHEET NUMBER 22 of 48

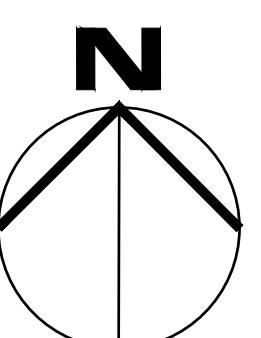


GENERAL NOTES:

1. REFER TO PROJECT HORIZONTAL AND VERTICAL CONTROL PLAN, SHEET GN06.0000. NOTE THAT ALIGNMENTS SHOWN ON DEMOLITION SHEETS ARE PROPOSED CONDITION.
2. REFER TO TYPICAL SECTIONS, SERIES CV06.0001, FOR EXISTING PAVEMENT SECTIONS.
3. REFER TO PAVEMENT CORES AND BORING LOGS FOR EXISTING PAVEMENT DATA. REFER TO BORING LOGS ON PLAN SHEET GN06.0001 - GN06.0103.
4. REFER TO EXISTING CONDITIONS, SHEET CV01.0000, FOR EXISTING UTILITY DATA.
5. REFER TO STORM DRAIN PROFILE, SHEET CV08.0001 FOR PROPOSED DRAINAGE DATA.
6. REFER TO GEOMETRY AND PAVING PLAN, SHEET CV04.0000, FOR GEOMETRY AND PAVING INFORMATION.
7. ANY/ALL STRUCTURES, PIPES, OR UTILITIES THAT ARE NOT SCHEDULED FOR REMOVAL THAT ARE DAMAGED BY CONSTRUCTION OPERATIONS SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. ANY/ALL OF THESE ITEMS THAT ARE TO REMAIN MUST BE PROTECTED FROM DAMAGE. ANY DAMAGE TO THESE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR IN AN APPROVED MANNER TO THE SATISFACTION OF THE RPR (NO DIRECT PAY).
8. ANY SURFACE DAMAGE OR CRACKING OF EXISTING CONCRETE OR BITUMINOUS PAVEMENT TO REMAIN CAUSED BY CONTRACTOR OR SUBCONTRACTORS SHALL BE REMOVED OR REPAIRED, AS DETERMINED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

LEGEND

- PAVEMENT REMOVAL (UP TO 12" DEPTH) OR UNCLASSIFIED EXCAVATION (12-INCHES BELOW PROPOSED SURFACE)
- UNCLASSIFIED EXCAVATION (12" BELOW PROPOSED SURFACE)
- COLD MILLING (2-INCH TIE-IN)
- PROPOSED PAVING LIMITS

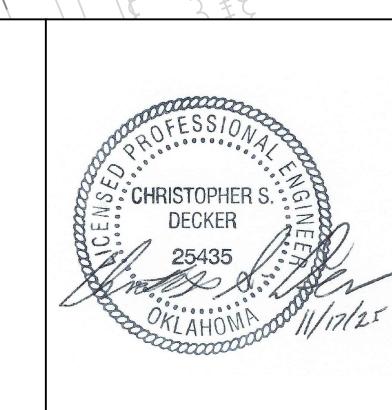


80' 40' 0 80' 160'
SCALE: 1" = 80'

ADDENDUM 2	12/10/2025
NO.	REVISION



BID SET



DATE 11/17/2025	SCALE AS NOTED
DETERMINED CHRISTOPHER S. DECKER, PE, F.ASCE 26485	CHECKED DRAWN PBMH TEC / GLD
ACCEPTED DAS	SUBMITTED CSD, PE, F.ASCE
APPROVED CSD, PE, F.ASCE	

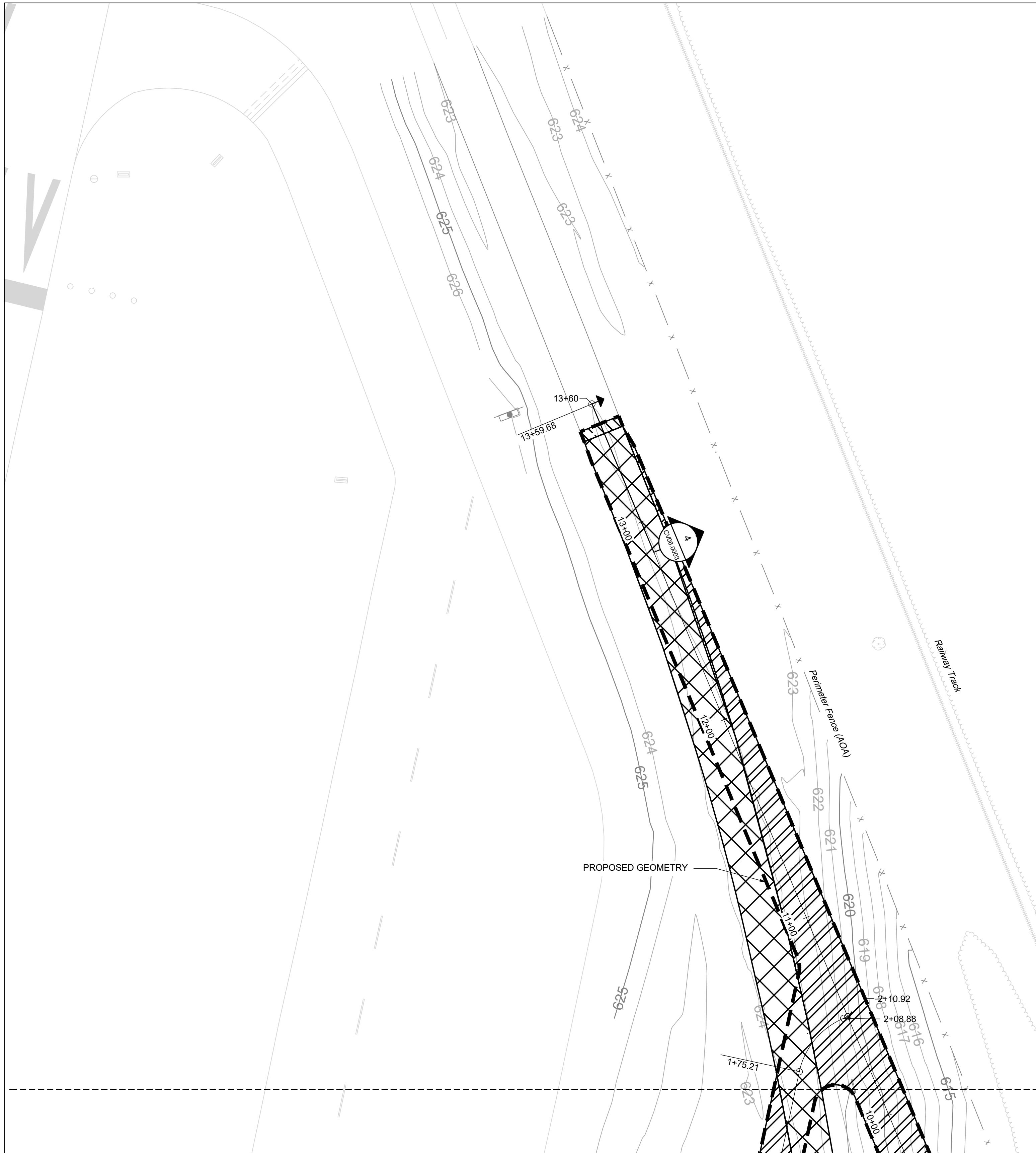


**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME CV02.0000
DEMOLITION PLAN - OVERALL	VOLUME NUMBER 1 of 1
	SHEET NUMBER 23 of 48

GENERAL NOTES:

1. REFER TO DEMOLITION PLAN - OVERALL, CV02.0000 FOR SERIES SPECIFIC NOTES.





 ADDENDUM 2	12/10/2025	
NO.	REVISION	DATE

BID SET



A circular stamp with a decorative rope-like border. The words "LICENSED PROFESSIONAL" are at the top, "CHRISTOPHER S. DECKER" are in the center, "25435" is to the right, and "OKLAHOMA" is at the bottom.



TULSA AIRPORTS IMPROVEMENT TRUST (TAIT)

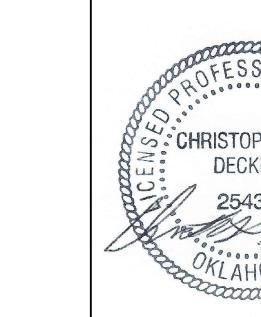
TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME CV02.0002
DEMOLITION PLAN - 2	VOLUME NUMBER 1 of 1
	SHEET NUMBER 25 of 48



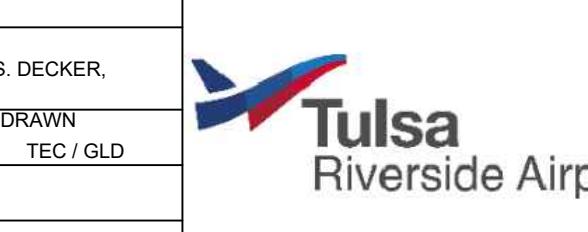
△	ADDENDUM 2	12/10/2025



BID SET

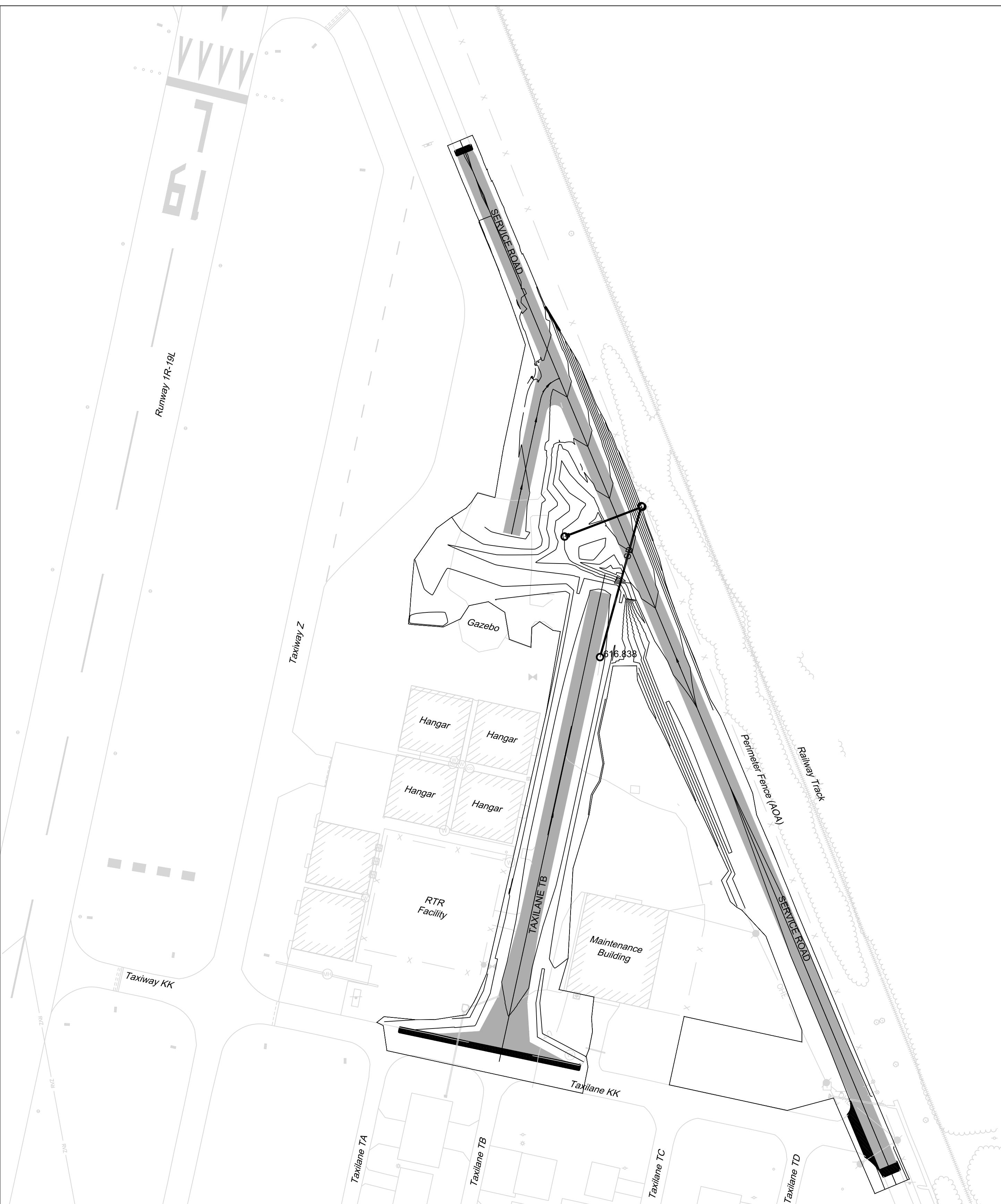


DATE
11/17/2025
SCALE
AS NOTED
DESIGNED
CHRISTOPHER S. DECKER,
PE, FASCE
CHECKED
PBMH
DRAWN
TEC / GLD
ACCEPTED
DAS
SUBMITTED
CSD, PE, FASCE
APPROVED
CSD, PE, FASCE



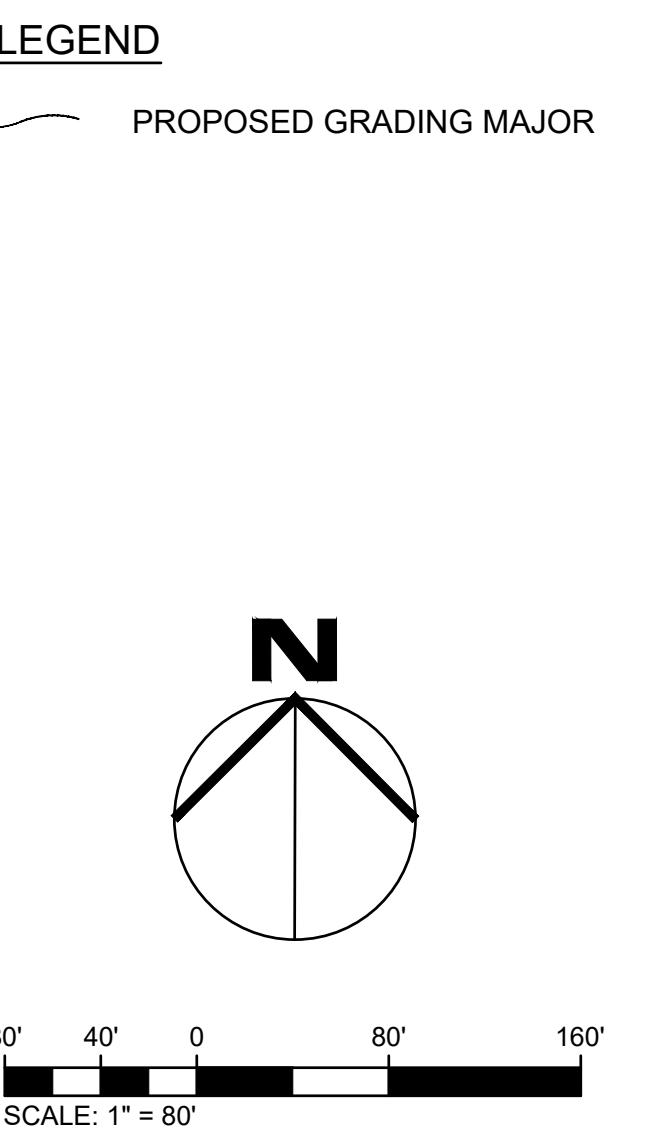
**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA AIRPORTS IMPROVEMENT TRUST (TAIT)	SHEET NAME CV02.0003
DEMOLITION PLAN - 3	VOLUME NUMBER 1 of 1
	SHEET NUMBER 26 of 48



GENERAL NOTES:

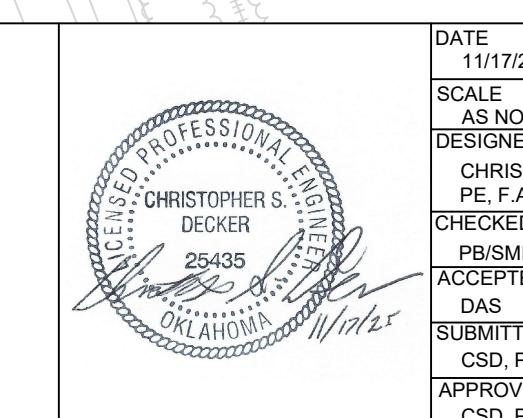
- SEE GENERAL NOTES ON SHEET GN01.0001.
- SEE CONTRACTOR SITE, STAGING, AND ACCESS NOTES ON SHEET GN02.0001.
- SEE PHASING PLAN ON SHEETS GN03.0001.
- SEE EXISTING CONDITIONS ON SHEET CV01.0000.
- CONTRACTOR SHALL PROTECT IN PLACE ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO LIGHTS, ELECTRICAL DUCT BANKS, WATER PIPES, COMMUNICATION DUCT BANKS, VAULT, HAND HOLES, ETC.



△	ADDENDUM 2	12/10/2025

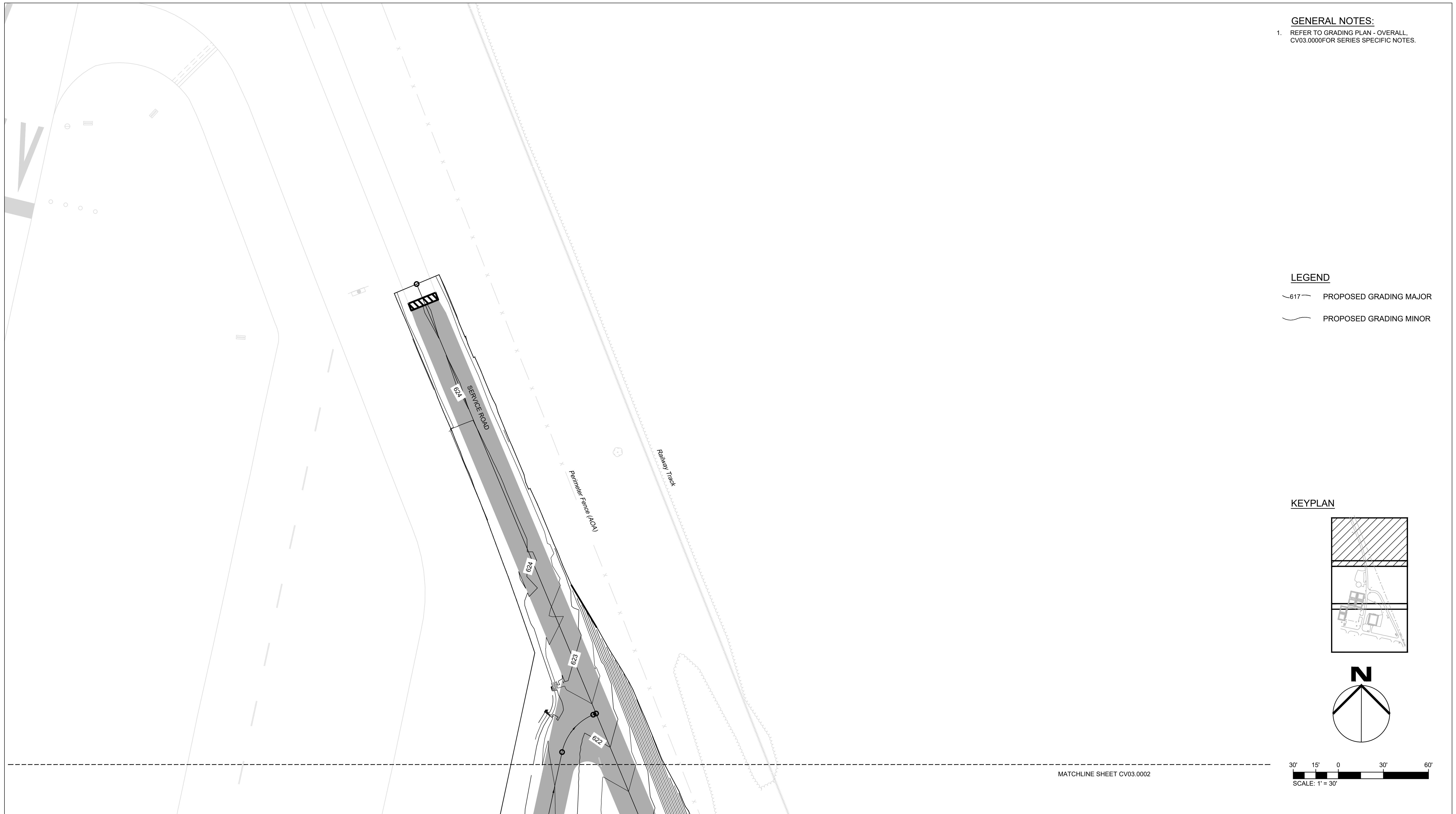


BID SET

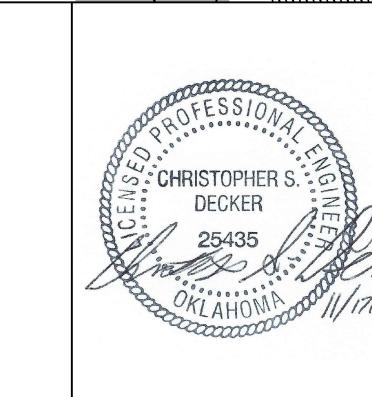


**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME CV03.0000
GRADING PLAN - OVERALL	VOLUME NUMBER 1 of 1
	SHEET NUMBER 27 of 48



△	ADDENDUM 2	12/10/2025



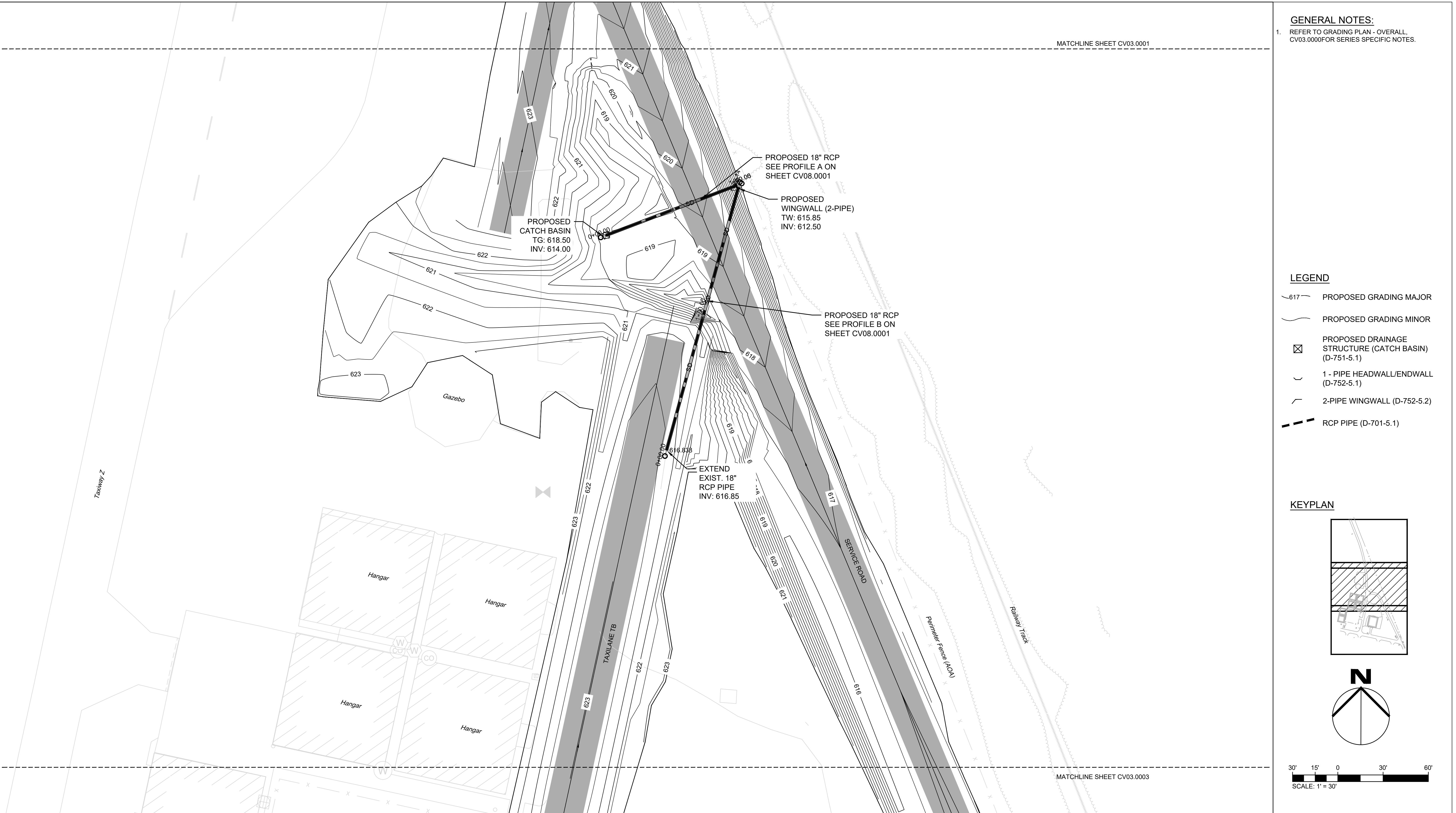
DATE
11/17/2025
SCALE
AS NOTED
DESIGNED
CHRISTOPHER S. DECKER,
PE, FASCE
CHECKED
PBMH
DRAWN
TEC / GLD
ACCEPTED
DAS
SUBMITTED
CSD, PE, FASCE
APPROVED
CSD, PE, FASCE



**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

MATCHLINE SHEET CV03.0002

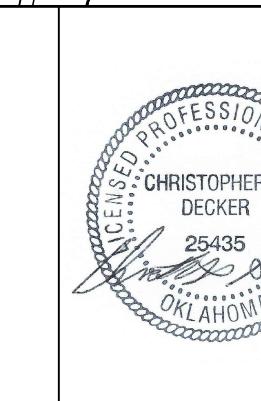
TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME CV03.0001
GRADING PLAN - 1	VOLUME NUMBER 1 of 1
	SHEET NUMBER 28 of 48



▲ ADDENDUM 2	12/10/2025
NO.	REVISION



BID SET



DATE 11/17/2025
SCALE AS NOTED
DETAILED
CHRISTOPHER S. DECKER, PE, FASCE
CHECKED PBMH
DRAWN TEC / GLD
ACCEPTED DAS
SUBMITTED CSD, PE, FASCE
APPROVED CSD, PE, FASCE



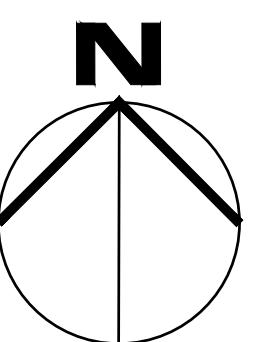
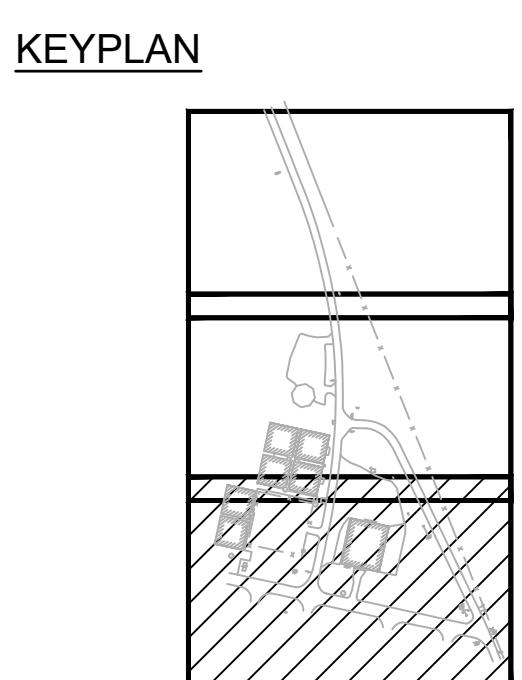
**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	PROJECT IDENTIFIER 70722
	SHEET NAME CV03.0002
GRADING PLAN - 2	VOLUME NUMBER 1 of 1
	SHEET NUMBER 29 of 48

GENERAL NOTES:
1. REFER TO GRADING PLAN - OVERALL,
CV03.0000FOR SERIES SPECIFIC NOTES.

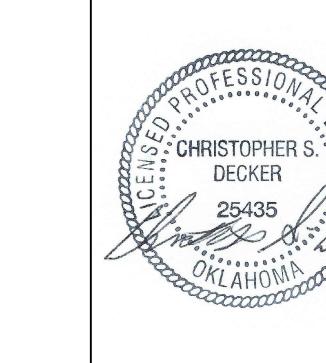
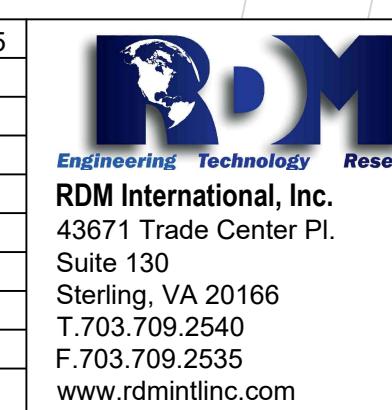


LEGEND
— PROPOSED GRADING MAJOR
— PROPOSED GRADING MINOR



30' 15' 0 30' 60'
SCALE: 1' = 30'

▲	ADDENDUM 2	12/10/2025

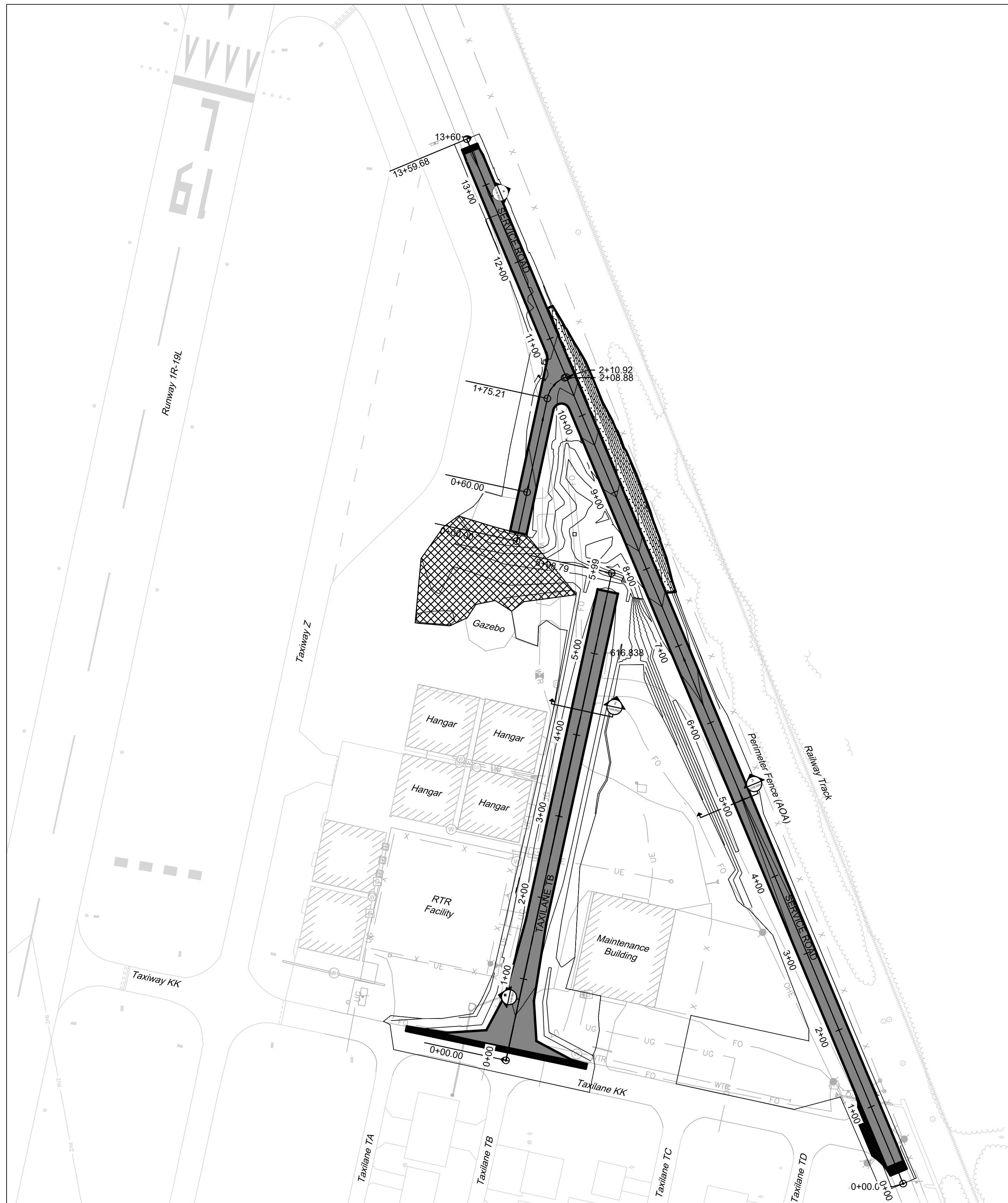


DATE
11/17/2025
SCALE
AS NOTED
DESIGNED
CHRISTOPHER S. DECKER,
PE, FASCE
CHECKED
PBMH
ACCEPTED
DAS
SUBMITTED
CSD, PE, FASCE
APPROVED
CSD, PE, FASCE



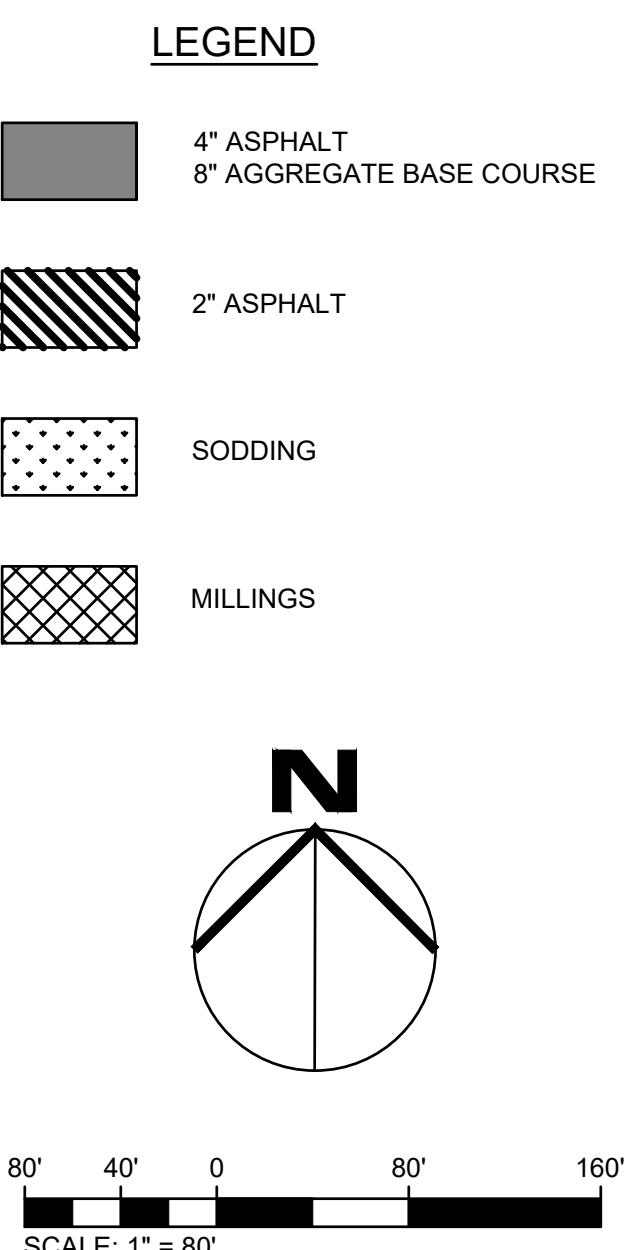
**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME CV03.0003
GRADING PLAN - 3	VOLUME NUMBER 1 of 1
	SHEET NUMBER 30 of 48



GENERAL NOTES:

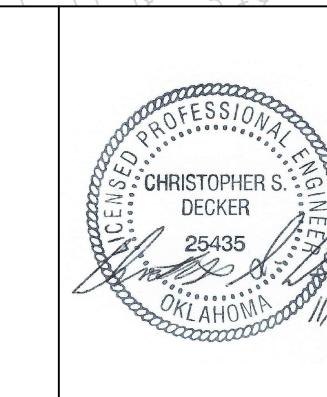
- SEE GENERAL NOTES ON SHEET GN01.0001.
- SEE CONTRACTOR SITE, STAGING, AND ACCESS NOTES ON SHEET GN02.0001.
- SEE PHASING ON SHEETS GN03.0001.
- SEE STORM DRAIN PROFILE ON CV08.0001.
- SEE EXISTING CONDITIONS PLAN SERIES, SHEET CV01.0000 - CV01.0003.
- CONTRACTOR SHALL PROTECT IN PLACE ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO LIGHTS, ELECTRICAL DUCT BANKS, WATER PIPES, COMMUNICATION DUCT BANKS, VAULT, HAND HOLES, ETC.
- FINAL LIFT OF ASPHALT TO BE PLACED UNIFORMLY ACROSS ALL ADJACENT AREAS TO BE PAVED.



ADDENDUM 2	12/10/2025



BID SET

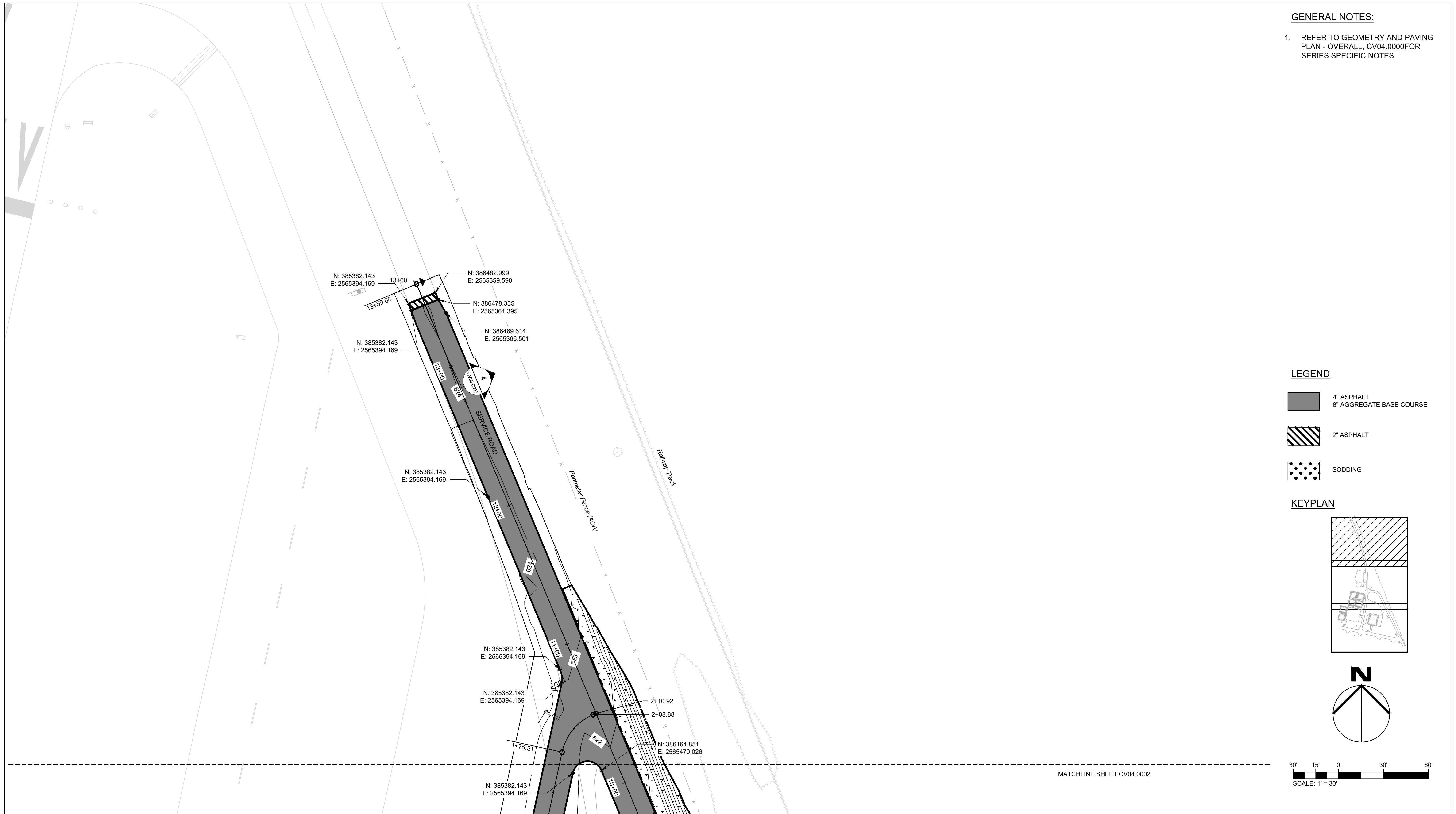


DATE 11/17/2025	SCALE AS NOTED
DETERMINED CHRISTOPHER S. DECKER, PE, FASCE	CHECKED DRAWN PBMH TEC / GLD
ACCEPTED DAS	SUBMITTED CSD, PE, FASCE
APPROVED CSD, PE, FASCE	



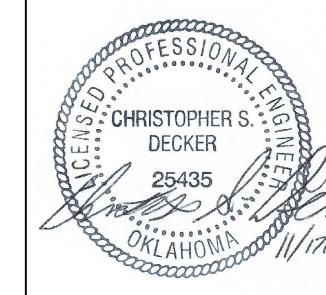
**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME CV04.0000
GEOMETRY & PAVING PLAN - OVERALL	VOLUME NUMBER 1 of 1
	SHEET NUMBER 31 of 48



	ADDENDUM 2	12/10/2025	 Engineering Technology RDM International 43671 Trade Center Drive Suite 130 Sterling, VA 20166 T.703.709.2500 F.703.709.2501 www.rdmintli.com
NO.	REVISION	DATE	

BID SET



The logo for Tulsa Riverside Airport. It features a stylized graphic of an airplane in flight, composed of blue and red curved lines. To the right of the graphic, the word "Tulsa" is written in a large, bold, black, sans-serif font. Below "Tulsa", the words "Riverside Airport" are written in a smaller, black, sans-serif font.

TULSA AIRPORTS IMPROVEMENT TRUST (TAIT)

DATE	11/17/2025
SCALE	AS NOTED
DESIGNED	CHRISTOPHER S PE, F.ASCE
CHECKED	PB/SMH
ACCEPTED	DAS
SUBMITTED	CSD, PE, F.ASCE
APPROVED	CSD, PE, F.ASCE

MATCHLINE SHEET QV/24-2020

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT

**TULSA RIVERSIDE AIRPORT (RVS)
TULSA, OK**

VOLUME NUMBER
1 of 1

GEOMETRY & PAVING PLAN - 1

1 - 1 | 1 of 1
SHEET NUMBER



△	ADDENDUM 2	12/10/2025



BID SET



DATE
11/17/2025
SCALE
AS NOTED
DETAILED
CHRISTOPHER S. DECKER,
PE, FASCE
CHECKED
DRAWN
PBMH TEC / GLD
ACCEPTED
DAS
SUBMITTED
CSD, PE, FASCE
APPROVED
CSD, PE, FASCE

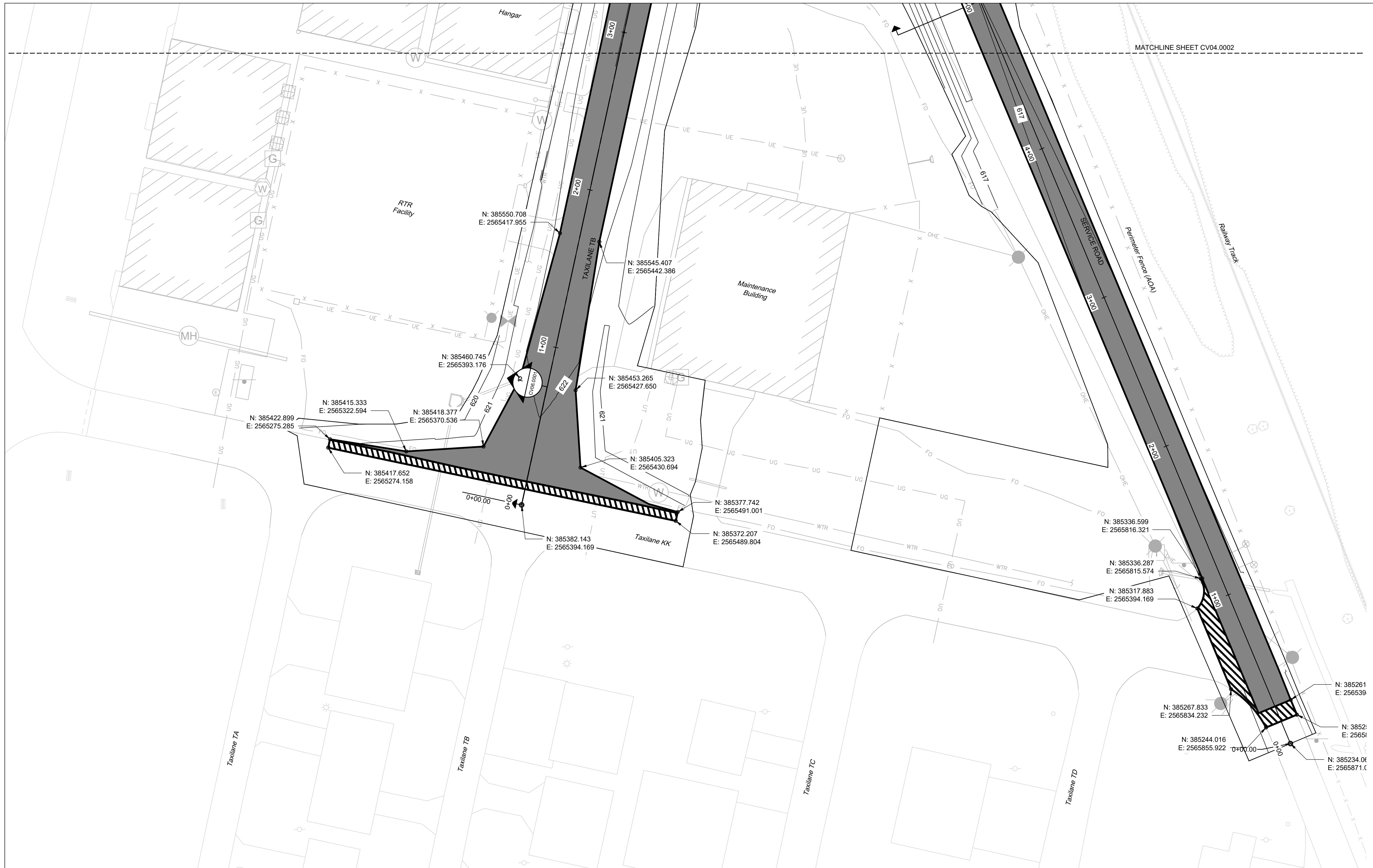


**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME CV04.0002
GEOMETRY & PAVING PLAN -	VOLUME NUMBER 1 of 1
2	SHEET NUMBER 33 of 48

GENERAL NOTES:

1. REFER TO GEOMETRY AND PAVING PLAN - OVERALL, CV04.0000 FOR SERIES SPECIFIC NOTES.

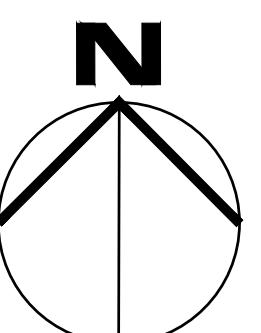
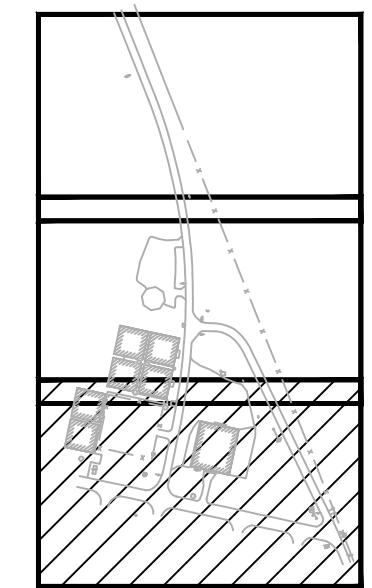


LEGEND

4" ASPHALT
8" AGGREGATE BASE COURSE

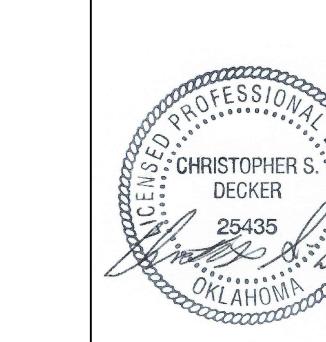
2" ASPHALT

KEYPLAN



30' 15' 0 30' 60'
SCALE: 1' = 30'

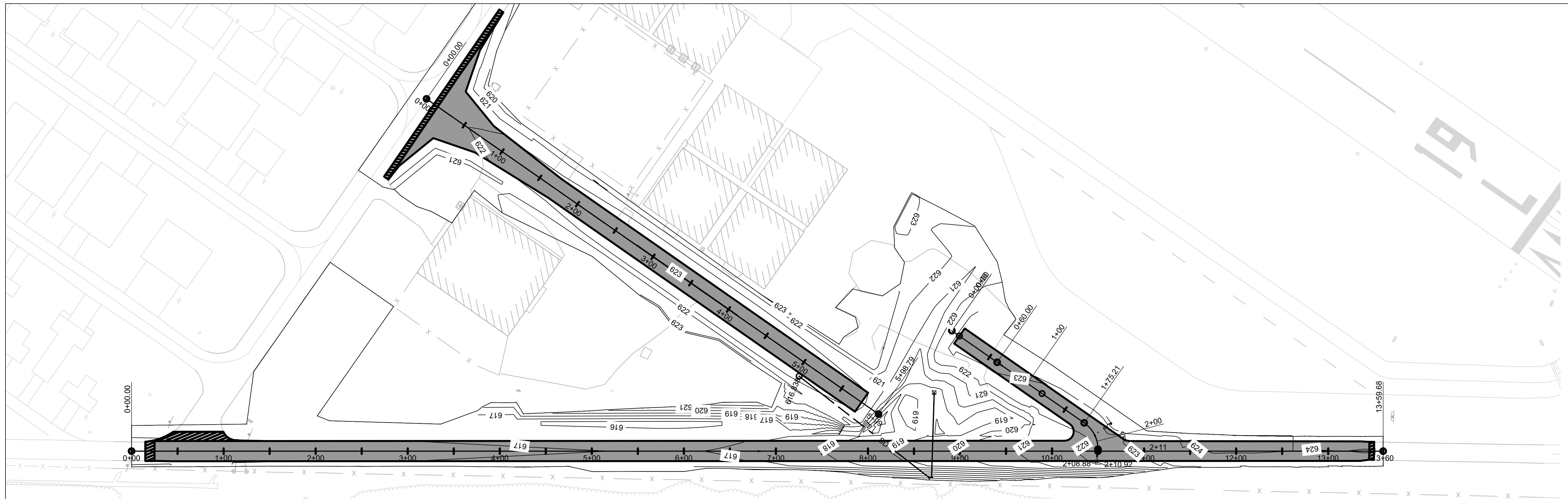
△	ADDENDUM 2	12/10/2025



DATE
11/17/2025
SCALE
AS NOTED
DESIGNED
CHRISTOPHER S. DECKER,
PE, FASCE
CHECKED
PBMH
ACCEPTED
DAS
SUBMITTED
CSD, PE, FASCE
APPROVED
CSD, PE, FASCE

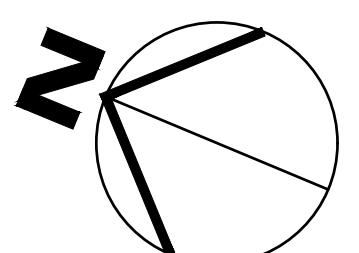
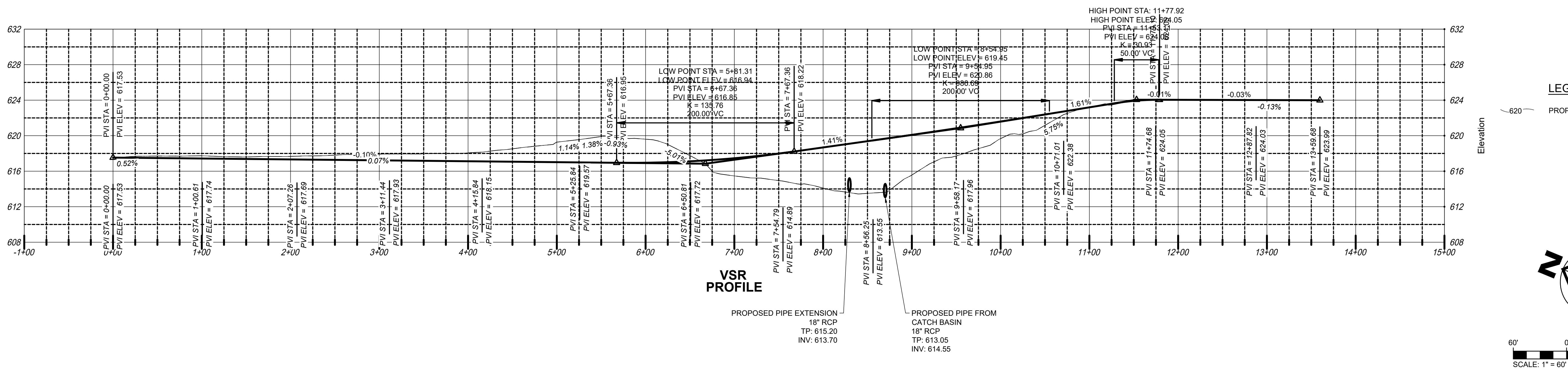


TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME CV04.0003
GEOMETRY & PAVING PLAN -	VOLUME NUMBER 1 of 1
3	SHEET NUMBER 34 of 48



GENERAL NOTES:

1. SURVEY MAP AREA IS LIMITED TO THE WORKING LIMITS THUS NOT EXPANDING A FURTHER AREA
2. CONTRACTOR TO VERIFY SURVEY INFORMATION PRIOR TO START OF CONSTRUCTION.

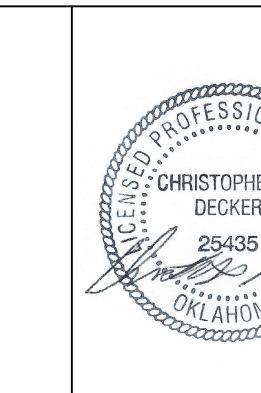


60' 0' 60' 120'
SCALE: 1" = 60'

△	ADDENDUM 2	12/10/2025



BID SET



DATE
11/17/2025
SCALE
AS NOTED
DETERMINED
CHRISTOPHER S. DECKER,
PE, FASCE
CHECKED
PBMH
ACCEPTED
DAS
SUBMITTED
CSD, PE, FASCE
APPROVED
CSD, PE, FASCE

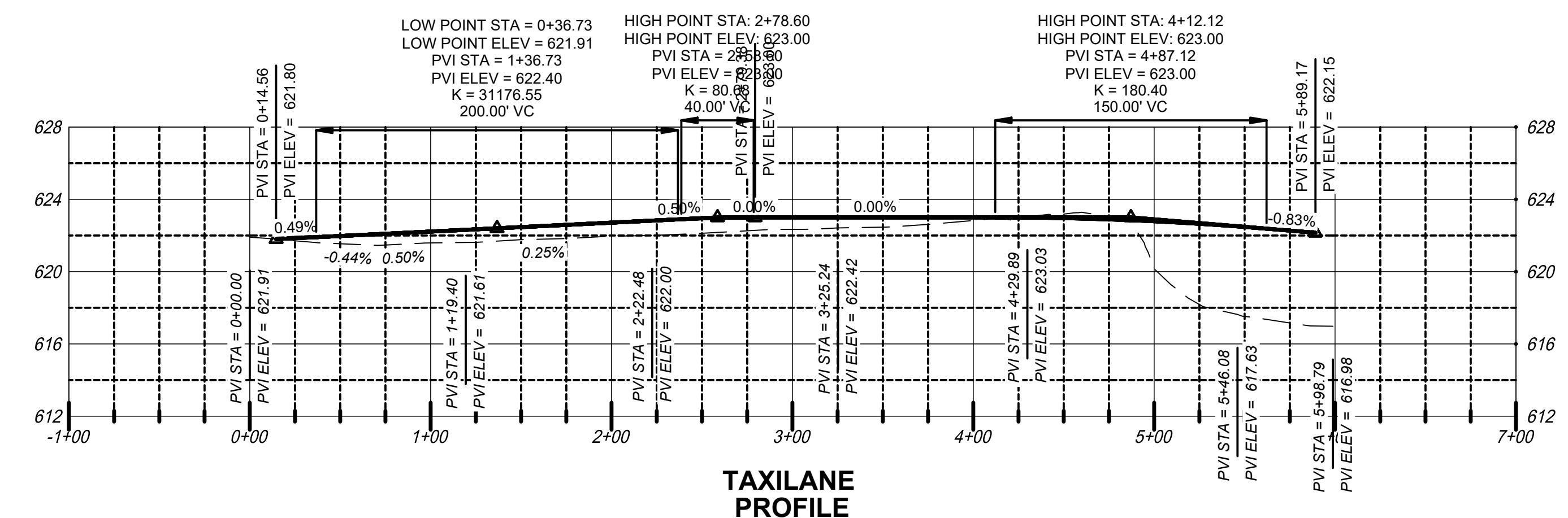
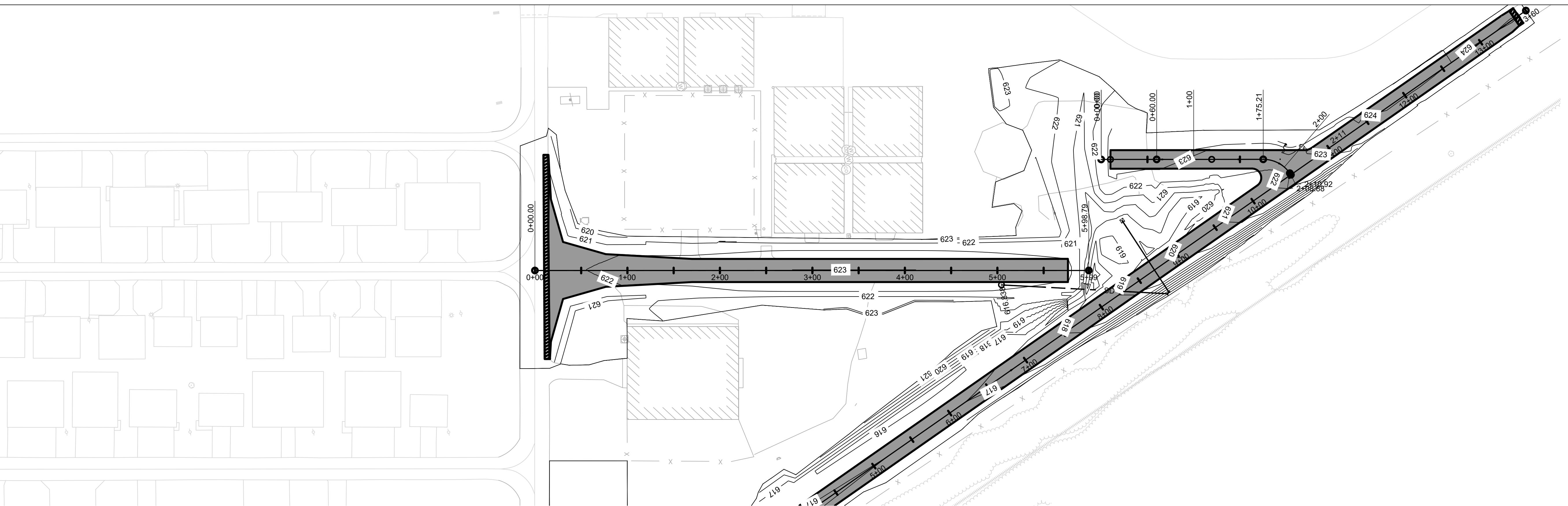


**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

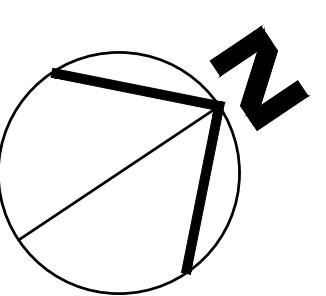
TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME CV05.0001
1 of 1	VOLUME NUMBER
35 of 48	SHEET NUMBER

GENERAL NOTES:

1. SURVEY MAP AREA IS LIMITED TO THE WORKING LIMITS THUS NOT EXPANDING A FURTHER AREA
2. CONTRACTOR TO VERIFY SURVEY INFORMATION PRIOR TO START OF CONSTRUCTION.

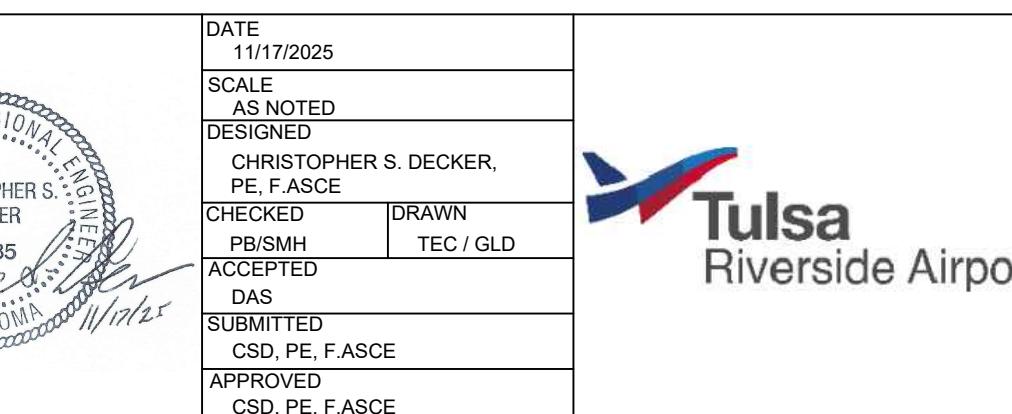
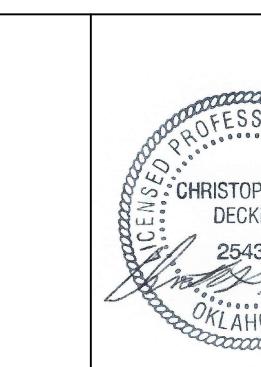


LEGEND
— 620 — PROPOSED GRADING MAJOR



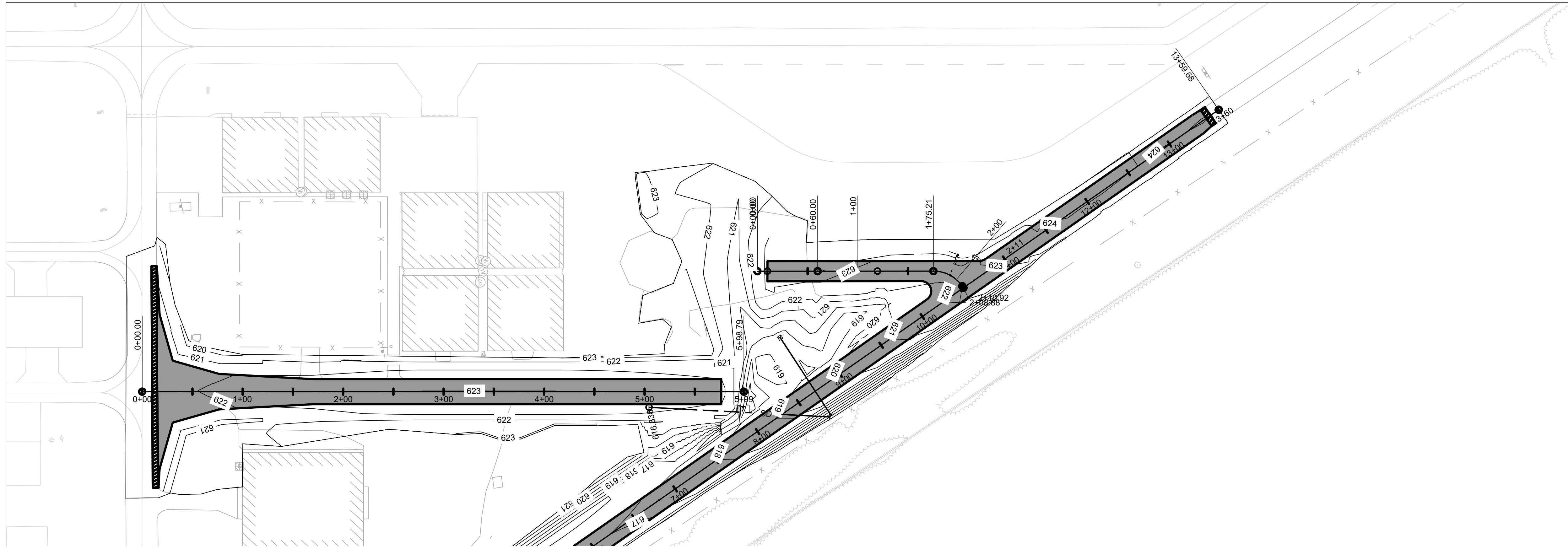
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SCALE: 1" = 60'

△	ADDENDUM 2	12/10/2025
NO.	REVISION	DATE



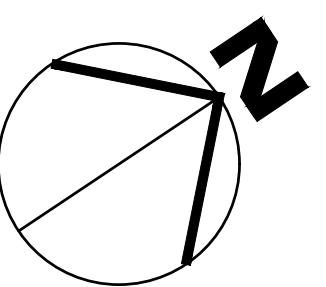
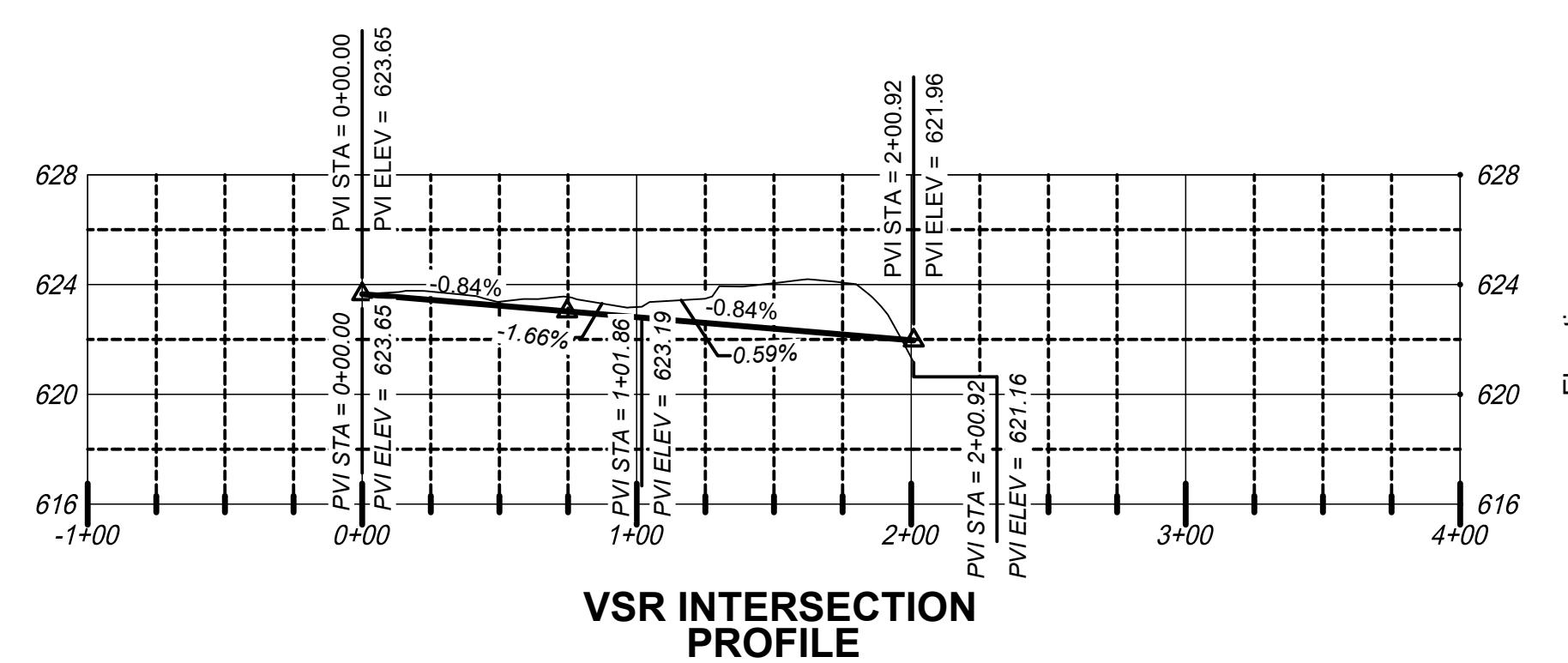
DATE
11/17/2025
SCALE
AS NOTED
DETAILED
CHRISTOPHER S. DECKER,
PE, F.ASCE
CHECKED
PBMH
DRAWN
TEC / GLD
ACCEPTED
DAS
SUBMITTED
CSD, PE, F.ASCE
APPROVED
CSD, PE, F.ASCE

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME CV05.0002
PLAN AND PROFILE - 2	VOLUME NUMBER 1 of 1
	SHEET NUMBER 36 of 48



GENERAL NOTES:

1. SURVEY MAP AREA IS LIMITED TO THE WORKING LIMITS THUS NOT EXPANDING A FURTHER AREA
2. CONTRACTOR TO VERIFY SURVEY INFORMATION PRIOR TO START OF CONSTRUCTION.



60' 0 60' 120'

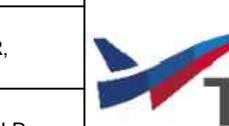
SCALE: 1" = 60'

 2	ADDENDUM 2	12/10/2025	 Engineering Technology RDM International 43671 Trade Center Drive Suite 130 Sterling, VA 20166 T.703.709.2500 F.703.709.2501 www.rdmintli.com
NO.	REVISION	DATE	

BID SET



A circular seal for a licensed professional engineer. The outer ring contains the text "LICENSED PROFESSIONAL ENGINEER" at the top and "OKLAHOMA" at the bottom, separated by a dotted line. The center of the seal contains the name "CHRISTOPHER S. DECKER" above the number "25435". Below the number is a signature. At the bottom of the seal is the date "11/17/25".



Tulsa Riverside Airport

TULSA AIRPORTS IMPROVEMENT TRUST (TAIT)

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT

TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK

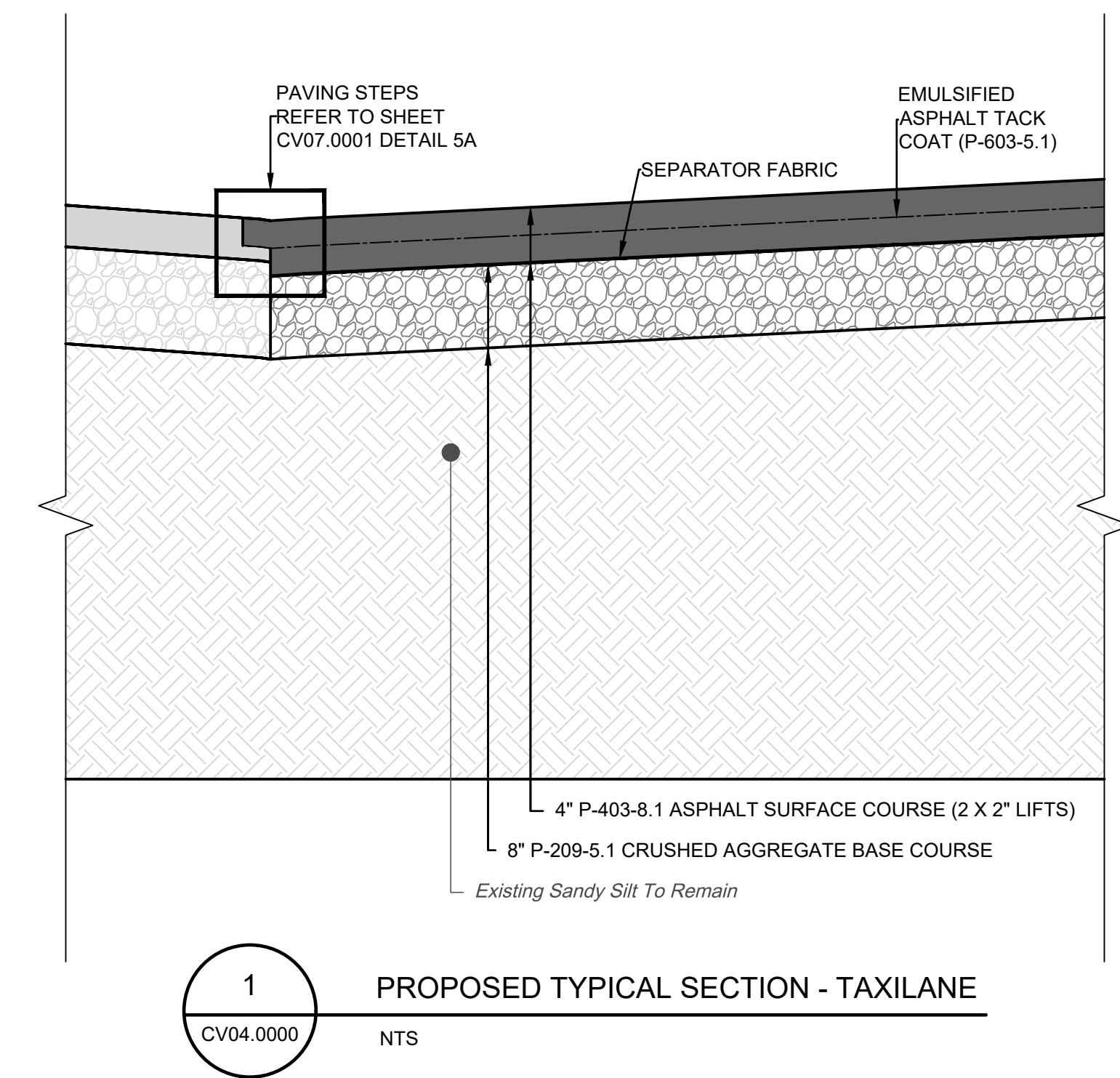
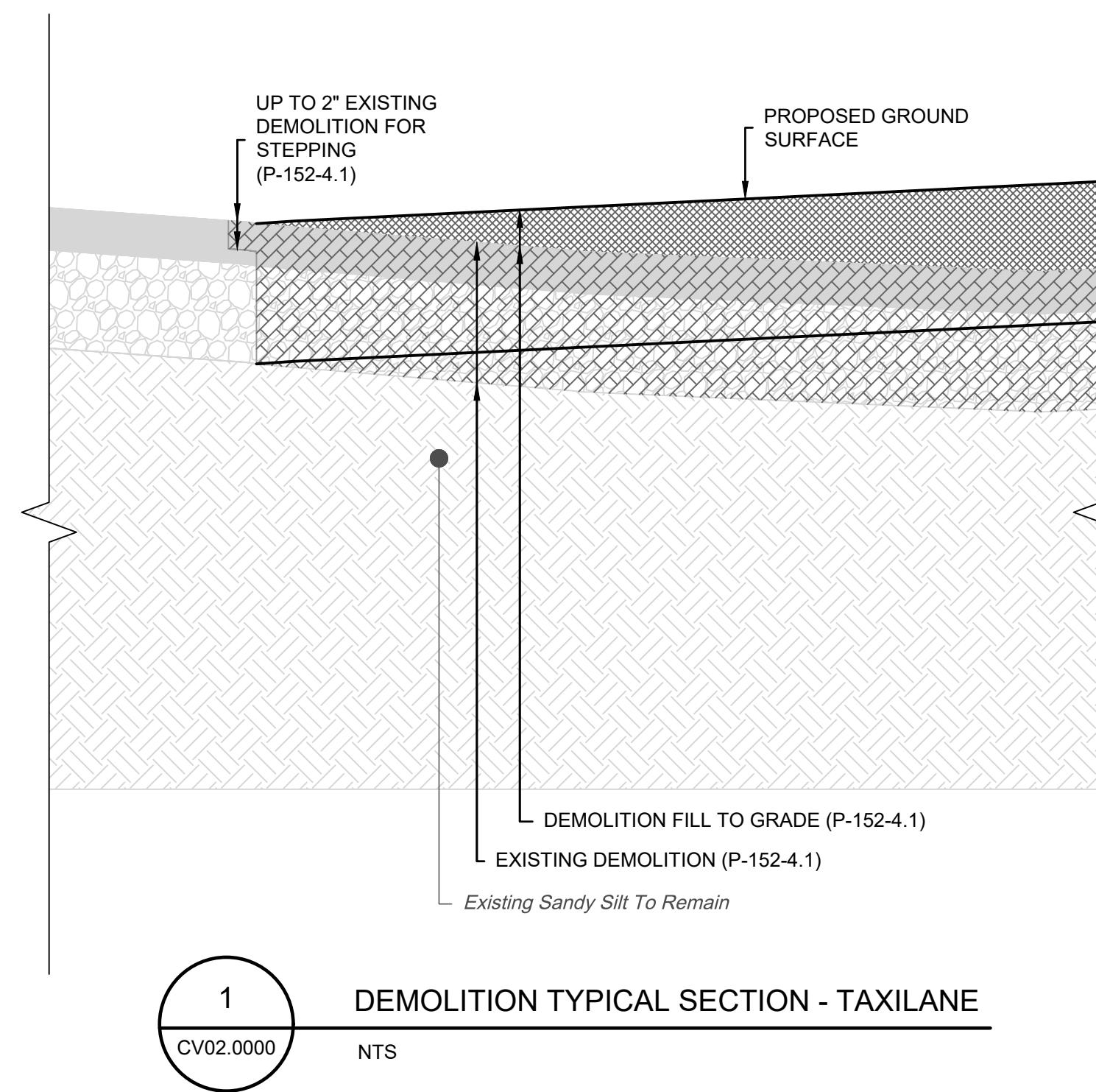
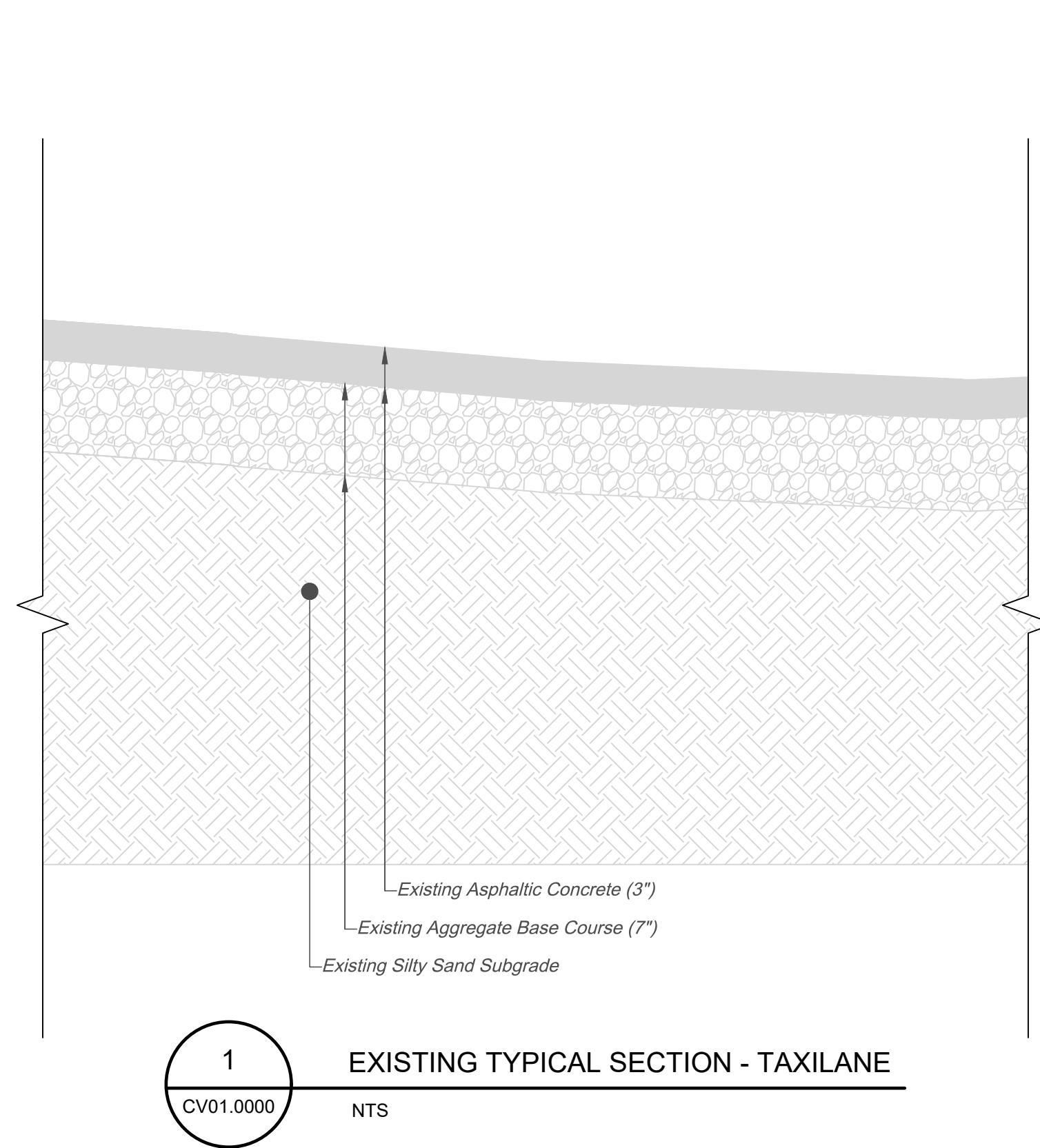
PLAN AND PROFILE - 3

PROJECT IDENTIFIER
70722

CV05.0003

VOLUME NUMBER

SHEET NUMBER



GENERAL NOTES

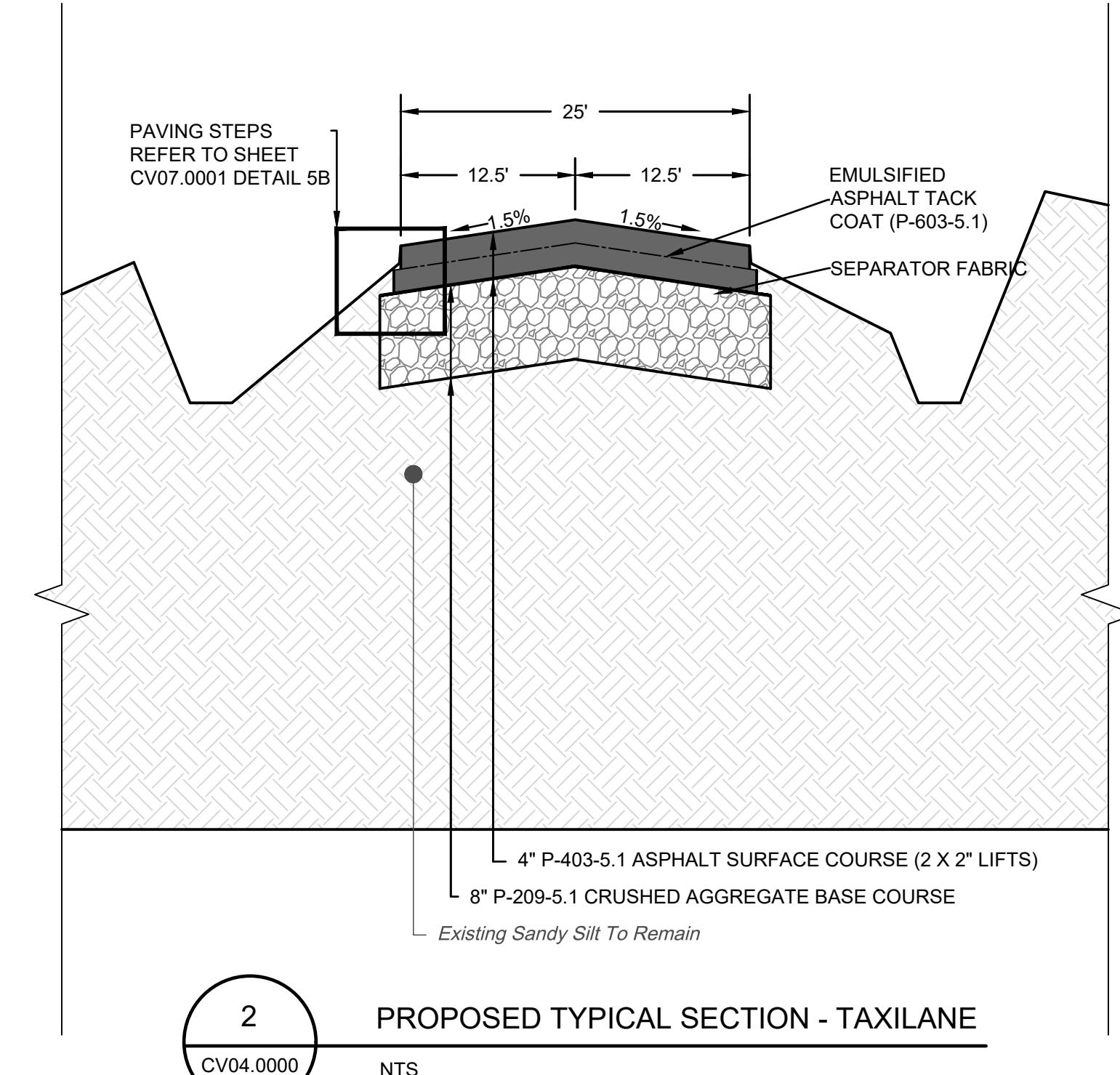
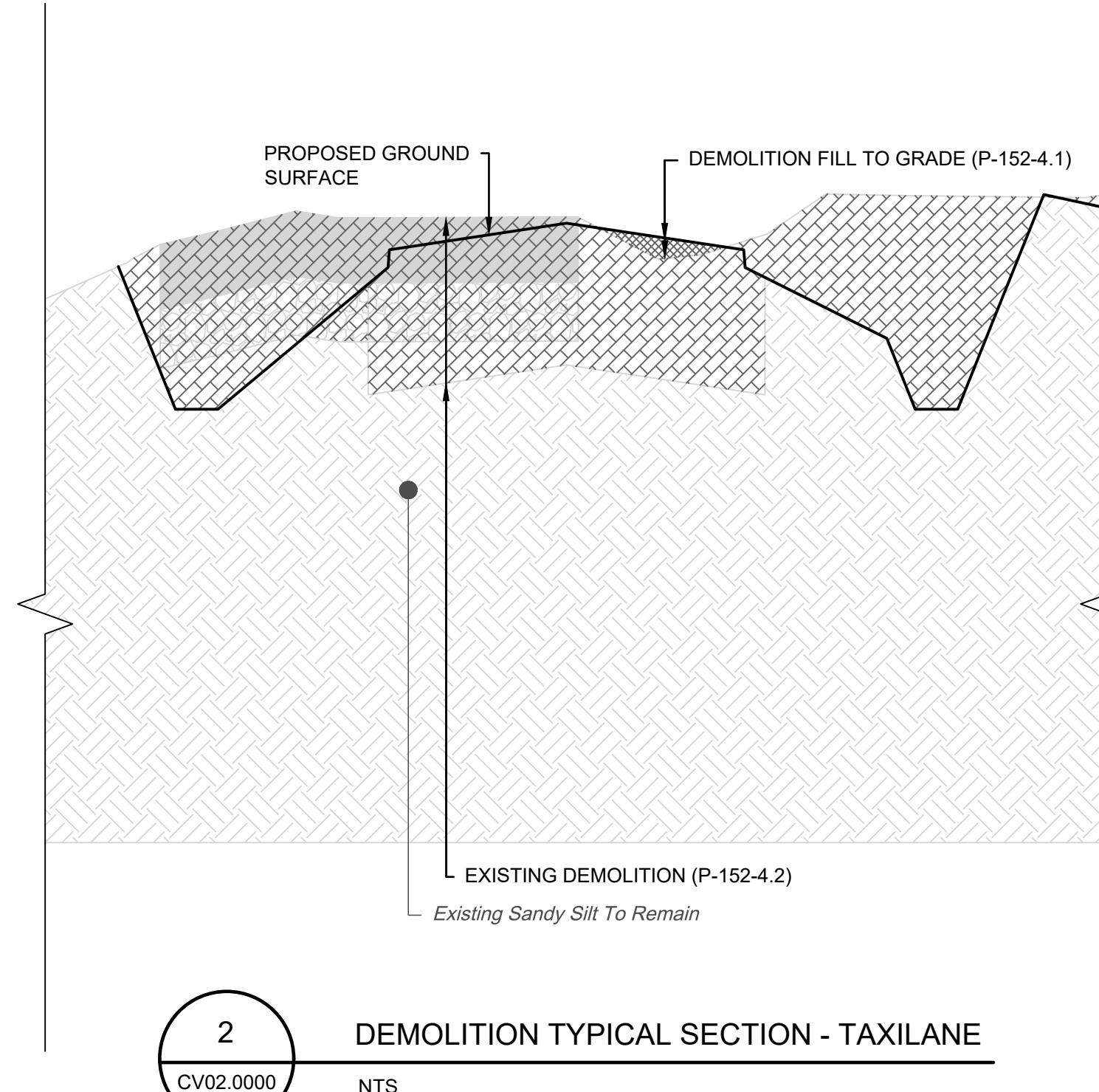
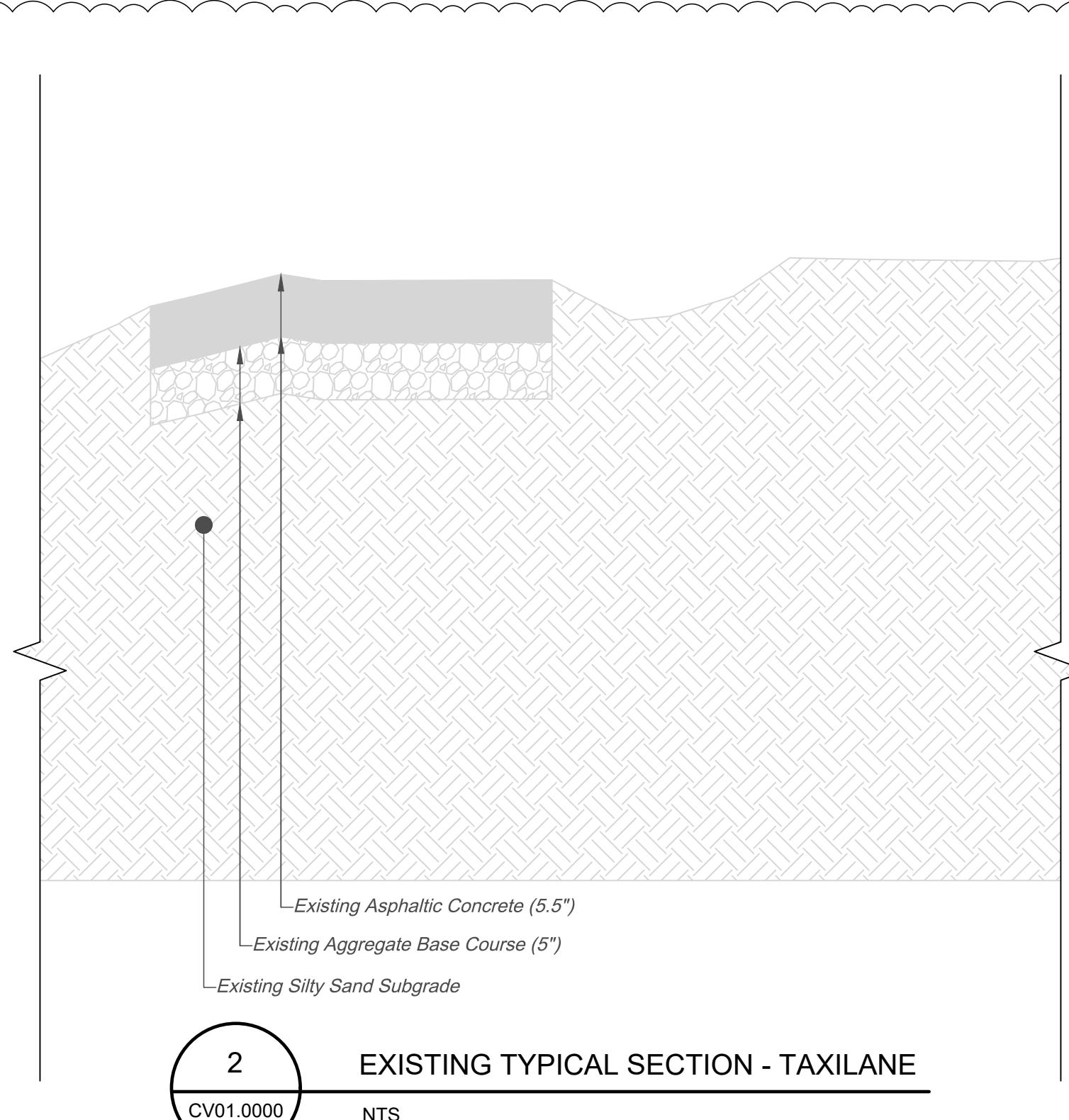
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- EXISTING DEPTHS FOR TYPICAL SECTION 2 CONSIDERS GEOTECHNICAL LOCATION B-4.
- EXISTING DEPTHS FOR TYPICAL SECTION 3 CONSIDERS GEOTECHNICAL LOCATION C-5.
- EXISTING DEPTHS FOR TYPICAL SECTION 4 CONSIDERS GEOTECHNICAL LOCATION C-1.

DEMOLITION PAY ITEMS NOTES

- OVERALL DEMOLITION FOR THE VSR WILL BE PAID AS 4" TO 15" OF EXISTING REMOVAL DUE TO VARIABLE DEPTHS THROUGHOUT GEOTECHNICAL REPORTS.
- OVERALL DEMOLITION FOR THE TAXILANE WILL BE PAID AS 6" TO 13" OF EXISTING REMOVAL DUE TO VARIABLE DEPTHS THROUGHOUT GEOTECHNICAL REPORTS.
- OVERALL DEMOLITION IS TO REMOVE THE EXISTING SURFACE COURSE AND AGGREGATE BASE COURSE.

PROPOSED PAY ITEMS NOTES

- ANY FILL USED FOR THE PROPOSED TAXILANE AND VSR SHALL USE MATERIALS GATHERED FROM THE DEMOLITION.
- THE SEPARATOR FABRIC SHALL BE INCIDENTAL TO P-209-5.1.



▲	ADDENDUM 2	12/10/2025
NO.	REVISION	DATE

GENERAL NOTES

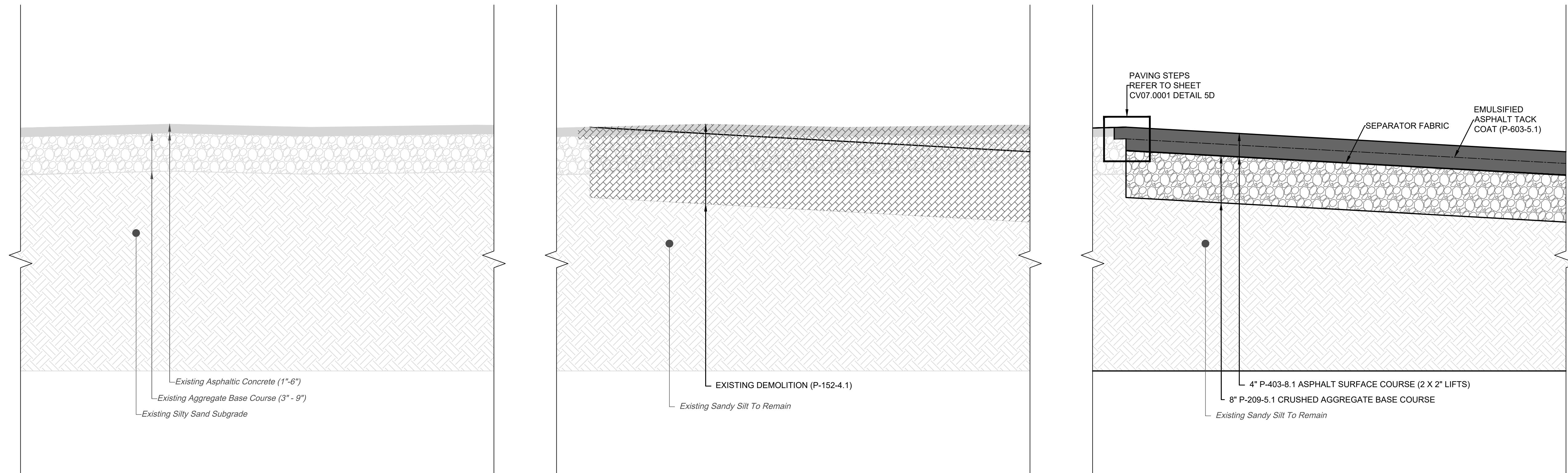
1. EXISTING DEPTHS FOR TYPICAL SECTION 1 CONSIDERS GEOTECHNICAL LOCATION B-5.
2. EXISTING DEPTHS FOR TYPICAL SECTION 2 CONSIDERS GEOTECHNICAL LOCATION B-4.
3. EXISTING DEPTHS FOR TYPICAL SECTION 3 CONSIDERS GEOTECHNICAL LOCATION C-5.
4. EXISTING DEPTHS FOR TYPICAL SECTION 4 CONSIDERS GEOTECHNICAL LOCATION C-1.

DEMOLITION PAY ITEMS NOTES

1. OVERALL DEMOLITION FOR THE VSR WILL BE PAID AS 4" TO 15" OF EXISTING REMOVAL DUE TO VARIABLE DEPTHS THROUGHOUT GEOTECHNICAL REPORTS.
2. OVERALL DEMOLITION FOR THE TAXILANE WILL BE PAID AS 6" TO 13" OF EXISTING REMOVAL DUE TO VARIABLE DEPTHS THROUGHOUT GEOTECHNICAL REPORTS.
3. OVERALL DEMOLITION IS TO REMOVE THE EXISTING SURFACE COURSE AND AGGREGATE BASE COURSE.

PROPOSED PAY ITEMS NOTES

1. ANY FILL USED FOR THE PROPOSED TAXILANE AND VSR SHALL USE MATERIALS GATHERED FROM THE DEMOLITION.
2. THE SEPARATOR FABRIC SHALL BE INCIDENTAL TO P-209-5.1.



4
CV01.0000
EXISTING TYPICAL SECTION - VSR
NTS

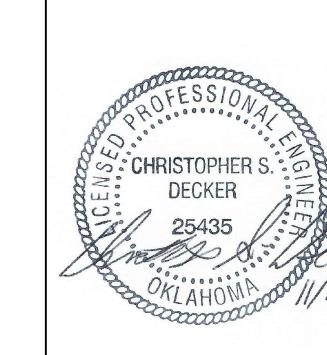
4
CV02.0000
DEMOLITION TYPICAL SECTION - VSR
NTS

4
CV04.0000
PROPOSED TYPICAL SECTION - VSR
NTS

△	ADDENDUM 2	12/10/2025
NO.	REVISION	DATE



BID SET



DATE
11/17/2025
SCALE
AS NOTED
DETERMINED
CHRISTOPHER S.
DECKER
26485
CHECKED
PBMH
DRAWN
TEC / GLD
ACCEPTED
DAS
SUBMITTED
CSD, PE, FASCE
APPROVED
CSD, PE, FASCE



**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	PROJECT IDENTIFIER 70722
	SHEET NAME CV06.0003
	VOLUME NUMBER 1 of 1
	SHEET NUMBER 40 of 48

GENERAL NOTES

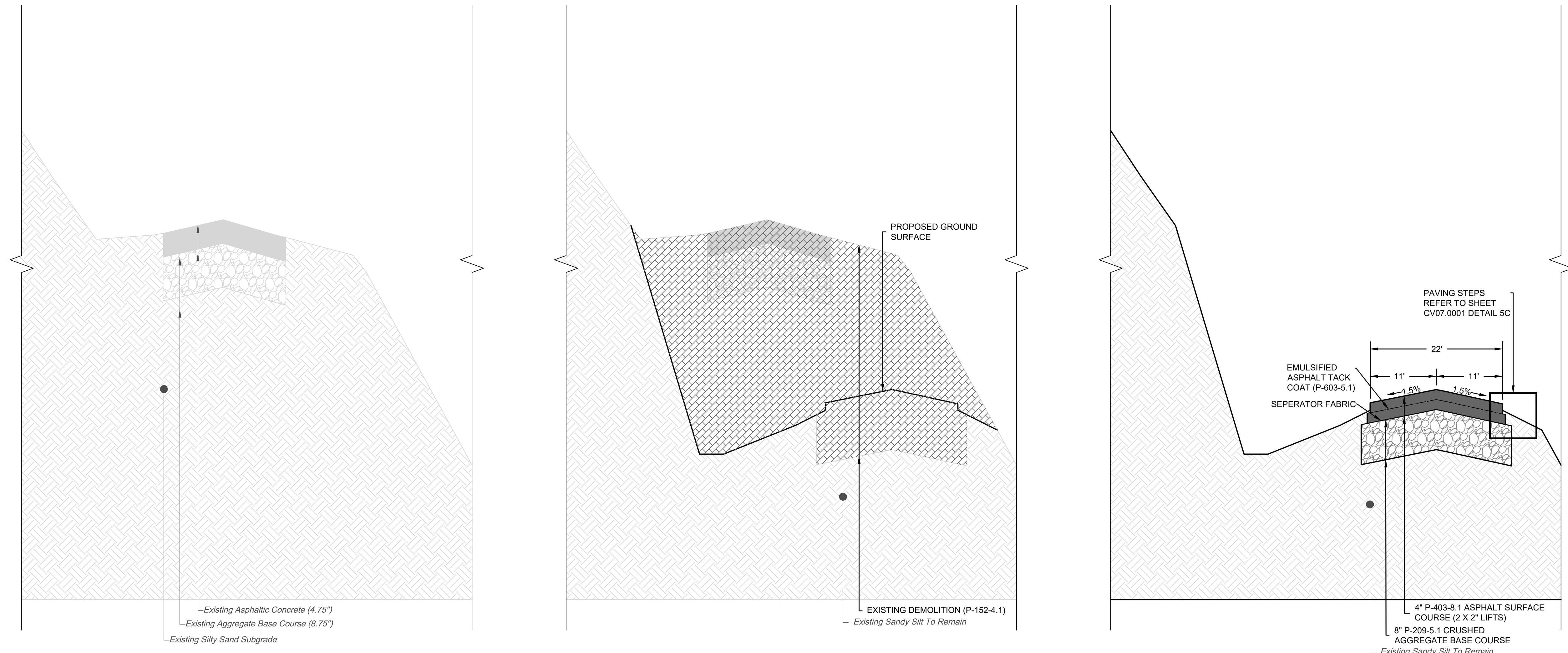
1. EXISTING DEPTHS FOR TYPICAL SECTION 1 CONSIDERS GEOTECHNICAL LOCATION B-5.
2. EXISTING DEPTHS FOR TYPICAL SECTION 2 CONSIDERS GEOTECHNICAL LOCATION B-4.
3. EXISTING DEPTHS FOR TYPICAL SECTION 3 CONSIDERS GEOTECHNICAL LOCATION C-5.
4. EXISTING DEPTHS FOR TYPICAL SECTION 4 CONSIDERS GEOTECHNICAL LOCATION C-1.

DEMOLITION PAY ITEMS NOTES

1. OVERALL DEMOLITION FOR THE VSR WILL BE PAID AS 4" TO 15" OF EXISTING REMOVAL DUE TO VARIABLE DEPTHS THROUGHOUT GEOTECHNICAL REPORTS.
2. OVERALL DEMOLITION FOR THE TAXILANE WILL BE PAID AS 6" TO 13" OF EXISTING REMOVAL DUE TO VARIABLE DEPTHS THROUGHOUT GEOTECHNICAL REPORTS.
3. OVERALL DEMOLITION IS TO REMOVE THE EXISTING SURFACE COURSE AND AGGREGATE BASE COURSE.

PROPOSED PAY ITEMS NOTES

1. ANY FILL USED FOR THE PROPOSED TAXILANE AND VSR SHALL USE MATERIALS GATHERED FROM THE DEMOLITION.
2. THE SEPARATOR FABRIC SHALL BE INCIDENTAL TO P-209-5.1.



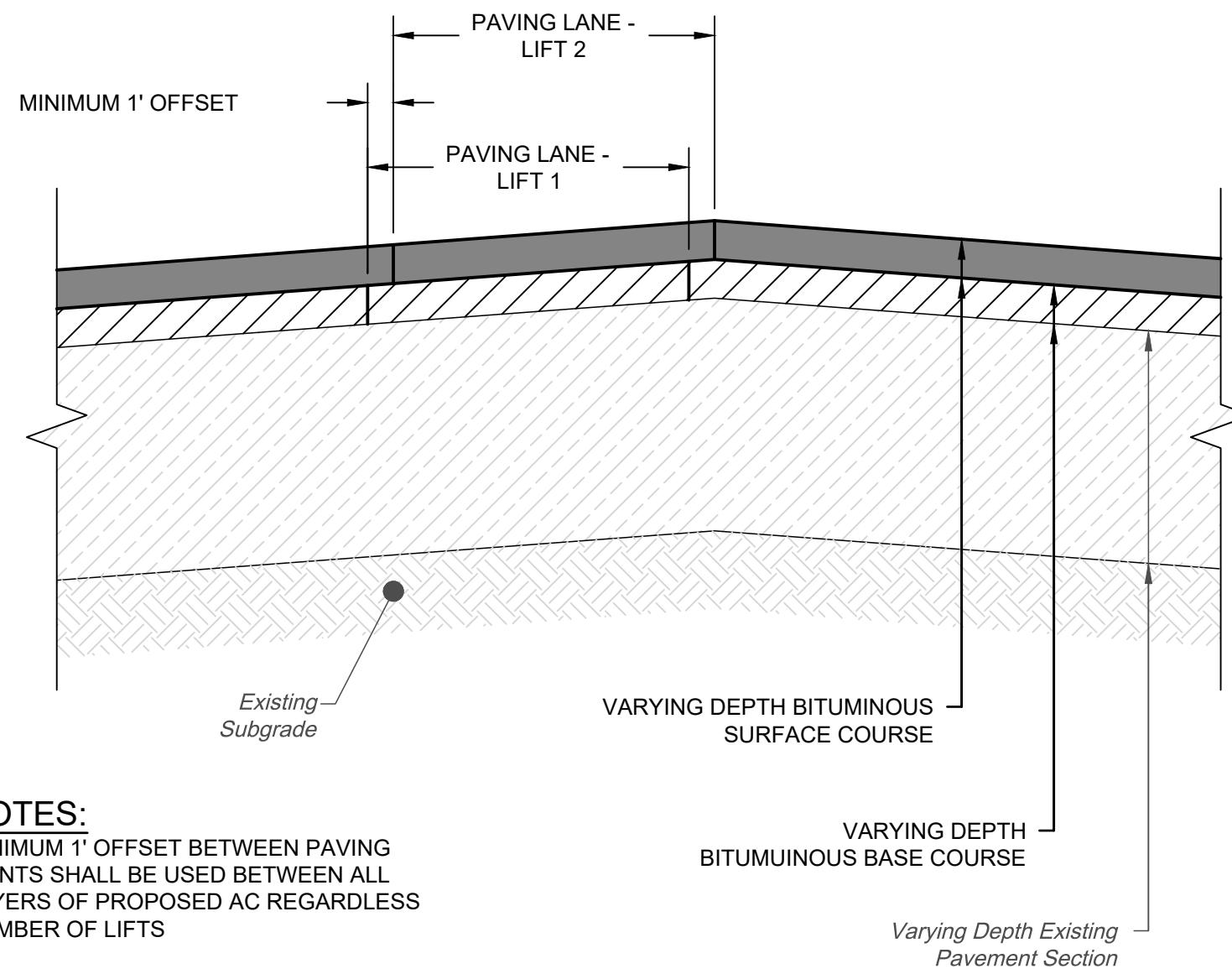
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CV01.0000
EXISTING TYPICAL SECTION - VSR
NTS

3
CV02.0000
DEMOLITION TYPICAL SECTION - VSR
NTS

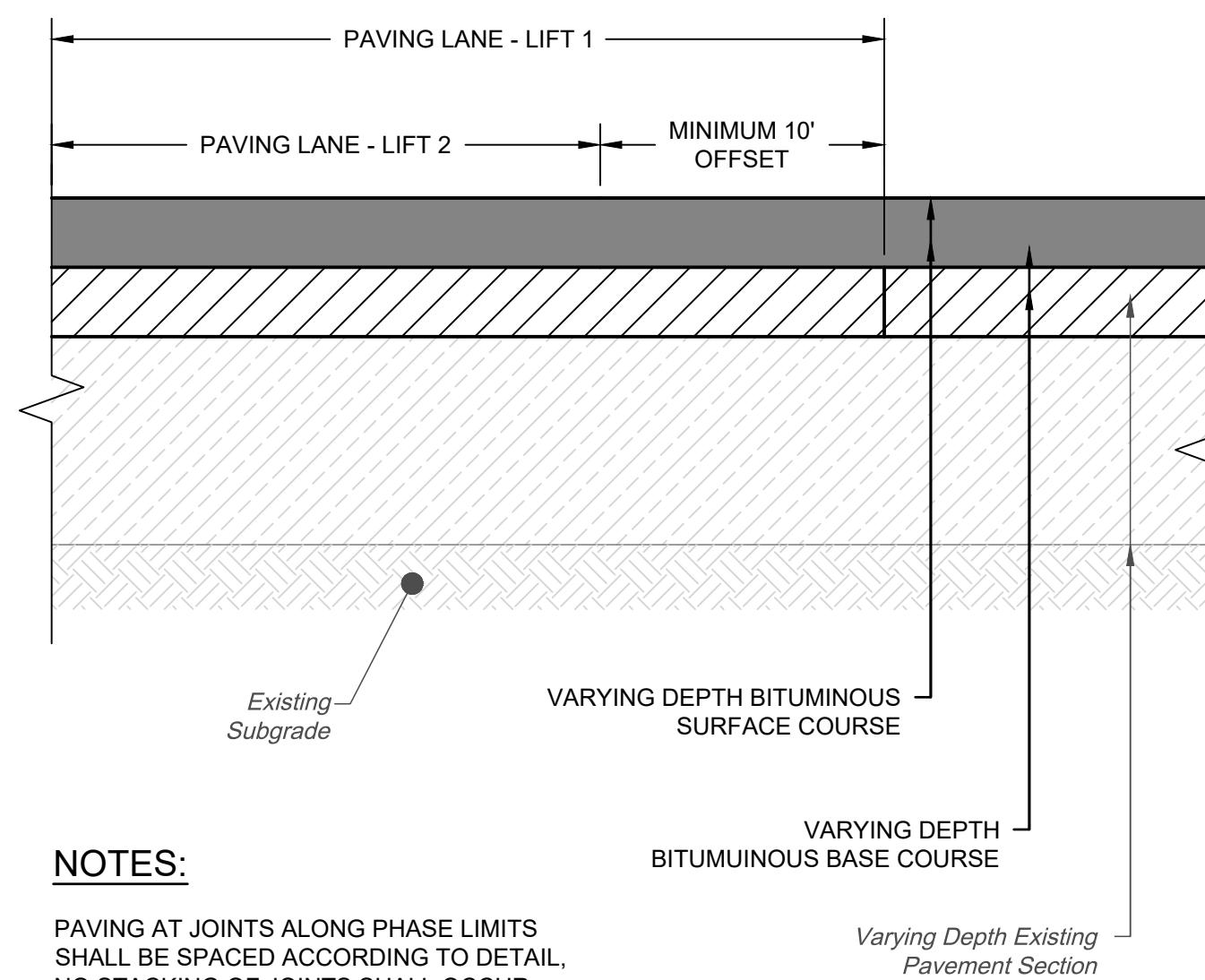
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CV04.0000
PROPOSED TYPICAL SECTION - VSR
NTS

△	ADDENDUM 2	12/10/2025
NO.	REVISION	DATE

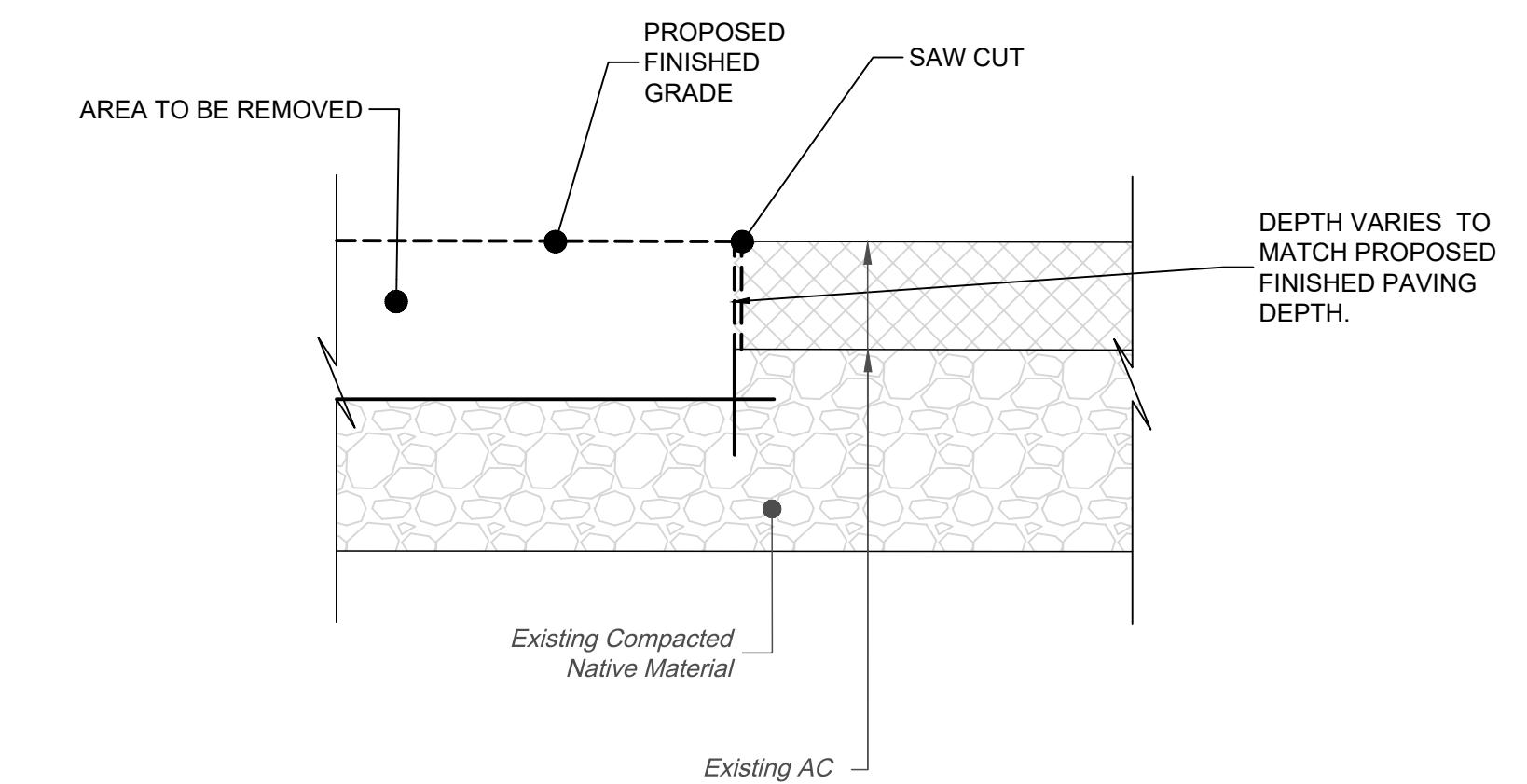
TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME CV06.0002
TYPICAL PAVEMENT SECTIONS - 2	VOLUME NUMBER 1 of 1
	SHEET NUMBER 39 of 48



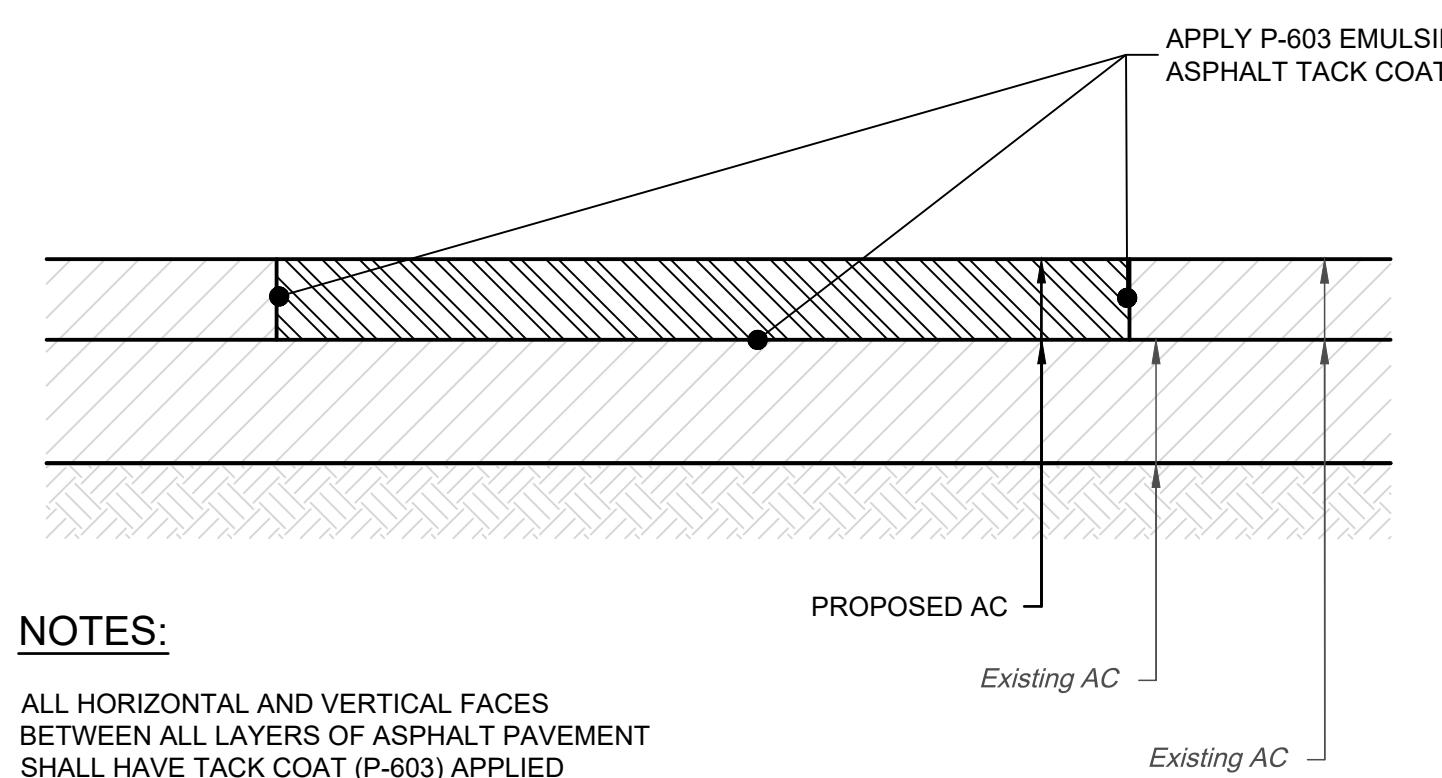
1 LONGITUDINAL PAVING JOINT OFFSET
CV07.0001 NTS



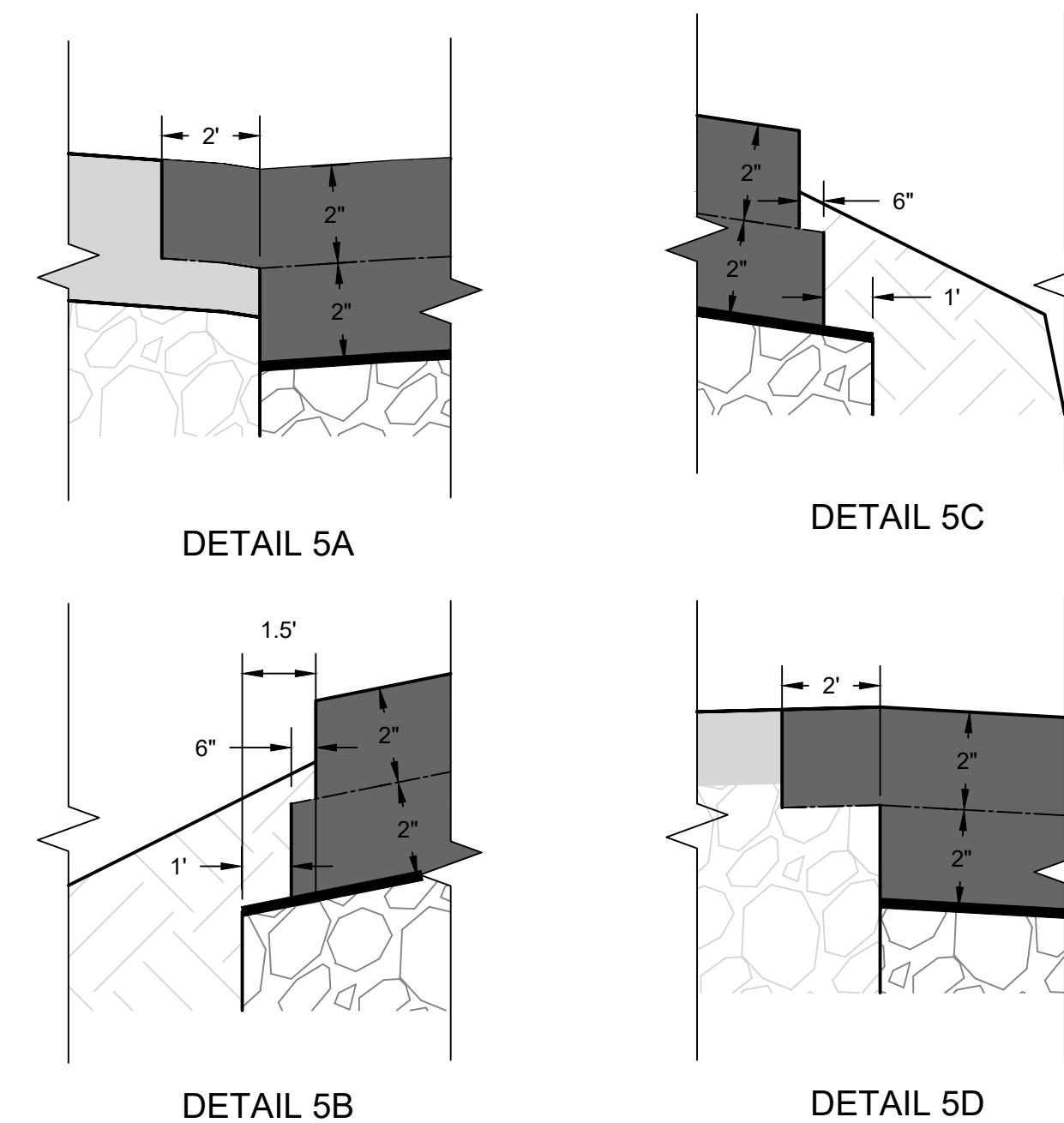
2 TRANSVERSE PAVING JOINT OFFSET
CV07.0001 NTS



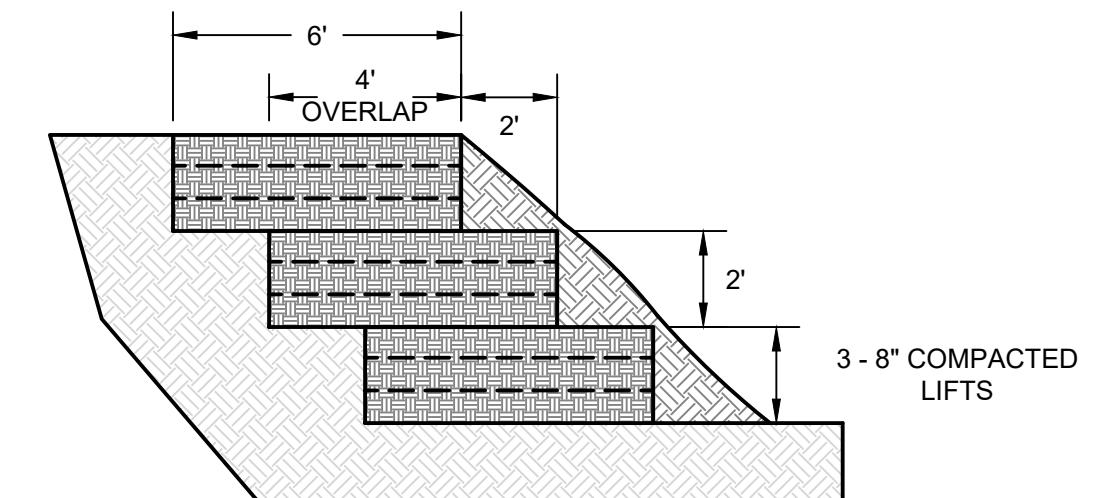
3 SAWCUT DETAIL
CV07.0001 NTS



4 TACK COAT
CV07.0001 NTS



5 KEWAY MILL 1 STEP TRANSITION
CV07.0001 NTS



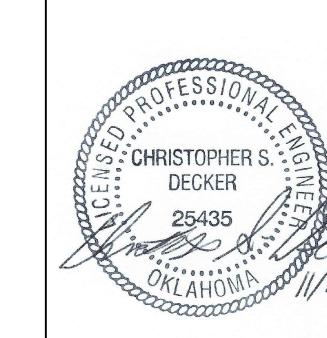
NOTES:
GRADING BENCHING IS REQUIRED IN ANY AREA WHICH REQUIRES MORE THAN 4 FT OF FILL.

6 GRADING BENCH DETAIL
CV07.0001 NTS

△	ADDENDUM 2	12/10/2025
NO.	REVISION	DATE



BID SET

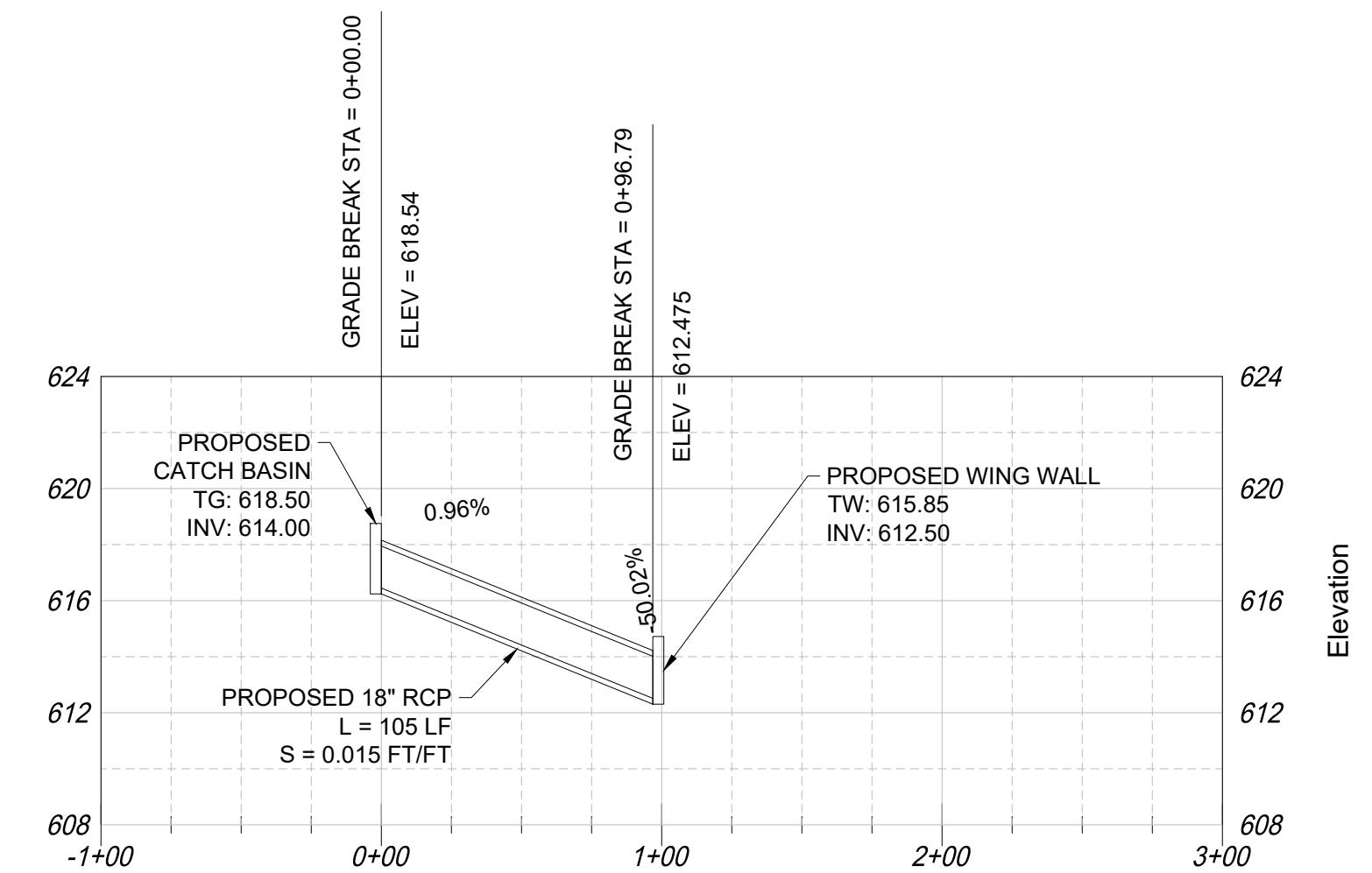


DATE
11/17/2025
SCALE
AS NOTED
DETAILED
CHRISTOPHER S. DECKER,
PE, FASCE
25485
ACCEPTED
PBMH TEC / GLD
SUBMITTED
DAS
CSD, PE, FASCE
APPROVED
CSD, PE, FASCE

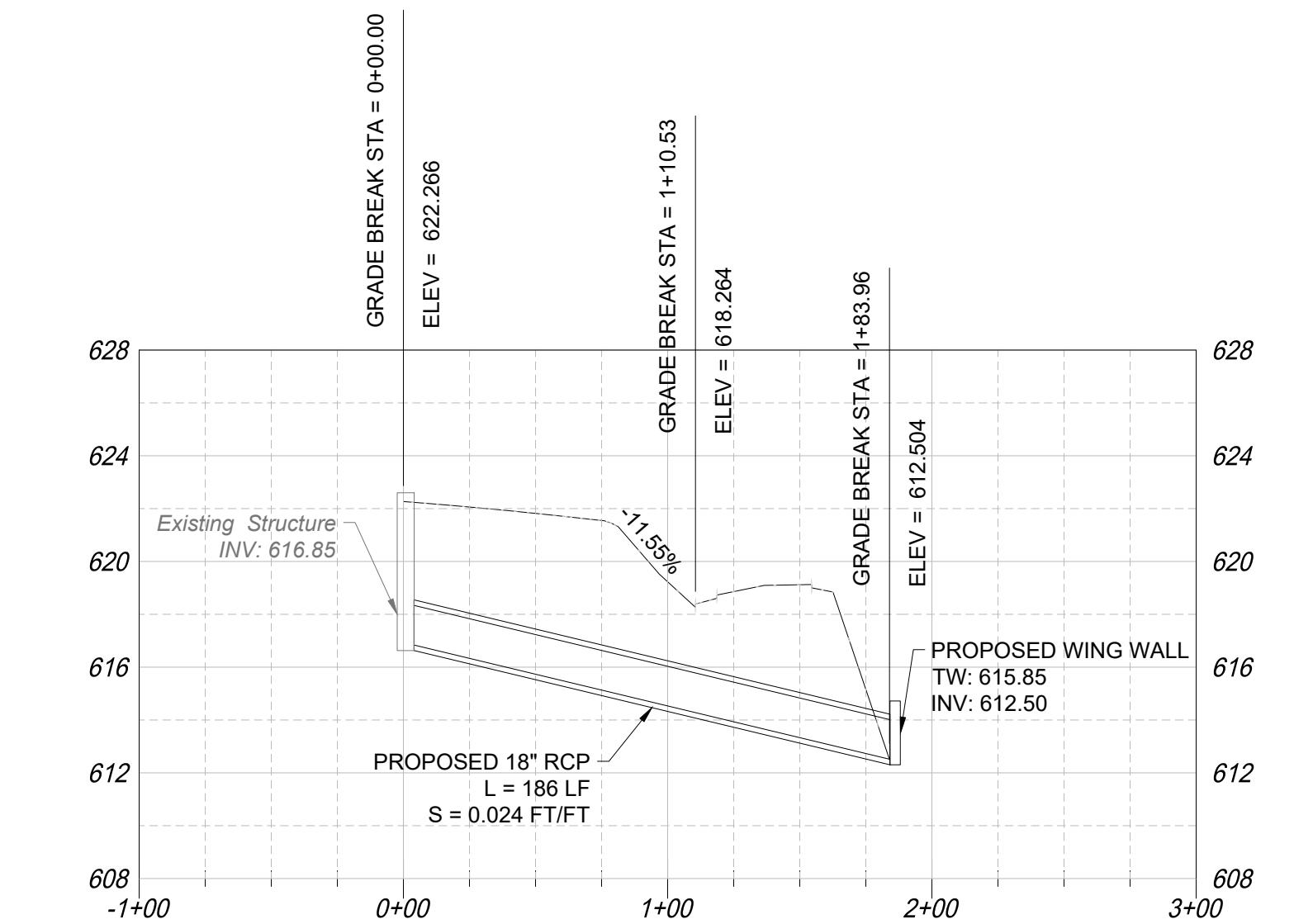


**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	PROJECT IDENTIFIER 70722
	SHEET NAME CV07.0001
	VOLUME NUMBER 1 of 1
	SHEET NUMBER 41 of 48



PROFILE A:
PROPOSED PIPE FROM CATCH BASIN

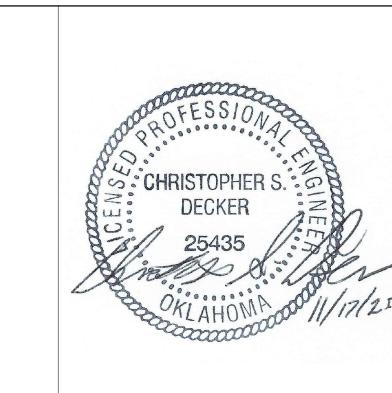


PROFILE B:
PROPOSED PIPE EXTENSION

△	ADDENDUM 2	12/10/2025
NO.	REVISION	DATE



BID SET

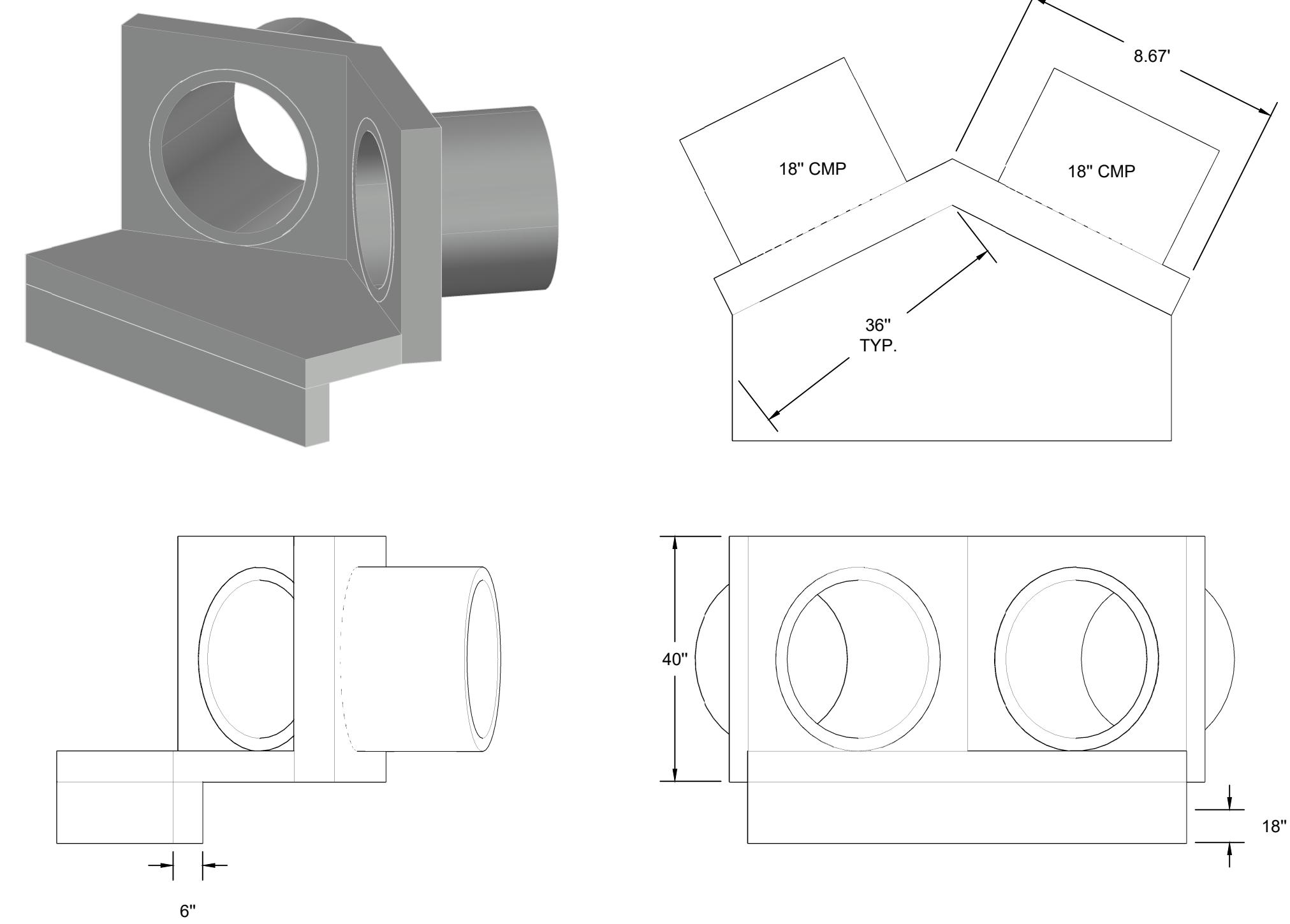
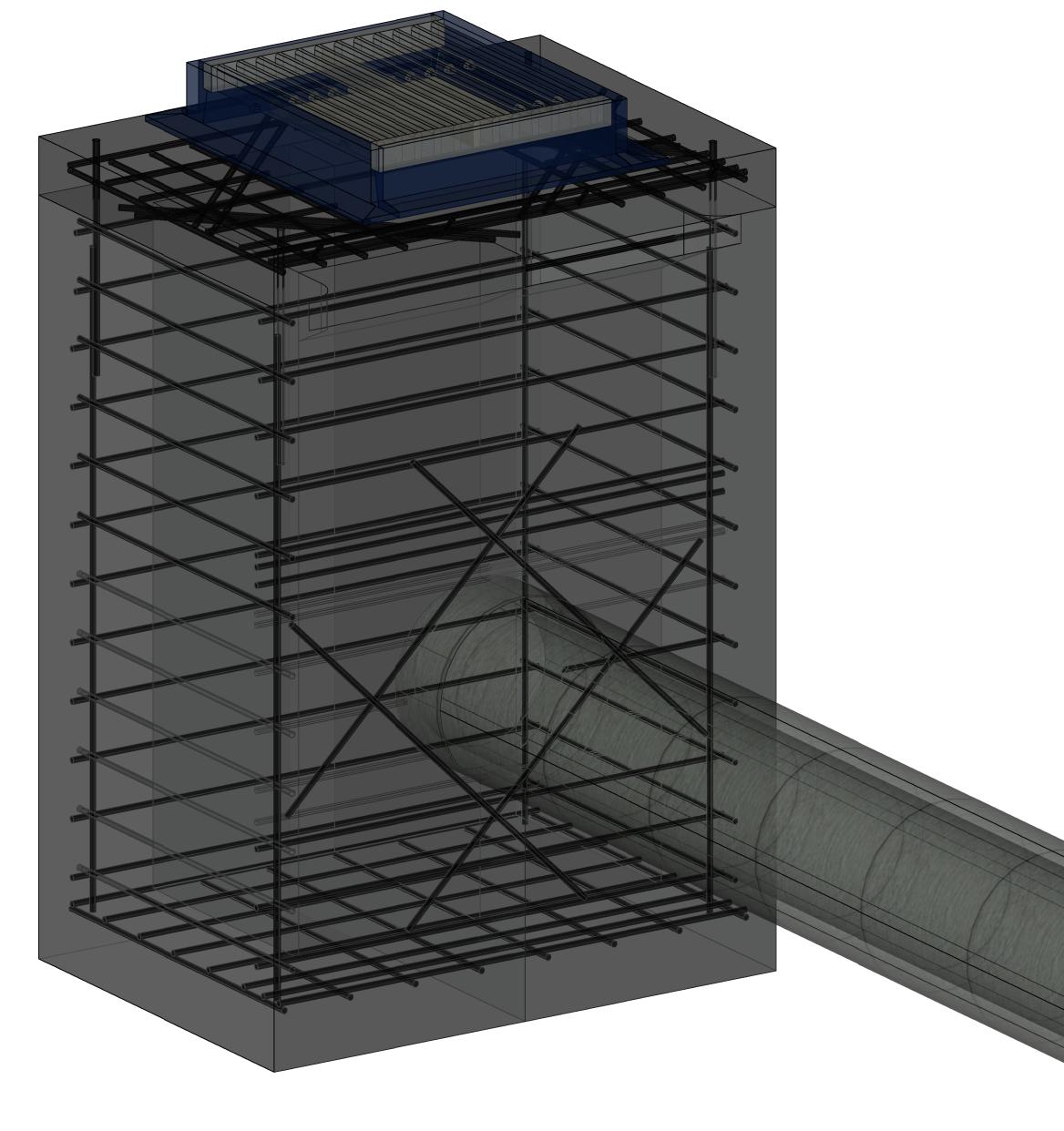
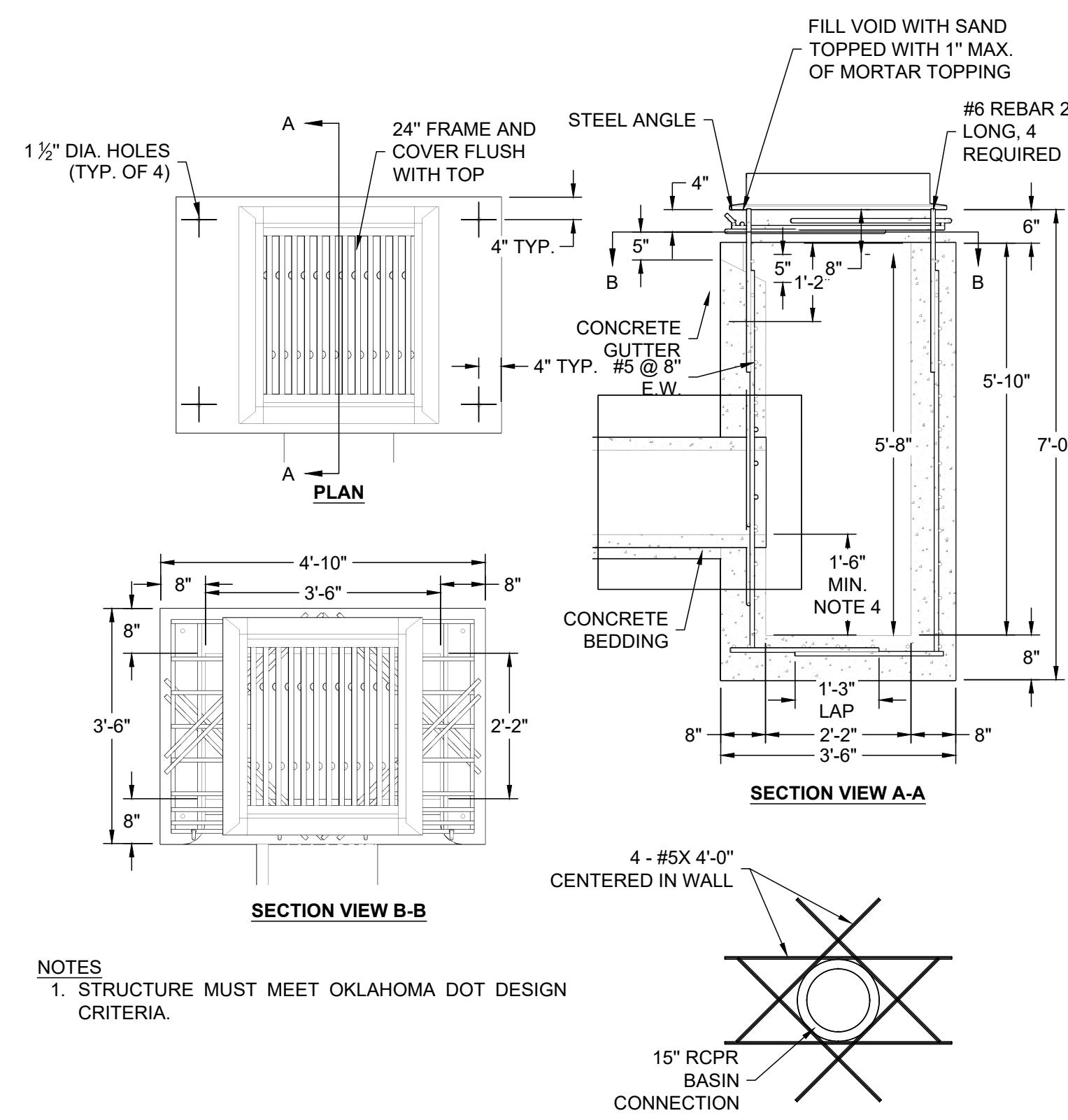


DATE	11/17/2025
SCALE	AS NOTED
DESIGNER	CHRISTOPHER S. DECKER, PE, F.ASCE
CHECKED	DRAWN
PB/SMH	TEC / GLD
ACCEPTED	
DAS	
SUBMITTED	
CSD, PE, F.ASCE	
APPROVED	
CSD, PE, F.ASCE	



**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

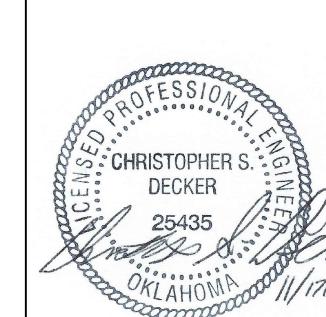
PROJECT IDENTIFIER 70722	TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT
SHEET NAME CV08.0001	TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK
VOLUME NUMBER 1 of 1	STORM DRAIN PROFILES
SHEET NUMBER 42 of 48	



△	ADDENDUM 2	12/10/2025
NO.	REVISION	DATE



BID SET

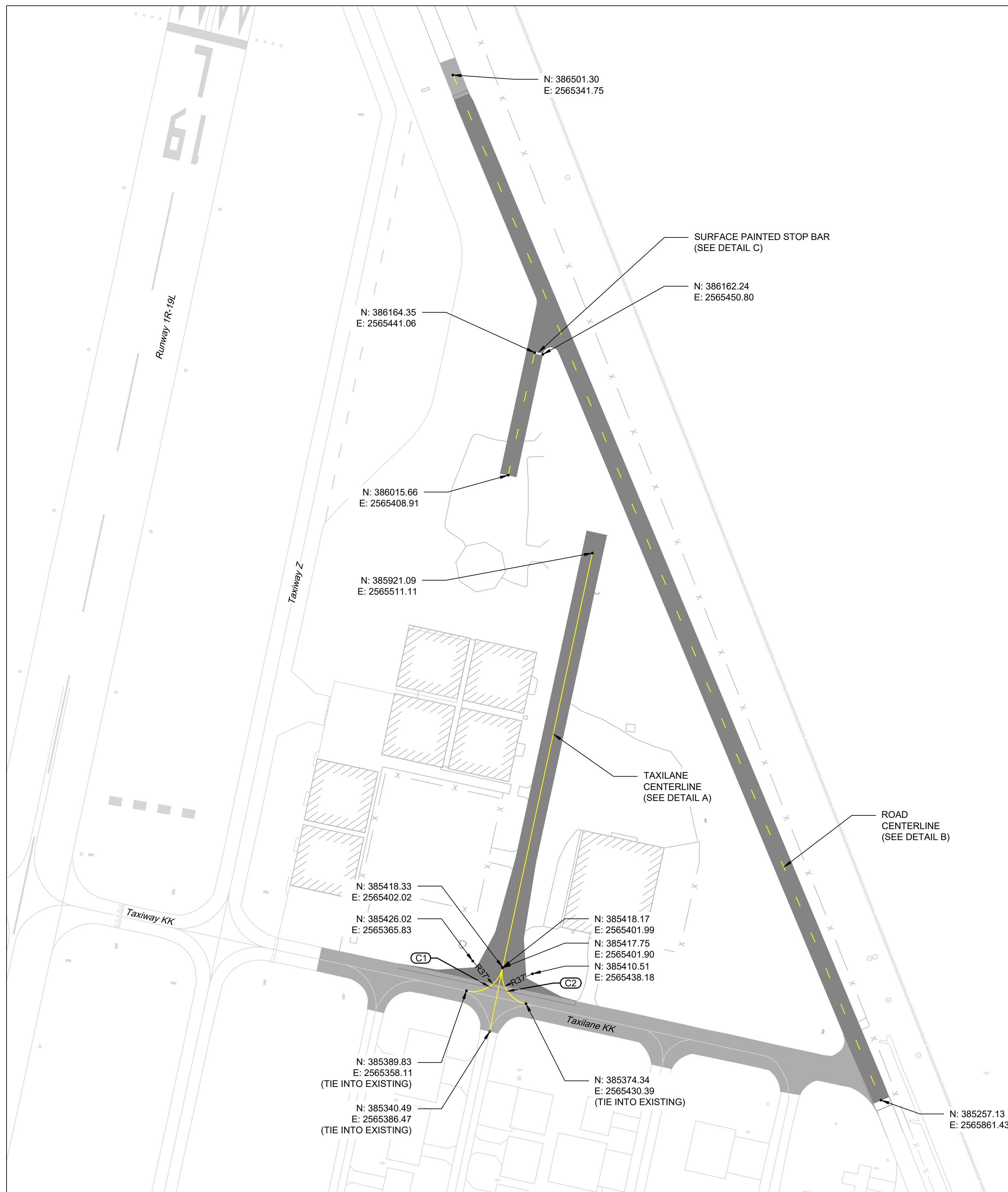


DATE	11/17/2025
SCALE	AS NOTED
DEGREE	DEGREES
DEGREE	CHRISTOPHER S. DECKER, PE, F.ASCE
CHECKED	PBSMH DRAWN TEC / GLD
ACCEPTED	DAS
SUBMITTED	CSD, PE, F.ASCE
APPROVED	CSD, PE, F.ASCE



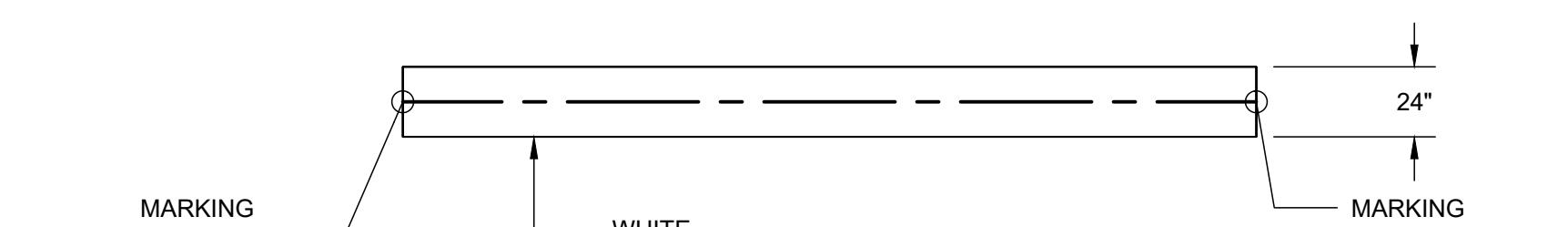
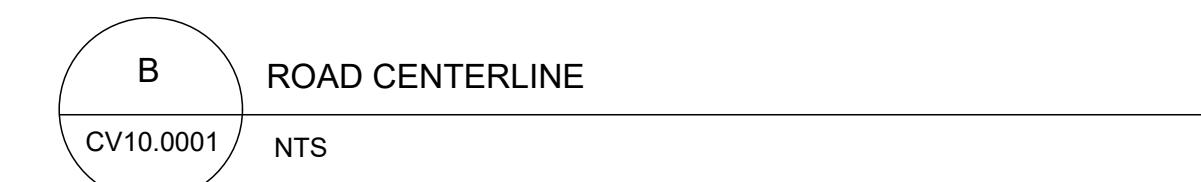
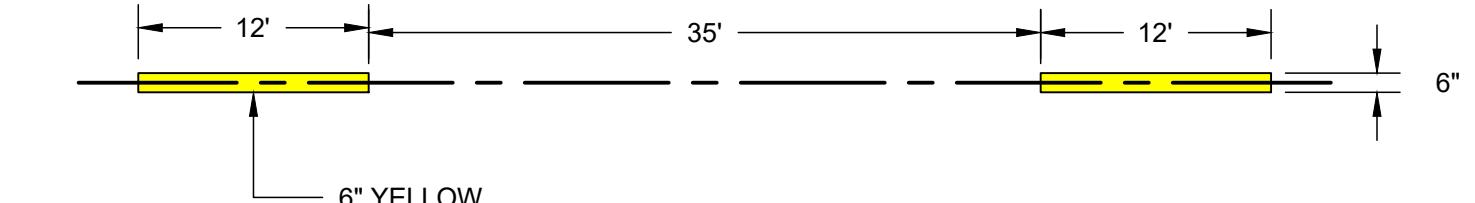
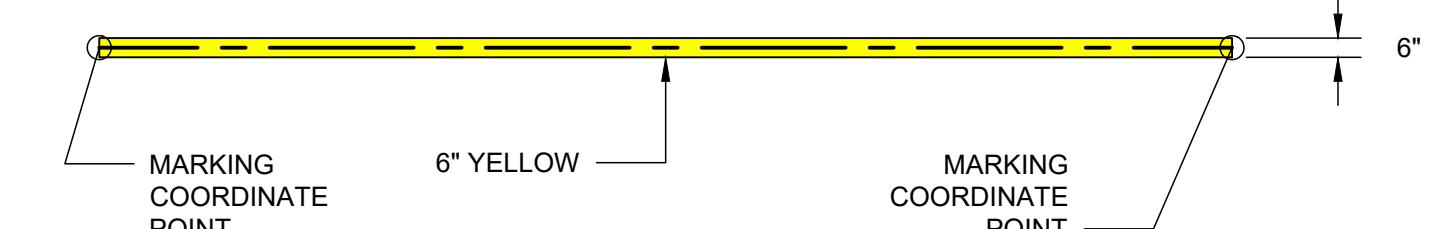
**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT	PROJECT IDENTIFIER 70722
TULSA RIVERSIDE AIRPORT (RVS) TULSA, OK	SHEET NAME CV08.0101
STORM DRAIN DETAILS	VOLUME NUMBER 1 of 1
	SHEET NUMBER 43 of 48



GENERAL MARKING NOTES

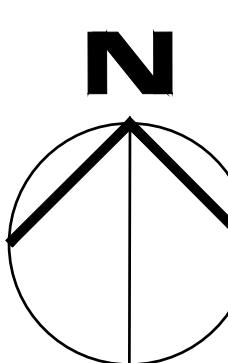
1. ALL NORTHERN AND EASTERN MARKINGS ARE BASED ON THE CENTERLINE OF THE ASSOCIATED PAVEMENT MARKING.
2. TWO COATS OF PAINT SHALL BE APPLIED TO ALL NEW PAVEMENT MARKINGS. A MINIMUM OF 30 DAYS SHALL ELAPSE BETWEEN COATS.
3. PRIOR TO APPLICATION OF PAVEMENT MARKINGS, SUBMIT THE EXACT LAYOUT TO THE RPR FOR REVIEW AND APPROVAL.



Curve Table			
Curve #	Length	Radius	Delta
C1	57.986	37.000	089.7935
C2	58.144	37.000	090.0386

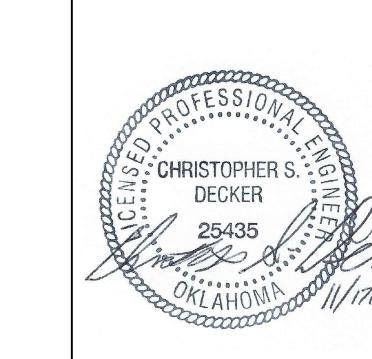
LEGEND

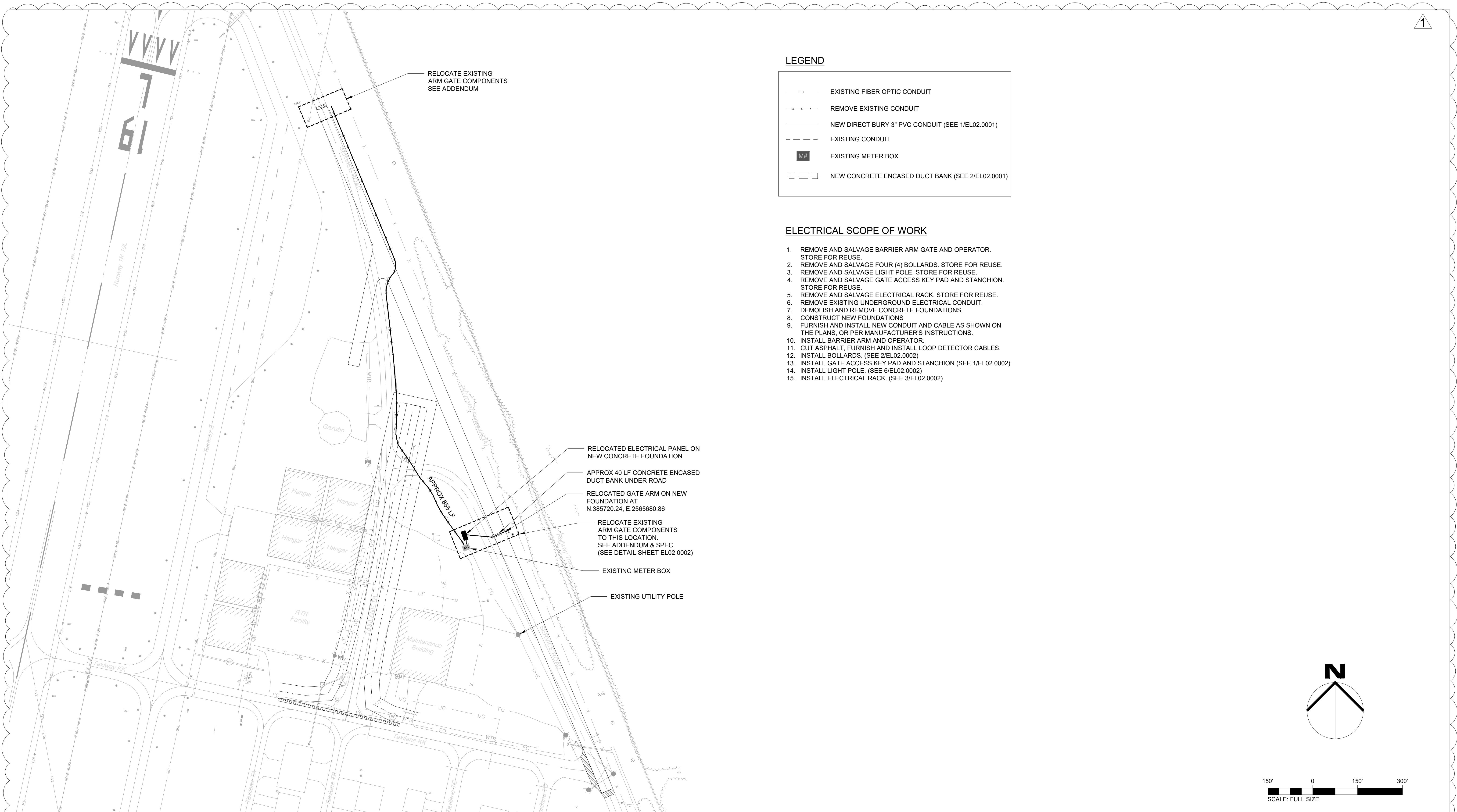
- EXISTING PAVEMENT
- NEW PAVEMENT
- TAXILANE CENTERLINE
- ROADWAY CENTERLINE



SCALE: 1" = 80'

△	ADDENDUM 2	12/10/2025

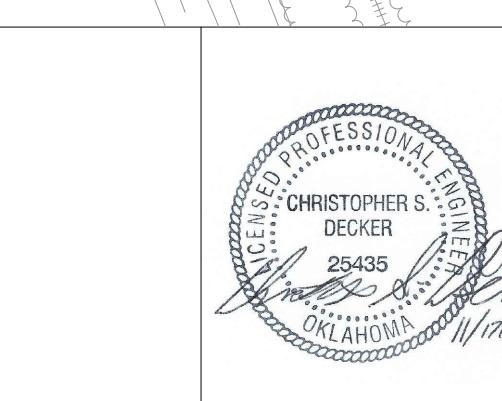




ADDENDUM 1
ADDENDUM 2

12/05/2025
12/10/2025

RDM
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DATE
11/17/2025
SCALE
AS NOTED
DEPARTMENT
CHRISTOPHER S. DECKER,
PE, F ASCE
CHECKED
26485
DRAWN
PBMH
TEC / GLD
ACCEPTED
DAS
SUBMITTED
CSD, PE, F ASCE
APPROVED
CSD, PE, F ASCE



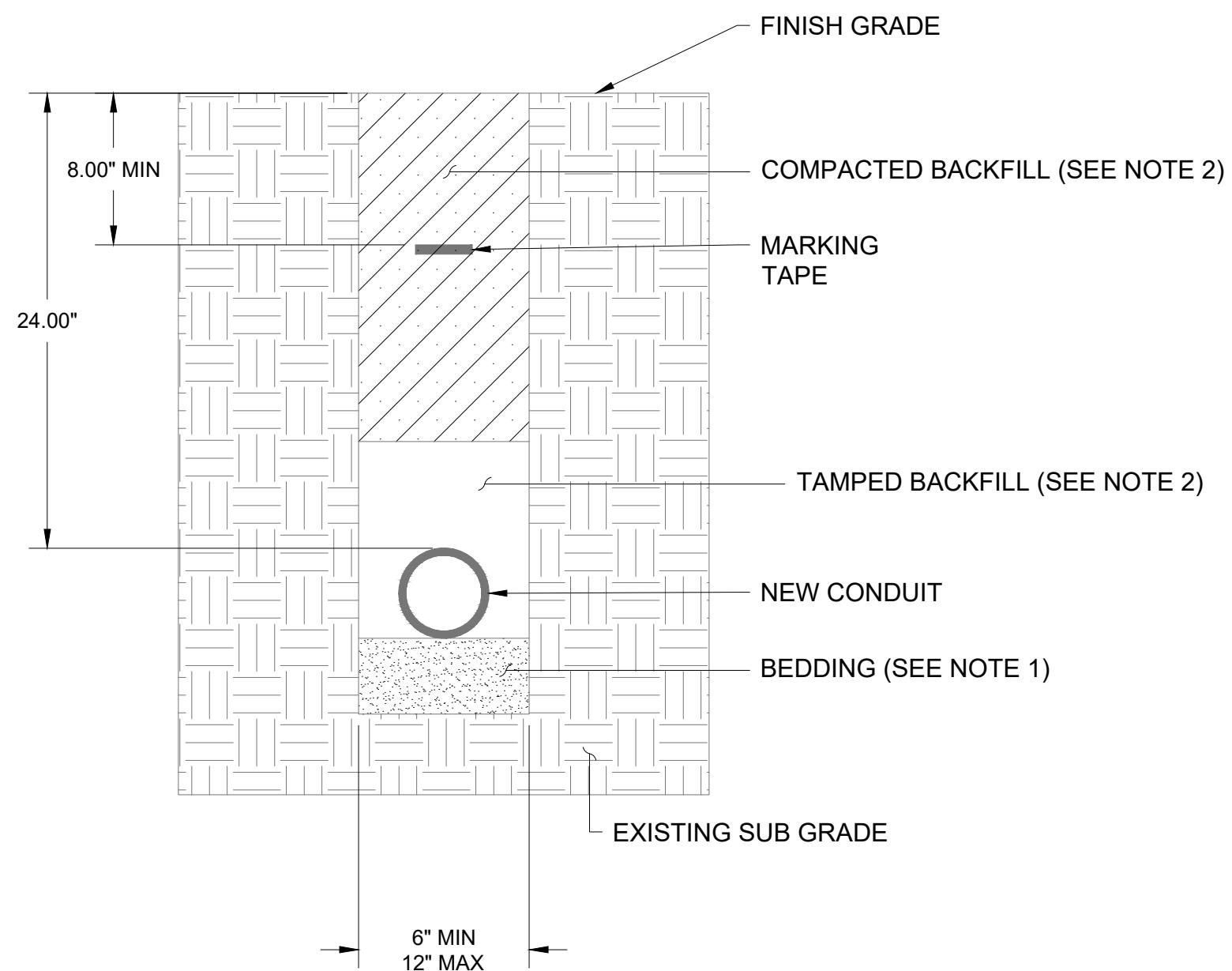
TULSA AIRPORTS IMPROVEMENT TRUST (TAIT)

TAXILANE TB AND PERIMETER ROAD
REALIGNMENT PROJECT

TULSA RIVERSIDE AIRPORT (RVS)
TULSA, OK

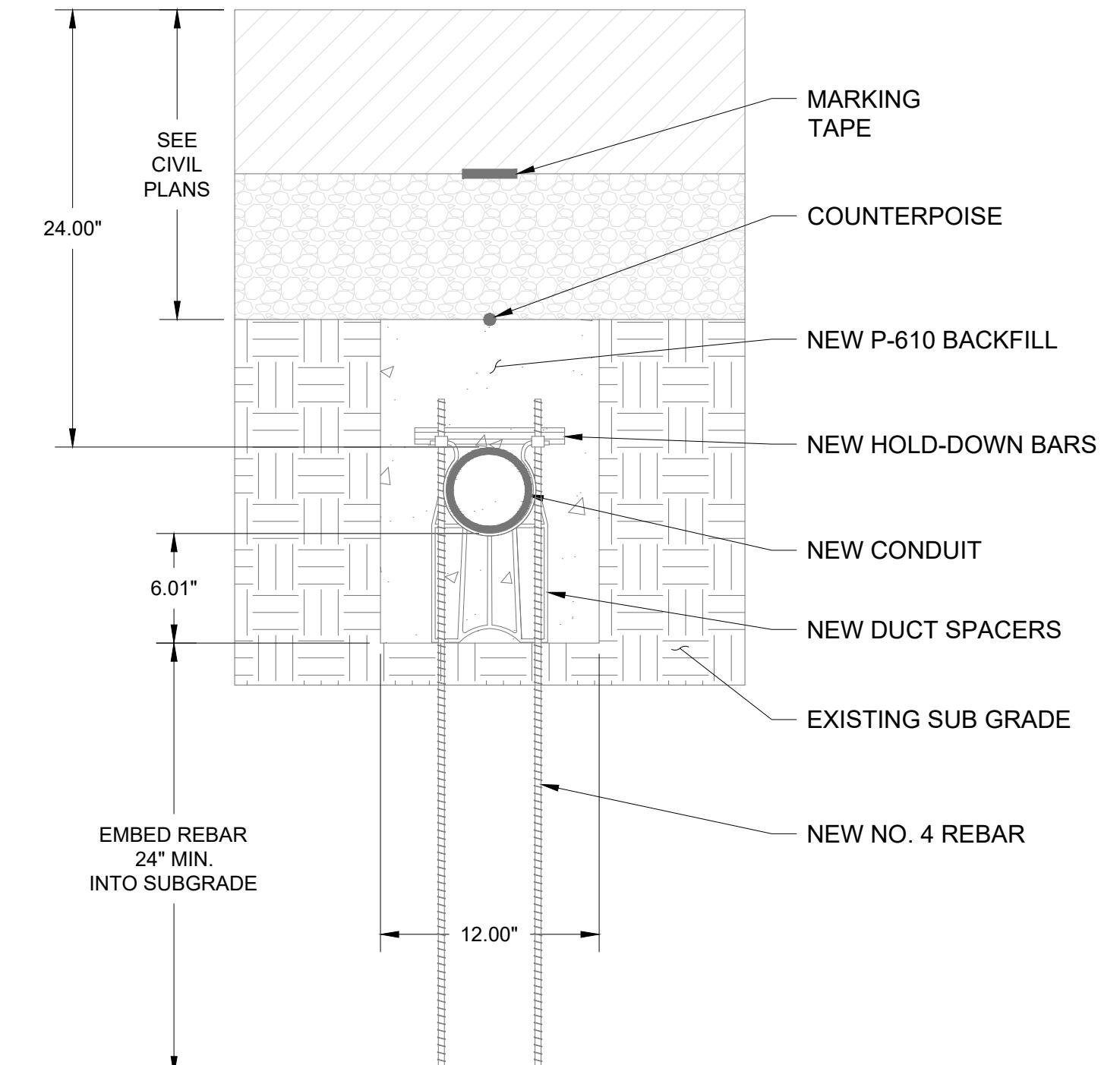
ELECTRICAL PLAN

PROJECT IDENTIFIER
70722
SHEET NAME
EL01.0001
VOLUME NUMBER
1 of 1
SHEET NUMBER
45 of 48



NOTES FOR CONDUIT

1. PLACE CONDUIT ON A BEDDING OF FINE EARTH MATERIAL AT LEAST 4 INCHES THICK. THE BEDDING MATERIAL SHALL CONSIST OF SOFT DIRT, SAND, OR OTHER FINE FILL. THE BEDDING SHALL CONTAIN NO PARTICLES THAT WOULD BE RETAINED ON A 1/4 INCH SIEVE. THE BEDDING MATERIAL SHALL BE TAMPED UNTIL FIRM.
2. CONDUIT BACKFILL SHALL BE 8 INCHES OF SAND, SOFT EARTH, OR OTHER FINE FILL PLACED AROUND THE CONDUIT DUCTS AND CAREFULLY TAMPED AROUND AND OVER THEM WITH HAND TAMPERS. THE REMAINING TRENCH SHALL THEN BE BACKFILLED AND COMPACTED PER ITEM P-152 EXCEPT THAT MATERIAL USED FOR BACKFILL SHALL BE SELECT MATERIAL NOT LARGER THAN 4 INCHES IN DIAMETER.



1
EL02.0001
NTS

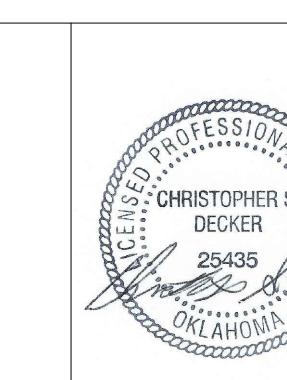
1W-4" DIRECT-BURY PVC CONDUIT UNDER TURF

2
EL02.0001
NTS

1W-4" NEW CONCRETE-ENCASED PVC DUCT BANK UNDER NEW PAVEMENT

1	ADDENDUM 1	12/05/2025
2	ADDENDUM 2	12/10/2025
NO.	REVISION	DATE

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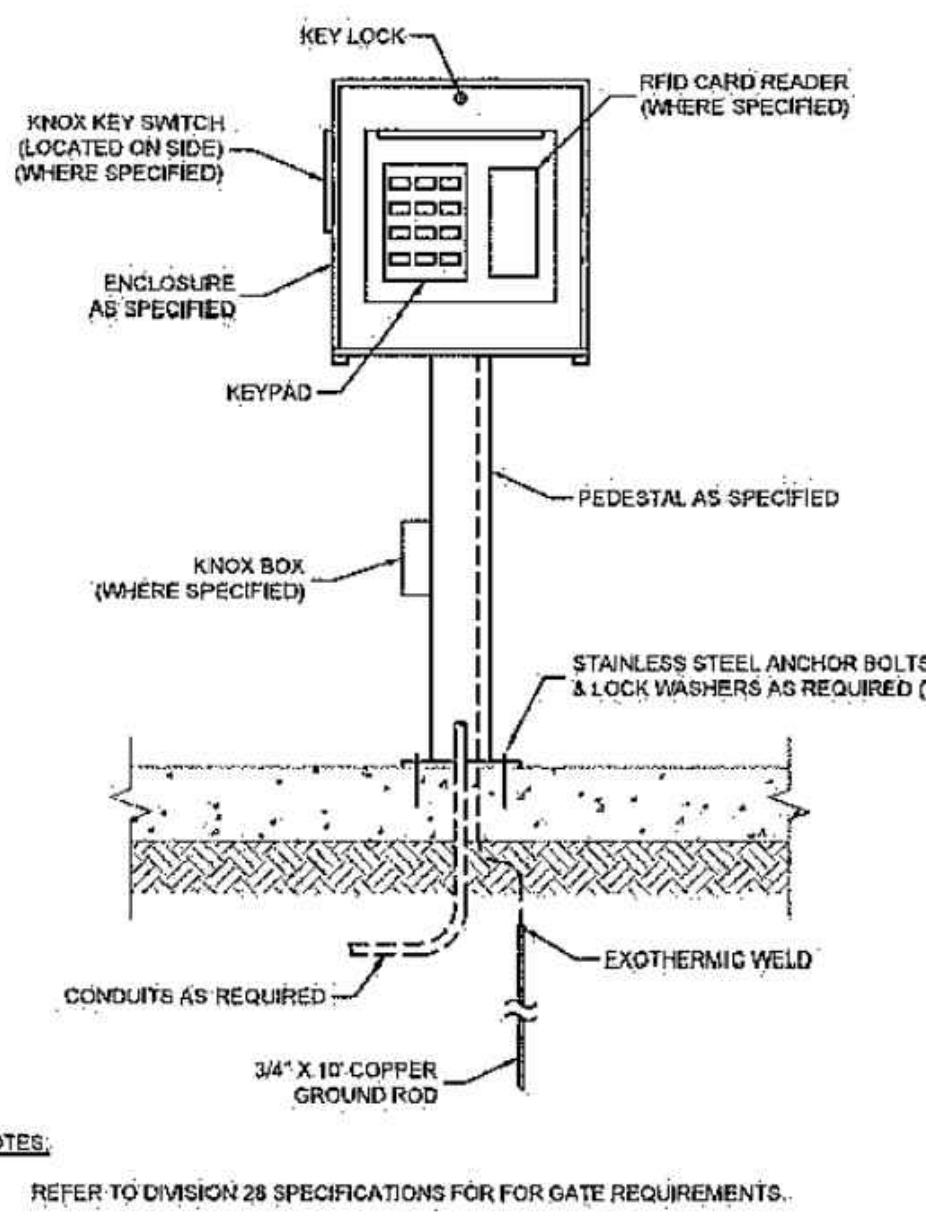


**TULSA AIRPORTS
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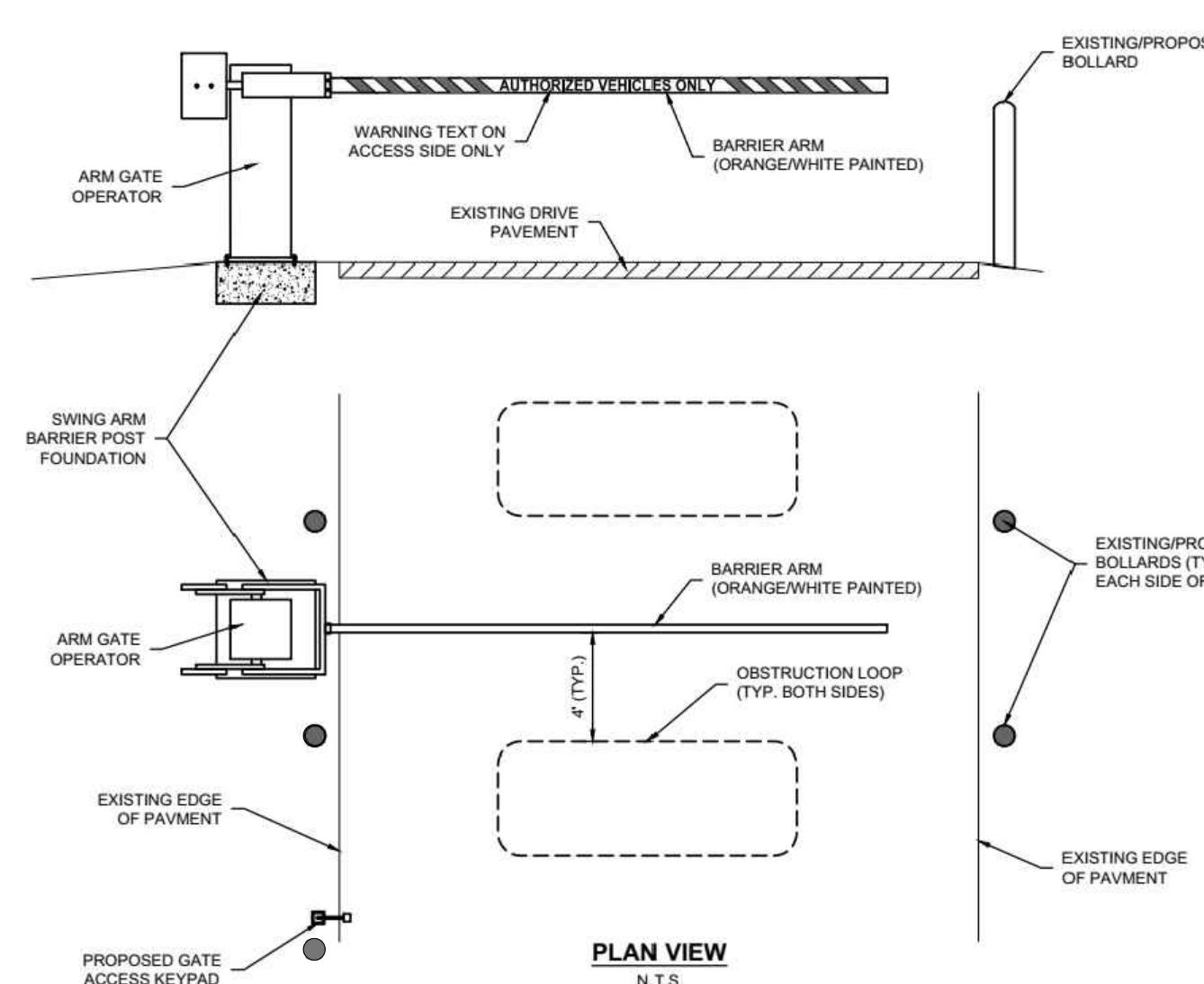
TAXILANE TB AND PERIMETER ROAD
REALIGNMENT PROJECT
TULSA RIVERSIDE AIRPORT (RVS)
TULSA, OK

PROJECT IDENTIFIER 70722
SHEET NAME EL02.0001
VOLUME NUMBER 1 of 1
SHEET NUMBER 46 of 48

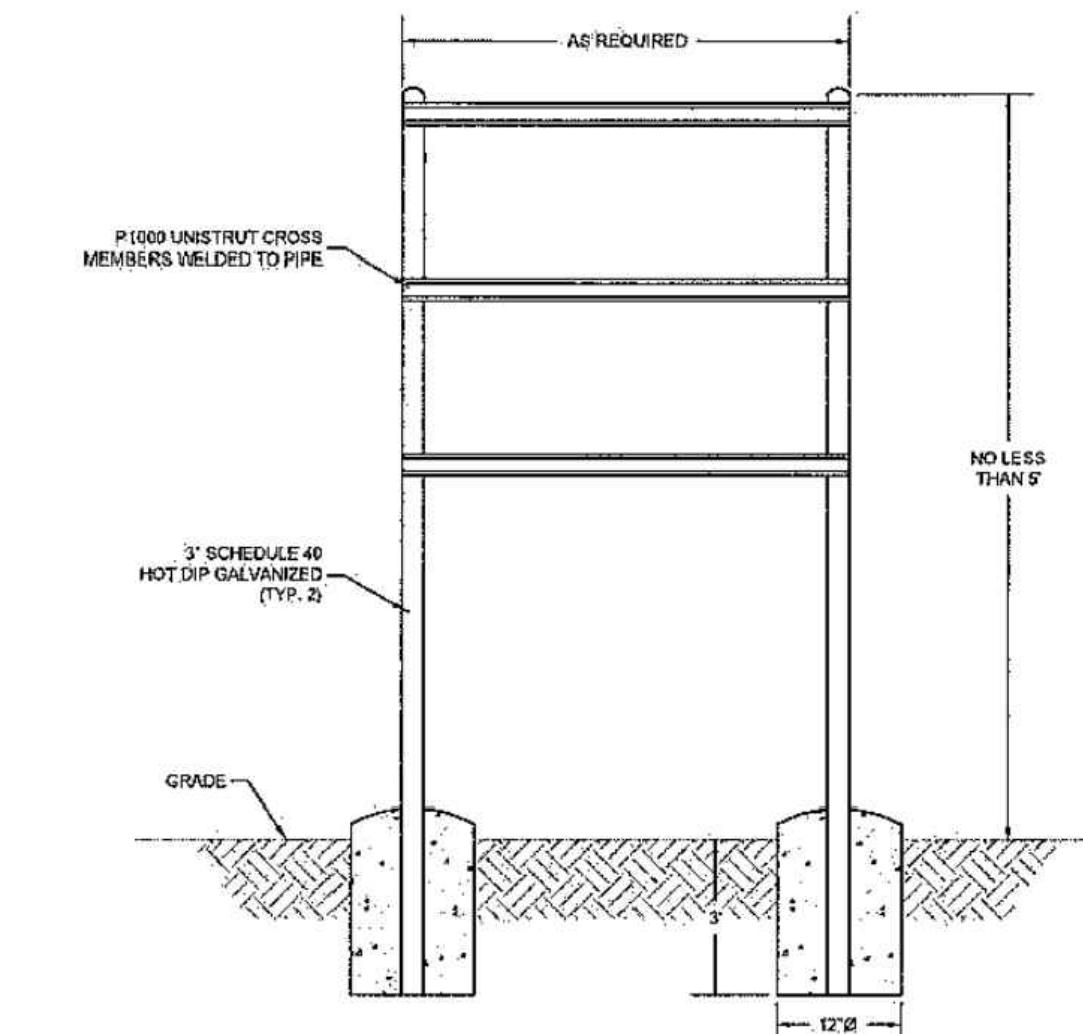
ELECTRICAL DETAILS



1 TYPICAL KEYPAD PEDESTAL DETAIL
EL02.0002 NTS



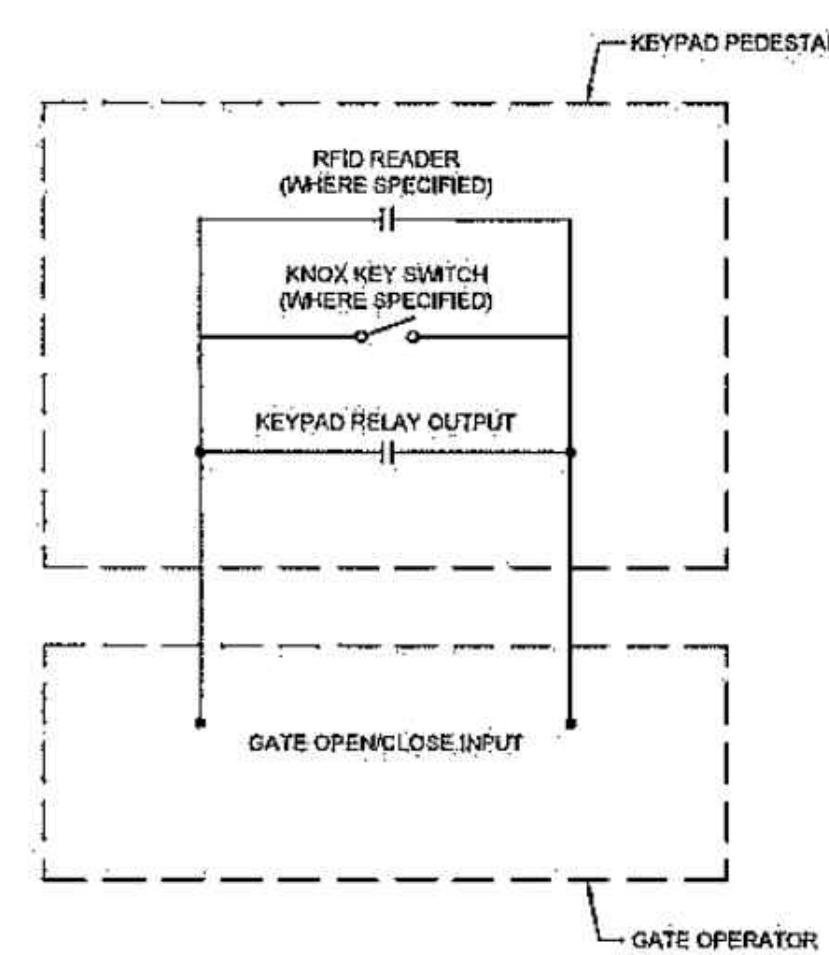
2 TYPICAL GATE SWING ARM DETAIL
EL02.0002 NTS



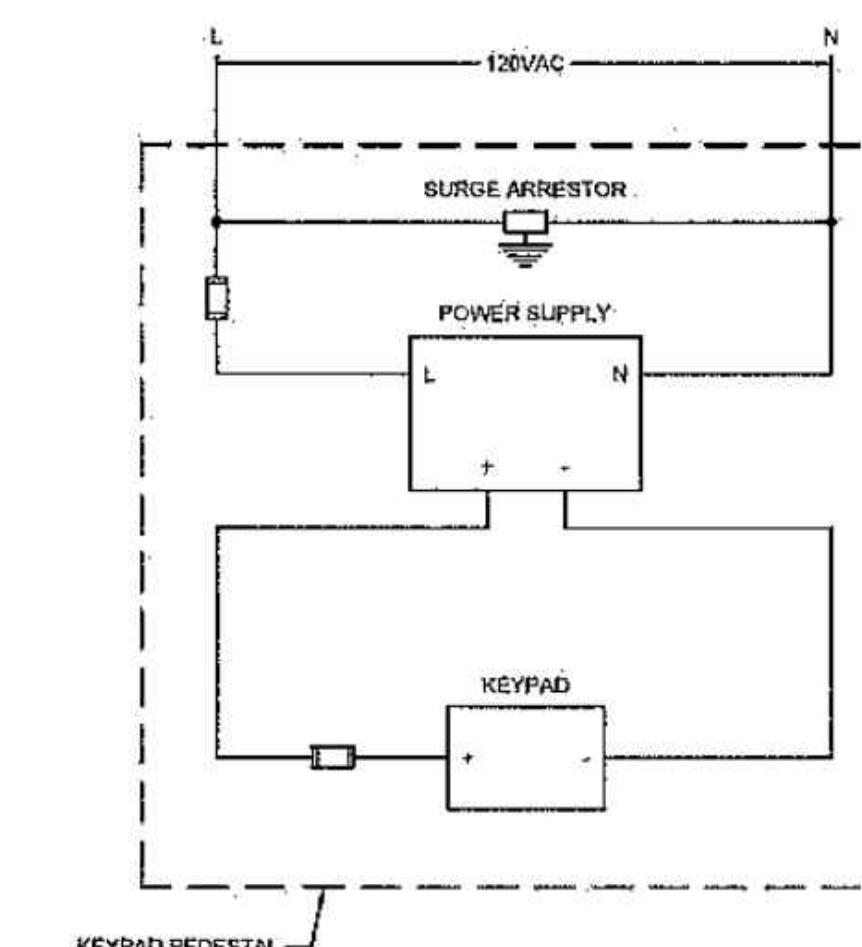
3 ELECTRICAL RACK DETAIL
EL02.0002 NTS

SHEET NOTES:

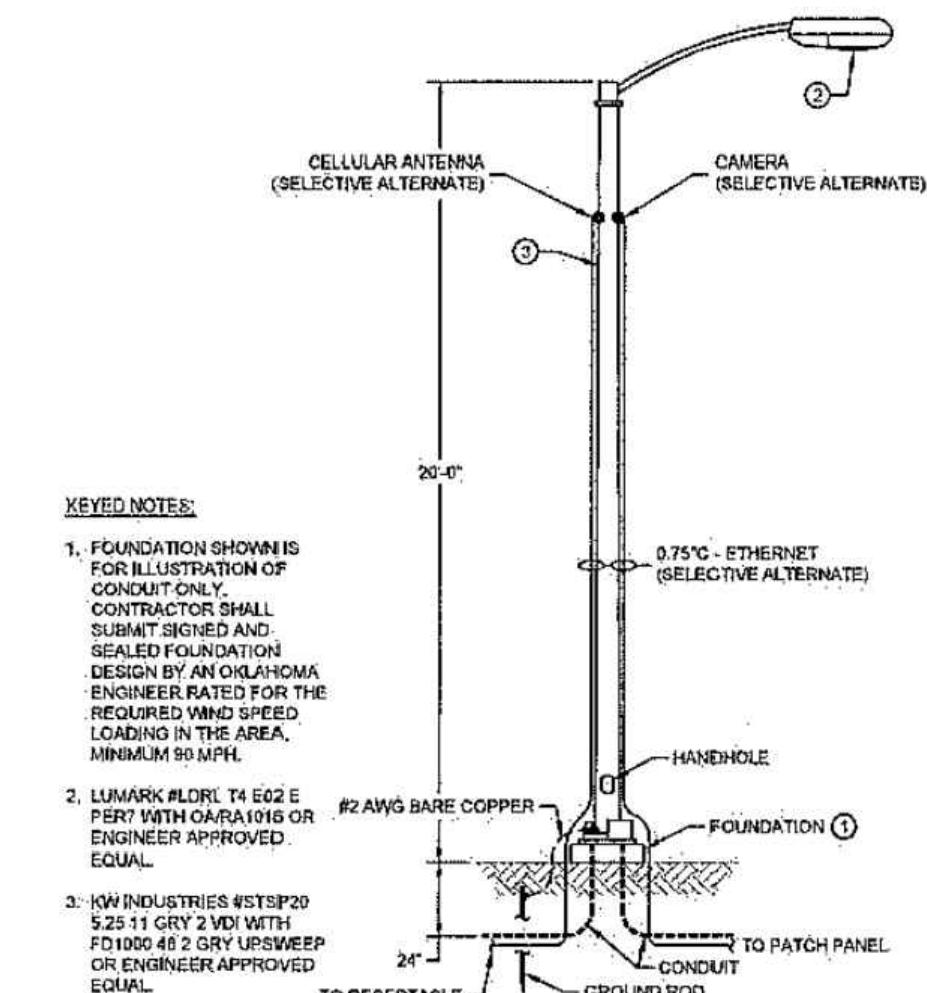
1. EQUIPMENT IS EXISTING AND INSTALLED.
2. CONTRACTOR SHALL REMOVE AND SALVAGE EQUIPMENT AND REINSTALL AT THE NEW LOCATION SHOWN ON THE PLANS. CONTRACTOR IS RESPONSIBLE FOR SAFE STORAGE OF EQUIPMENT FOR REUSE.
3. INVENTORY THE EXISTING EQUIPMENT PRIOR TO THE START OF WORK, AND NOTIFY THE AIRPORT IF ANY EQUIPMENT IS MISSING OR DAMAGED.



4 TYPICAL GATE SECURITY ACCESS CONTROL SCHEMATIC
EL02.0002 NTS

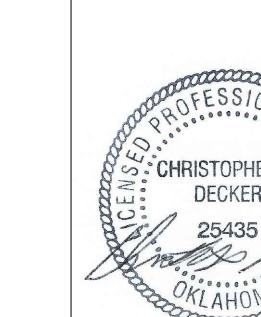


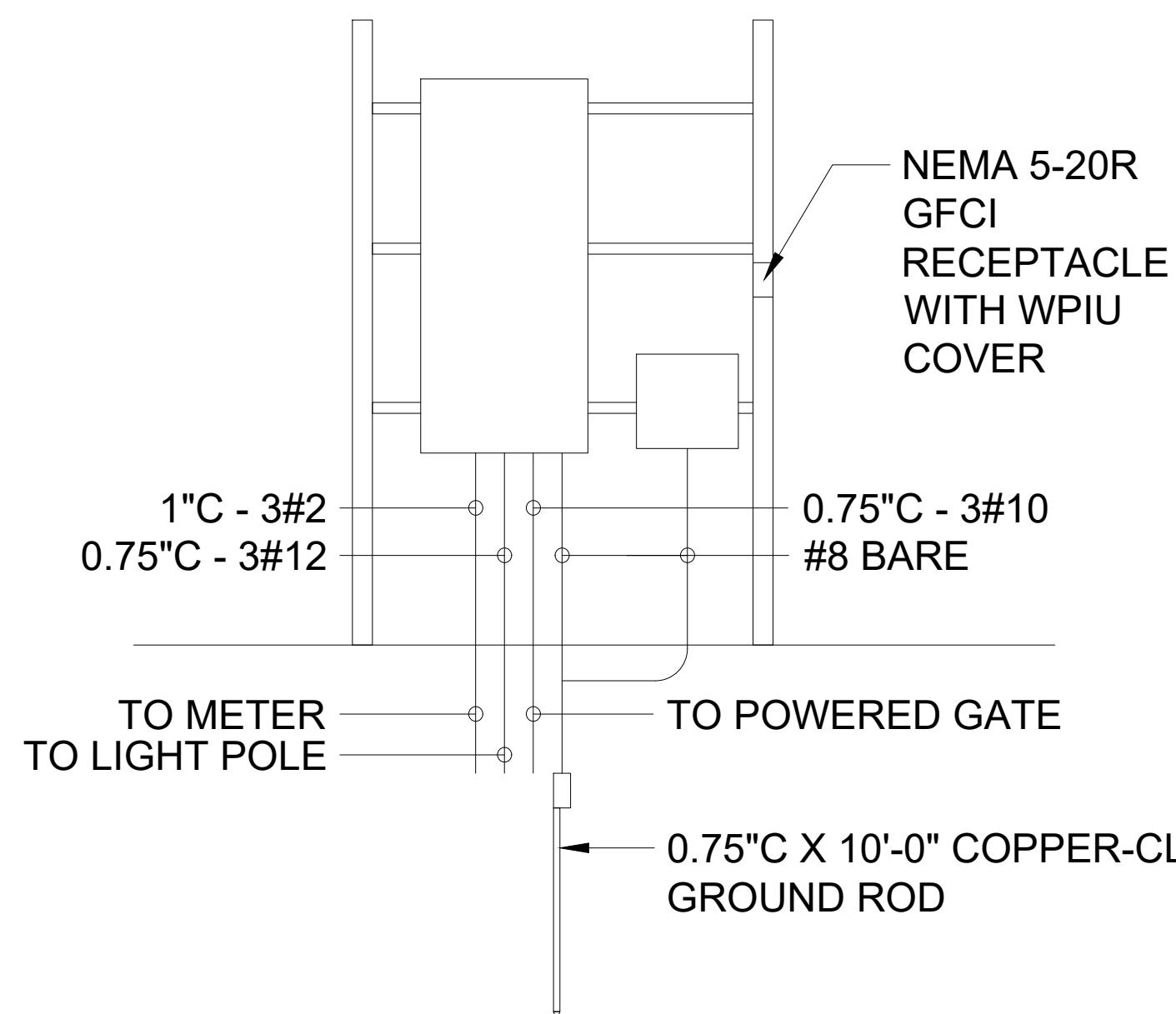
5 TYPICAL GATE SECURITY POWER SCHEMATIC
EL02.0002 NTS



6 AREA LIGHT POLE DETAIL
EL02.0002 NTS

1	ADDENDUM 1	12/05/2025
2	ADDENDUM 2	12/10/2025
NO.	REVISION	DATE

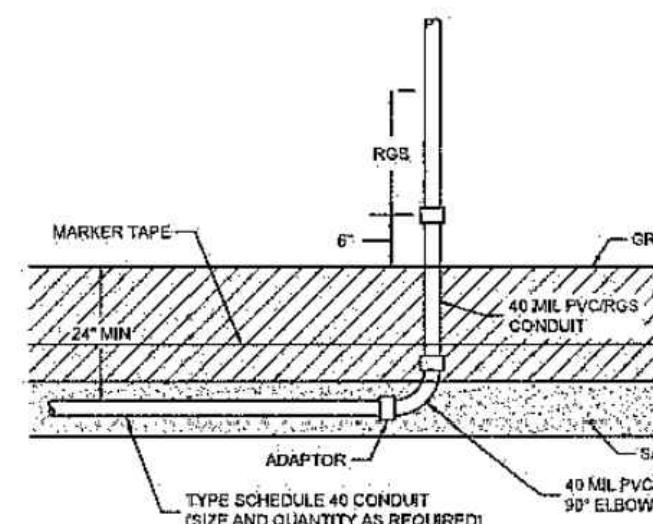




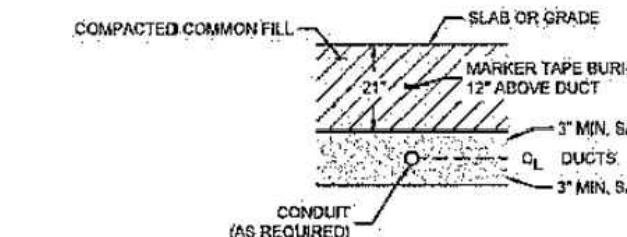
PANEL PDP, 100A BUS, 120/240V, 1PH, 3W, 60HZ, 10KAIC 100% RATED NEUTRAL, SURFACE MOUNT, NEMA 3R		
CIRCUIT DESCRIPTION	CONDUIT & CABLE	AMPS/POLES
LIGHT POLE	0.75" C - 3#12	20 / 1
RACK RECEPTACLE	0.75" C - 3#12	20 / 1
KEYPAD	0.75" C - 3#12	20 / 1
POWERED GATE	0.75" C - 3#10	30 / 2

1 ELECTRICAL RACK DETAIL
EL02.0003 NTS

2 PANELBOARD SCHEDULE
EL02.0003 NTS



3 DUCT BANK SECTION
EL02.0003 NTS



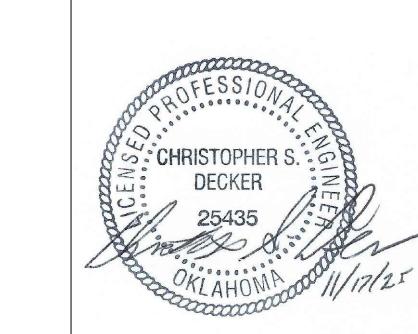
4 TYPICAL CONDUIT DETAIL
EL02.0003 NTS

SHEET NOTES:

1. EQUIPMENT IS EXISTING AND INSTALLED.
2. CONTRACTOR SHALL REMOVE AND SALVAGE EQUIPMENT AND REINSTALL AT THE NEW LOCATION SHOWN ON THE PLANS. CONTRACTOR IS RESPONSIBLE FOR SAFE STORAGE OF EQUIPMENT FOR REUSE.
3. INVENTORY THE EXISTING EQUIPMENT PRIOR TO THE START OF WORK, AND NOTIFY THE AIRPORT IF ANY EQUIPMENT IS MISSING OR DAMAGED.

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**TULSA AIRPORTS
IMPROVEMENT TRUST
(TAIT)**

**TAXILANE TB AND PERIMETER ROAD
REALIGNMENT PROJECT**
TULSA RIVERSIDE AIRPORT (RVS)
TULSA, OK
ELECTRICAL DETAILS 3

PROJECT IDENTIFIER
70722
SHEET NAME
EL02.0003
VOLUME NUMBER
1 of 1
SHEET NUMBER
48 of 48

Item P-101 Preparation/Removal of Existing Pavements**DESCRIPTION**

101-1 This item shall consist of preparation of existing pavement surfaces for overlay, surface treatments, removal of existing pavement, and other miscellaneous items. The work shall be accomplished in accordance with these specifications and the applicable plans.

EQUIPMENT AND MATERIALS

101-2 All equipment and materials shall be specified here and in the following paragraphs or approved by the Resident Project Representative (RPR). The equipment shall not cause damage to the pavement to remain in place.

CONSTRUCTION**101-3.1 Removal of existing pavement.**

The Contractor's removal operation shall be controlled to not damage adjacent pavement structure, and base material, cables, utility ducts, pipelines, or drainage structures which are to remain under the pavement.

a. Concrete pavement removal. Not used

b. Asphalt pavement removal. Asphalt pavement to be removed shall be cut to the full depth of the asphalt pavement around the perimeter of the area to be removed and paid for using the mill depth requirements herein. Material generated from asphalt milling demolition shall be used in the embankment of P-152 or must be subsequently removed and legally disposed off airport property.

c. Repair or removal of Base, Subbase, and/or Subgrade. All failed material including surface, base course, subbase course, and subgrade shall be removed and repaired as shown on the plans or as directed by the RPR. Materials and methods of construction shall comply with the applicable sections of these specifications. Any damage caused by Contractor's removal process shall be repaired at the Contractor's expense.

101-3.2 Preparation of joints and cracks prior to overlay/surface treatment. Not Used.

101-3.3 Removal of pavement markings. Removal of pavement markings from existing pavement shall consist of removal of at least 90% of paint, and other foreign substances from the surface of the pavement. Areas that require removal are designated on the plans and as directed by the RPR in the field during construction. High-pressure water shall be used. Removal methods used shall not cause major damage to the existing pavement, or to any structure or utility within or adjacent to the work area. Major damage is defined as changing the properties of the pavement, removal of asphalt causing the aggregate to ravel, or removing pavement over 1/8 inch (3 mm) deep. If it is deemed by the RPR that damage to the existing pavement is caused by operational error, such as permitting the application method to dwell in one location for too long, the Contractor shall repair the damaged area without compensation and as directed by the RPR.

Removal of pavement markings shall not proceed until approved by the RPR. Water used for high-pressure water equipment shall be provided by the Contractor at the Contractor's expense. No material shall be deposited on the pavement shoulders. All wastes shall be legally disposed of off-site airport property.

101-3.4 Concrete spall or failed asphaltic concrete pavement repair.

- a. Repair of concrete spalls in areas to be overlaid with asphalt.** Not used.
- b. Asphalt pavement repair.** Not used.

101-3.5 Cold milling. Milling shall be performed with a power-operated milling machine or grinder, capable of producing a uniform finished surface. The milling machine or grinder shall operate without tearing or gouging the underlaying surface. The milling machine or grinder shall be equipped with grade and slope controls, and a positive means of dust control. All millings shall be reused in accordance with P-152 or removed and disposed off Airport property. If the Contractor mills or grinds deeper or wider than the plans specify, the Contractor shall replace the material removed with new material at the Contractor's Expense.

a. Patching. The milling machine shall be capable of cutting a vertical edge without chipping or spalling the edges of the remaining pavement and it shall have a positive method of controlling the depth of cut. The RPR shall layout the area to be milled with a straightedge in increments of 1-foot (30 cm) widths. The area to be milled shall cover only the failed area. Any excessive area that is milled because the Contractor doesn't have the appropriate milling machine, or areas that are damaged because of his negligence, shall be repaired by the Contractor at the Contractor's Expense.

b. Profiling, grade correction, or surface correction. The milling machine shall have a minimum width of 7 feet and it shall be equipped with electronic grade control devices that will cut the surface to the grade specified. The tolerances shall be maintained within +0 inch and -1/4 inch of the specified grade. The machine must cut vertical edges and have a positive method of dust control. The machine must have the ability to remove the millings or cuttings from the pavement and load them into a truck. All millings shall be removed and disposed of off the airport.

c. Clean-up. The Contractor shall sweep the milled surface daily and immediately after the milling until all residual materials are removed from the pavement surface. Prior to paving, the Contractor shall wet down the milled pavement and thoroughly sweep and/or blow the surface to remove loose residual material. Waste materials shall be collected and removed from the pavement surface and adjacent areas by sweeping or vacuuming. Waste materials shall be removed and disposed off Airport property.

101-3.6. Preparation of asphalt pavement surfaces prior to surface treatment. Not used.

101-3.7 Maintenance. The Contractor shall perform all maintenance work necessary to keep the pavement in a satisfactory condition until the full section is complete and accepted by the RPR. The surface shall be kept clean and free from foreign material. The pavement shall be properly drained at all times. If cleaning is necessary or if the pavement becomes disturbed, any work repairs necessary shall be performed at the Contractor's expense.

101-3.8 Preparation of Joints in Rigid Pavement prior to resealing. Not Used.

101-3.8.1 Removal of Existing Joint Sealant. Not used.

101-3.8.2 Cleaning prior to sealing. Not used.

101-3.8.3 Joint sealant. Joint material and installation will be in accordance with sealant per ASTM D6690.

101-3.9 Preparation of Cracks in Flexible Pavement prior to sealing. Not used.

101-3.9.1 Preparation of Crack. Not used.

101-3.9.2 Removal of Existing Crack Sealant. Not Used.

101-3.9.3 Crack Sealant. Not used.

101-3.9.4 Removal of Buried Structures.

b. Removal of Inlets/Manholes. Where indicated on the plans or as directed by the RPR, inlets and/or manholes shall be removed and legally disposed of off-site in a timely fashion after removal. Excavations after removal shall be backfilled with material equal or better in quality than adjacent embankment. When under paved areas must be compacted to 95% of ASTM D1557, when outside of paved areas must be compacted to 95% of ASTM D1557.

METHOD OF MEASUREMENT

101-4.1 Cold Milling. The unit of measurement for pavement removal shall be the number of square yard removed by the Contractor in the road and taxiway tie-in locations. Any pavement removed outside the limits of removal because the pavement was damaged by negligence on the part of the Contractor shall not be included in the measurement for payment. No direct measurement or payment shall be made for saw cutting. Saw cutting shall be incidental to pavement removal. A portion of millings generated from cold milling and pavement removal are to be utilized in the regrading of the existing parking area near north of the “gazebo” as shown in the plans. Any/all work pertaining to this shall be paid incidentally under the P-101 Pay Items.

101-4.2 Pavement Removal. The unit of measurement for pavement removal shall be the number of square yard removed by the Contractor up to a depth of 12" of existing asphalt and aggregate base. Any pavement removed outside the limits of removal because the pavement was damaged by negligence on the part of the Contractor shall not be included in the measurement for payment. No direct measurement or payment shall be made for saw cutting. Saw cutting shall be incidental to pavement removal.

101-4.3 Removal of Buried Structures. The unit of measurement for removal of pipe and other buried structures will be lump sum. No separate measurement for payment will be made. The work covered by this section shall be considered as a subsidiary obligation of the Contractor and covered under the other contract items. This price shall be full compensation for all labor, equipment, tools, and incidentals necessary to complete this item in accordance with paragraph 101-3.9.4.

101-4.4 Removal of fence. The unit of measurement for the removal of the fence and foundation will be per linear feet. No separate measurement for payment will be made. The work covered by this section shall be considered as a subsidiary obligation of the Contractor and covered under the other contract items. This price shall be full compensation for all labor, equipment, tools, and incidentals necessary to complete this item in accordance with paragraph 101-3.9.4.

BASIS OF PAYMENT

101-5.1 Payment. Payment shall be made at contract unit price for the unit of measurement as specified above. This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of the material and for all labor, equipment, tools, and incidentals necessary to complete this item.

Item P 101-5.1	Cold Milling (2" Tie-in) - per square yard
Item P 101-5.2	Pavement Demolition (Up to 12" Depth) – per square yard
Item P-101-5.3	Removal of Pipe and other Buried Structures – Lump sum

REFERENCES

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

Advisory Circulars (AC)

AC 150/5380-6 Guidelines and Procedures for Maintenance of Airport Pavements.

ASTM International (ASTM)

ASTM D6690 Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements

END OF ITEM P-101

Item P-403 Asphalt Mix Pavement Course**DESCRIPTION**

403-1.1 This item shall consist of pavement courses composed of mineral aggregate and asphalt binder mixed in a central mixing plant and placed on a prepared course in accordance with these specifications and shall conform to the lines, grades, thicknesses, and typical cross-sections shown on the plans. Each course shall be constructed to the depth, typical section, and elevation required by the plans and shall be rolled, finished, and approved before the placement of the next course. This specification describes the material, construction and quality assurance methods per FAA AC 150/5370-10H. The contractor may use the referenced Oklahoma Department of Transportation (ODOT) material or the FAA P-403 define material requirements in sections P-403-2.1 through P-403-4.3. Regardless of the material defined, the contractor shall use the requirements set forth in the title section Construction Methods, Contractor Quality Control (CQC), Material Acceptance, Method of Measurement, and Basis of Payment.

MATERIALS

403-2.1 Aggregate. The aggregate base material shall meet the requirements per ODOT sections 411 and 708.02, or aggregates shall consist of crushed stone, crushed gravel, crushed slag, screenings, natural sand and mineral filler, as required. The aggregates should have no known history of detrimental pavement staining due to ferrous sulfides, such as pyrite. Coarse aggregate is the material retained on the No. 4 sieve. Fine aggregate is the material passing the No. 4 sieve.

a. Coarse aggregate. Coarse aggregate shall consist of sound, tough, durable particles, free from films of matter that would prevent thorough coating and bonding with the asphalt material and free from organic matter and other deleterious substances. Coarse aggregate material requirements are given in the table below.

Coarse Aggregate Material Requirements

Material Test	Requirement	Standard
Resistance to Degradation	Loss: 40% maximum for surface, asphalt binder, and leveling course Loss: 50% maximum for base course	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	1.0 % maximum	ASTM C142
Percentage of Fractured Particles	For pavements designed for aircraft gross weights of 60,000 pounds (27200 kg) or more: Minimum 75% by weight of particles with at least two fractured faces and 85% with at least one fractured face ¹	ASTM D5821
	For pavements designed for aircraft gross weights less than 60,000 pounds (27200 kg): Minimum 50% by weight of particles with at least two fractured faces and 65% with at least one fractured face ¹	
Flat, Elongated, or Flat and Elongated Particles	8% maximum, by weight, of flat, elongated, or flat and elongated particles with a value of 5: ² 1	ASTM D4791
Bulk density of slag ³	Weigh not less than 70 pounds per cubic foot (1.12 Mg/cubic meter)	ASTM C29.

¹ The area of each face shall be equal to at least 75% of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces.

² A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

³ Only required if slag is specified.

b. Fine aggregate. Fine aggregate shall consist of clean, sound, tough, durable, angular shaped particles produced by crushing stone, slag, or gravel and shall be free from coatings of clay, silt, or other objectionable matter. Natural (non-manufactured) sand may be used to obtain the gradation of the aggregate blend or to improve the workability of the mix. Fine aggregate material requirements are listed in the table below.

Fine Aggregate Material Requirements

Material Test	Requirement	Standard
Liquid limit	25 maximum	ASTM D4318
Plasticity Index	4 maximum	ASTM D4318
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	Loss after 5 cycles: 10% maximum using Sodium sulfate - or - 15% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	1.0 % maximum	ASTM C142
Sand equivalent	45 minimum	ASTM D2419

c. Sampling. ASTM D75 shall be used in sampling coarse and fine aggregate, and ASTM C183 shall be used in sampling mineral filler.

403-2.2 Mineral filler. Mineral filler (baghouse fines) may be added in addition to material naturally present in the aggregate. Mineral filler shall meet the requirements of ASTM D242.

Mineral filler Requirements

Material Test	Requirement	Standard
Plasticity Index	4 maximum	ASTM D4318

403-2.3 Asphalt binder. Asphalt binder shall conform to ASTM D6373 Performance Grade (PG) 70-28.

403-2.4 Anti-stripping agent. Any anti-stripping agent or additive (anti-strip) shall be heat stable and shall not change the asphalt binder grade beyond specifications. Anti-strip shall be an approved material of the Department of Transportation of the State in which the project is located.

COMPOSITION

403-3.1 Composition of mixture. The composition mixture shall meet the requirements per ODOT sections 411 and 708.04, or the asphalt plant mix shall be composed of a mixture of well-graded aggregate, filler and anti-strip agent if required, and asphalt binder. The several aggregate fractions shall be sized, handled in separate size groups, and combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF).

403-3.2 Job mix formula (JMF) laboratory. The laboratory used to develop the JMF shall possess a current certificate of accreditation, listing D3666 from a national accrediting authority and all test methods required for developing the JMF, and listed on the accrediting authority's website. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the RPR prior to start of construction.

403-3.3 Job mix formula (JMF). No asphalt mixture shall be placed until an acceptable mix design has been submitted to the RPR for review and accepted in writing. The RPR's review shall not relieve the Contractor of the responsibility to select and proportion the materials to comply with this section.

When the project requires asphalt mixtures of differing aggregate gradations and/or binders, a separate JMF shall be submitted for each mix. Add anti-stripping agent to meet tensile strength requirements.

The JMF shall meet the requirements per ODOT sections 411 and 708.04 using S-3 3/4-inch percent passing per superpave mixture type gradation, or The JMF shall be prepared by an accredited laboratory that meets the requirements of paragraph 403-3.2. The asphalt mixture shall be designed using procedures contained in Asphalt Institute MS-2 Mix Design Manual, 7th Edition. Samples shall be prepared and compacted using the gyratory compactor in accordance with ASTM D6925.

Should a change in sources of materials be made, a new JMF must be submitted to the RPR for review and accepted in writing before the new material is used. After the initial production JMF has been approved by the RPR and a new or modified JMF is required for whatever reason, the subsequent cost of the new or modified JMF, including a new control strip when required by the RPR, will be borne by the Contractor.

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

The JMF shall be submitted in writing by the Contractor at least 30 days prior to the start of paving operations. The JMF shall be developed within the same construction season using aggregates proposed for project use.

The submitted JMF shall be dated, and stamped or sealed by the responsible professional Engineer of the laboratory and shall include the following items as a minimum:

- Manufacturer's Certificate of Analysis (COA) for the asphalt binder used in the JMF in accordance with paragraph 403-2.3. Certificate of asphalt performance grade is with modifier already added, if used and must indicate compliance with ASTM D6373. For plant modified asphalt binder, certified test report indicating grade certification of modified asphalt binder.
- Manufacturer's Certificate of Analysis (COA) for the anti-stripping agent if used in the JMF in accordance with paragraph 403-2.4.
- Certified material test reports for the course and fine aggregate and mineral filler in accordance with paragraphs 403-2.1 and 403-2.2.
- Percent passing each sieve size for individual gradation of each aggregate cold feed and/or hot bin; percent by weight of each cold feed and/or hot bin used; and the total combined gradation in the JMF.
- Specific Gravity and absorption of each course and fine aggregate.
- Percent natural sand.
- Percent fractured faces.
- Percent by weight of flat particles, elongated particles, and flat and elongated particles (and criteria).
- Percent of asphalt.
- Number of blows or gyrations.
- Laboratory mixing and compaction temperatures.
- Supplier recommended mixing and compaction temperatures.
- Plot of the combined gradation on the 0.45 power gradation curve.
- Graphical plots of air voids, voids in the mineral aggregate (VMA), and unit weight versus asphalt content. To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.

- Tensile Strength Ratio (TSR).
- Type and amount of Anti-strip agent when used.
- Asphalt Pavement Analyzer (APA) results.
- Date the JMF was developed. Mix designs that are not dated or which are from a prior construction season shall not be accepted.
- Percentage and properties (asphalt content, asphalt binder properties, and aggregate properties) of reclaimed asphalt pavement (RAP) in accordance with paragraph 403-3.4, Reclaimed Hot-Mix Asphalt, if RAP is used.

Table 1. Asphalt Design Criteria

Test Property	Value	Test Method
Number of blows/gyrations	75	
Air voids (%)	3.5	ASTM D3203
Percent voids in mineral aggregate (VMA), minimum	See Table 2	ASTM D6995
TSR ¹	not less than 80 at a saturation of 70-80%	ASTM D4867
Asphalt Pavement Analyzer (APA) ^{2,3}	Less than 10 mm @ 4000 passes	AASHTO T340 at 250 psi hose pressure at 64°C test temperature

¹ Test specimens for TSR shall be compacted at 7 ± 1.0 % air voids. In areas subject to freeze-thaw, use freeze-thaw conditioning in lieu of moisture conditioning per ASTM D4867.

² AASHTO T340 at 100 psi hose pressure at 64°C test temperature may be used in the interim. If this method is used the required Value shall be less than 5 mm @ 8000 passes

³ Where APA not available, use Hamburg wheel test (AASHTO T 324) 10 mm@ 20,000 passes at 50°C.

The mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory sieves, will conform to the gradation or gradations specified in Table 2 when tested in accordance with ASTM C136 and ASTM C117.

The gradations in Table 2 represent the limits that shall determine the suitability of aggregate for use from the sources of supply, be well graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve, or vice versa.

Table 2. Aggregate - Asphalt Pavements

Sieve Size	Percentage by Weight Passing Sieve
1 inch	--
3/4 inch	100
1/2 inch	90-100
3/8 inch	72-88
No. 4	53-73
No. 8	38-60
No. 16	26-48
No. 30	18-38
No. 50	11-27
No. 100	6-18
No. 200	3-6
Voids in Mineral Aggregate (VMA)¹	15
Asphalt Percent:	
Stone or gravel	5.0-7.5
Slag	6.5-9.5
Recommended Minimum Construction Lift Thickness	2 inch

¹To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.

The aggregate gradations shown are based on aggregates of uniform specific gravity. The percentages passing the various sieves shall be corrected when aggregates of varying specific gravities are used, as indicated in the Asphalt Institute MS-2 Mix Design Manual, 7th Edition.

403-3.4 Reclaimed Asphalt Pavement (RAP). Reclaimed asphalt pavement shall consist of reclaimed asphalt pavement (RAP), coarse aggregate, fine aggregate, mineral filler, and asphalt. Recycled asphalt shingles (RAS) shall not be allowed. The RAP shall be of a consistent gradation and asphalt content and properties. When RAP is fed into the plant, the maximum RAP chunk size shall not exceed 1-1/2 inches. The reclaimed asphalt mix shall be designed using procedures contained in the Asphalt Institute MS-2 Mix Design Manual, 7th Edition. The percentage of asphalt in the RAP shall be established for the mixture design according to ASTM D2172 using the appropriate dust correction procedure. The JMF shall meet the requirements of paragraph 403-3.3. RAP should only be used for shoulder surface course mixes and for any intermediate courses. The use of RAP containing Coal Tar shall not be allowed. Coal Tar surface treatments must be removed prior to recycling underlying asphalt material. The amount of RAP shall be limited to 20 percent.

In addition to the requirements of paragraph 403-3.3, the JMF shall indicate the percent of reclaimed asphalt pavement and the percent and grade of new asphalt binder.

For the PG graded asphalt binder selected in paragraph 403-2.3, adjust as follows:

- a. For 0-20% RAP, there is no change in virgin asphalt binder content.

403-3.5 Control strip. A control strip is not required.

CONSTRUCTION METHODS

403-4.1 Weather limitations. The asphalt shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 4. The temperature requirements may be waived by the RPR, if requested; however, all other requirements including compaction shall be met.

Table 4. Surface Temperature Limitations of Underlying Course

Mat Thickness	Base Temperature (Minimum)	
	Degrees F	Degrees C
3 inches or greater	40	4
Greater than 2 inches but less than 3 inches	45	7

403-4.2 Asphalt plant. Plants used for the preparation of asphalt shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M156 including the following items:

a. Inspection of plant. The RPR, or RPR'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.

b. Storage bins and surge bins. The asphalt mixture stored in storage and/or surge bins shall meet the same requirements as asphalt mixture loaded directly into trucks. Asphalt mixture shall not be stored in storage and/or surge bins for a period greater than twelve (12) hours. If the RPR determines there is an excessive heat loss, segregation or oxidation of the asphalt mixture due to temporary storage, temporary storage shall not be allowed.

403-4.3 Aggregate stockpile management. Aggregate stockpiles shall be constructed in such a manner that prevents segregation and intermixing of deleterious materials. Aggregates from different sources shall be stockpiled, weighed and batched separately at the concrete batch plant. Aggregates that have become segregated or mixed with earth or foreign material shall not be used.

A continuous supply of materials shall be provided to the work to ensure continuous placement.

403-4.4 Hauling equipment. Trucks used for hauling asphalt shall have tight, clean, and smooth metal beds. To prevent the asphalt from sticking to the truck beds, the truck beds shall be lightly coated with a minimum amount of paraffin oil, lime solution, or other material approved by the RPR. Petroleum products shall not be used for coating truck beds. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary, to ensure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers shall be securely fastened.

403-4.4.1 Material transfer vehicle (MTV). A material transfer vehicle is not required.

403-4.5 Asphalt pavers. Asphalt pavers shall be self-propelled with an activated heated screed, capable of spreading and finishing courses of asphalt 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 asphalt paver shall be equipped with a control system capable of automatically maintaining the specified screed grade and elevation.

If 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.

The paver shall be capable of paving to a minimum width specified in paragraph 403-4.11.

403-4.6 Rollers. The number, type, and weight of rollers shall be sufficient to compact the asphalt to the required density while it is still in a workable condition without crushing of the aggregate, depressions or other damage to the pavement surface. Rollers shall be in good condition, capable of operating at slow speeds to avoid displacement of the asphalt. All rollers shall be specifically designed and suitable for compacting asphalt 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.

403-4.6.1 Density device. The Contractor shall have on site a density gauge 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 density gauge and obtain accurate density readings for all new asphalt. These densities shall be supplied to the RPR upon request at any time during construction. No separate payment will be made for supplying the density gauge and technician.

403-4.7 Preparation of asphalt binder. The asphalt binder shall be heated in a manner that will avoid local overheating and provide a continuous supply of the asphalt material to the mixer at a uniform temperature. The temperature of the unmodified asphalt binder delivered to the mixer shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 325°F when added to the aggregate. The temperature of modified asphalt binder shall be no more than 350°F when added to the aggregate.

403-4.8 Preparation of mineral aggregate. The aggregate for the asphalt shall be heated and dried. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates. The temperature of the aggregate and mineral filler shall not exceed 350°F when the asphalt binder is added. Particular care shall be taken that aggregates high in calcium or magnesium content are not damaged by overheating. The temperature shall not be lower than is required to obtain complete coating and uniform distribution on the aggregate particles and to provide a mixture of satisfactory workability.

403-4.9 Preparation of asphalt mixture. The aggregates and the asphalt binder shall be weighed or metered and introduced into the mixer in the amount specified by the JMF. The combined materials shall be mixed until the aggregate obtains a uniform coating of asphalt binder and is thoroughly distributed throughout the mixture. Wet mixing time shall be the shortest time that will produce a satisfactory mixture, but not less than 25 seconds for batch plants. The wet mixing time for all plants shall be established by the Contractor, based on the procedure for determining the percentage of coated particles described in ASTM D2489, for each individual plant and for each type of aggregate used. The wet mixing time will be set to achieve 95% of coated particles. For continuous mix plants, the minimum mixing time shall be determined by dividing the weight of its contents at operating level by the weight of the mixture delivered per second by the mixer. The moisture content of all asphalt upon discharge shall not exceed 0.5%.

403-4.10 Application of Tack Coat. Immediately before placing the asphalt mixture, the underlying course shall be cleaned of all dust and debris.

A tack coat shall be applied in accordance with Item P-603 to all vertical and horizontal asphalt and concrete surfaces prior to placement of the first and each subsequent lift of asphalt mixture.

403-4.11 Laydown plan, transporting, placing, and finishing. Prior to the placement of the asphalt, the Contractor shall prepare a laydown plan with the sequence of paving lanes and width to minimize the number of cold joints; the location of any temporary ramps; laydown temperature; and estimated time of completion for each portion of the work (milling, paving, rolling, cooling, etc.). The laydown plan and any modifications shall be approved by the RPR.

Deliveries shall be scheduled so that placing and compacting of asphalt 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 approximately ambient temperature. The Contractor, at their expense, shall be responsible for repair of any damage to the pavement caused by hauling operations.

Contractor shall survey each lift of asphalt surface course and certify to RPR that every lot of each lift meets the grade tolerances before the next lift can be placed. The final finished surface of the pavement shall be surveyed to verify that the grade elevations and cross-sections shown on the plans do not deviate more than 1/2 inch vertically.

Edges of existing asphalt pavement abutting the new work shall be saw cut and the cut off material and laitance removed. Apply a tack coat in accordance with P-603 before new asphalt material is placed against it.

The speed of the paver shall be regulated to eliminate pulling and tearing of the asphalt mat. Placement of the asphalt mix shall begin along the centerline of a crowned section or on the high side of areas with a one way slope unless shown otherwise on the laydown plan as accepted by the RPR. The asphalt mix shall be placed in consecutive adjacent lanes having a minimum width of 12 feet except where edge lanes require less width to complete the area. Additional screed sections attached to widen the paver to meet the minimum lane width requirements must include additional auger sections to move the asphalt mixture uniformly along the screed extension.

The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least 1 foot; 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 from transverse joints in the previous course. Transverse joints in adjacent lanes shall be offset a minimum of 10 feet. On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the asphalt may be spread and luted by hand tools.

The RPR may at any time, reject any batch of asphalt, on the truck or placed in the mat, which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or overheated asphalt mixture. 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 RPR, and if it can be demonstrated in the laboratory, in the presence of the RPR, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

Areas of segregation in the surface course, as determined by the RPR, shall be removed and replaced at the Contractor's expense. The area shall be removed by saw cutting and milling a minimum of the construction lift thickness as specified in paragraph 403-3.3, Table 2 for the approved mix design. The area to be removed and replaced shall be a minimum width of the paver and a minimum of 10 feet long.

403-4.12 Compaction of asphalt mixture. After placing, the asphalt mixture shall be thoroughly and uniformly compacted by self-propelled rollers. The surface shall be compacted as soon as possible when the asphalt 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 surface defects and/or displacement occurring as a result of the roller, or from any other cause, shall be corrected at the Contractor's expense.

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 asphalt to the roller, the wheels shall be equipped with a scraper and kept moistened with water as necessary.

In areas not accessible to the roller, the mixture shall be thoroughly compacted with approved power tampers.

Any asphalt 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.

403-4.13 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 asphalt 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 coated with an asphalt tack coat before placing any fresh asphalt against the joint.

Longitudinal joints which are have been left exposed for more than four (4) hours; the surface temperature has cooled to less than 175°F; or are irregular, damaged, uncompacted or otherwise defective shall be cut back with a cutting wheel or pavement saw a maximum of 3 inches to expose a clean, sound, uniform vertical surface for the full depth of the course. All cutback material and any laitance produced from cutting joints shall be removed from the project. An asphalt tack coat or other product approved by the RPR shall be applied to the clean, dry joint prior to placing any additional fresh asphalt against the joint. The cost of this work shall be considered incidental to the cost of the asphalt.

403-4.14 Saw-cut grooving. Saw-cut grooving is not required.

403-4.15 Diamond grinding. Diamond grinding shall be completed prior to pavement grooving. Diamond grinding shall be accomplished by sawing with saw blades impregnated with industrial diamond abrasive.

Diamond grinding shall be performed with a machine designed specifically for diamond grinding capable of cutting a path at least 3 feet wide. The saw blades shall be 1/8-inch wide with a minimum of 55 to 60 blades per 12 inches of cutting head width; grooves between 0.090 and 0.130 inches wide; and peaks and ridges approximately 1/32 inch higher than the bottom of the grinding cut. The actual number of blades will be determined by the Contractor and depend on the hardness of the aggregate. Equipment or grinding procedures that causes raveling, aggregate fractures, spalls or disturbance to the pavement will not be permitted.

Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The slurry resulting from the grinding operation shall be continuously removed and the pavement left in a clean condition. The Contractor shall apply a surface treatment per P-608 to all areas that have been subject to grinding.

403-4.16 Nighttime Paving Requirements. The Contractor shall provide adequate lighting during any nighttime construction. A lighting plan shall be submitted by the Contractor and approved by the RPR prior to the start of any nighttime work. All work shall be in accordance with the approved CSPP and lighting plan.

CONTRACTOR QUALITY CONTROL (CQC)

403-5.1 General. The Contractor shall develop a CQCP in accordance with Item C-100. No partial payment will be made for materials without an approved CQCP.

403-5.2 Contractor quality control (QC) facilities. The Contractor shall provide or contract for testing facilities in accordance with Item C-100. The RPR shall be permitted unrestricted access to inspect the Contractor's QC facilities and witness QC activities. The RPR will advise the Contractor in writing of any noted deficiencies concerning the QC 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.

403-5.3 Quality Control (QC) testing. The Contractor shall perform all QC tests necessary to control the production and construction processes applicable to these specifications and as set forth in the approved CQCP. The testing program shall include, but not necessarily be limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, field compaction, and surface smoothness. A QC Testing Plan shall be developed as part of the CQCP.

a. Asphalt content. A minimum of two tests shall be performed per day in accordance with ASTM D6307 or ASTM D2172 for determination of asphalt content. When using ASTM D6307, the correction factor shall be determined as part of the first test performed at the beginning of plant production; and as part of every tenth test performed thereafter. The asphalt content for the day will be determined by averaging the test results.

b. Gradation. Aggregate gradations shall be determined a minimum of twice per day from mechanical analysis of extracted aggregate in accordance with ASTM D5444 and ASTM C136, and ASTM C117.

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 C566.

d. Moisture content of asphalt. The moisture content of the asphalt shall be determined once per lot in accordance with AASHTO T329 or ASTM D1461.

e. Temperatures. Temperatures shall be checked, at least four times per lot, at necessary locations to determine the temperatures of the dryer, the asphalt binder in the storage tank, the asphalt at the plant, and the asphalt 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 D2950.

g. Smoothness for Contractor Quality Control.

The Contractor shall perform smoothness testing in transverse and longitudinal directions daily to verify that the construction processes are producing pavement with variances less than $\frac{1}{4}$ inch in 12 feet, identifying areas that may pond water which could lead to hydroplaning of aircraft. If the smoothness criteria is not met, appropriate changes and corrections to the construction process shall be made by the Contractor before construction continues.

The Contractor may use a 12-foot "straightedge, a rolling inclinometer meeting the requirements of ASTM E2133 or rolling external reference device that can simulate a 12-foot straightedge approved by the RPR. Straight-edge testing shall start with one-half the length of the straightedge at the edge of pavement section being tested and then moved ahead one-half the length of the straightedge for each successive measurement. Testing shall be continuous across all joints. The surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between the two high points. If the rolling inclinometer or external reference device is used, the data may be evaluated using the FAA profile program, ProFAA, using the 12-foot straightedge simulation function.

Smoothness readings shall not be made across grade changes or cross slope transitions. The transition between new and existing pavement and between the start and stop of lanes place shall be evaluated separately for conformance with the plans.

(1) Transverse measurements. Transverse measurements shall be taken for each day's production placed. Transverse measurements will be taken perpendicular to the pavement centerline each 50 feet or more often as determined by the RPR. The joint between lanes shall be tested separately to facilitate smoothness between lanes.

(2) Longitudinal measurements. Longitudinal measurements shall be taken for each day's production placed. Longitudinal tests will be parallel to the centerline of paving; at the center of paving lanes when widths of paving lanes are less than 20 feet; and at the third points of paving lanes when widths of paving lanes are 20 ft or greater. When placement abuts previously placed material the first measurement shall start with one half the length of the straight edge on the previously placed material.

Deviations on the final surface course in either the transverse or longitudinal direction that will trap water greater than 1/4 inch shall be corrected with diamond grinding per paragraph 403-4.15 or by removing and replacing the surface course to full depth. Grinding shall be tapered in all directions to provide smooth transitions to areas not requiring grinding. All areas in which diamond grinding has been performed shall be subject to the final pavement thickness tolerances specified as follows. Thickness of each lift of surface course will be evaluated by the RPR for compliance to the requirements shown on the plans after any necessary corrections for grade. Measurements of thickness will be made using the cores extracted for each subplot for density measurement. The maximum allowable deficiency at any point will not be more than 1/4 inch (6 mm) less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, will not be less than the indicated thickness. Where the thickness tolerances are not met, the lot or subplot 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 RPR to circumscribe the deficient area. Areas that have been ground shall be sealed with a surface treatment in accordance with Item P-608. To avoid the surface treatment creating any conflict with runway or taxiway markings, it may be necessary to seal a larger area.

Control charts shall be kept to show area of each day's placement and the percentage of corrective grinding required. Corrections to production and placement shall be initiated when corrective grinding is required. If the Contractor's machines and/or methods produce significant areas that need corrective actions in excess of 10 percent of a day's production, production shall be stopped until corrective measures are implemented by the Contractor.

h. Grade. Grade shall be evaluated daily to allow adjustments to paving operations when grade measurements do not meet specifications. As a minimum, grade shall be evaluated prior to the placement of the first lift and then prior to and after placement of the surface lift.

Measurements will be taken at appropriate gradelines (as a minimum at center and edges of paving lane) and longitudinal spacing as shown on cross-sections and plans. The final surface of the pavement will not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch vertically. The documentation will be provided by the Contractor to the RPR within 24 hours.

Areas with humps or depressions that exceed grade or smoothness criteria and that retain water on the surface must be ground off provided the course thickness after grinding is not more than 1/2 inch (12 mm) less than the thickness specified on the plans. Grinding shall be in accordance with paragraph 403-4.15.

The Contractor shall repair low areas or areas that cannot be corrected by grinding by removal of deficient areas to the depth of the final course plus 1/2 inch and replacing with new material. Skin patching is not allowed.

403-5.4 Sampling. When directed by the RPR, the Contractor shall sample and test any material that 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.

403-5.5 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, asphalt content, and VMA. The VMA for each day shall be calculated and monitored by the QC laboratory.

Control charts shall be posted in a location satisfactory to the RPR and 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 RPR 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, asphalt content, and VMA. The control charts shall use the JMF 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
3/4 inch	±6%	±9%
1/2 inch	±6%	±9%
3/8 inch	±6%	±9%
No. 4	±6%	±9%
No. 16	±5%	±7.5%
No. 50	±3%	±4.5%
No. 200	±2%	±3%
Asphalt Content	±0.45%	±0.70%
Minimum VMA	-0.5%	-1.0%

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
(n = 2)**

Sieve	Suspension Limit
1/2 inch	11%
3/8 inch	11%
No. 4	11%
No. 16	9%
No. 50	6%
No. 200	3.5%
Asphalt Content	0.8%

c. Corrective action. The CQCP 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.

403-5.6 Quality control (QC) reports. The Contractor shall maintain records and shall submit reports of QC activities daily, in accordance with the CQCP described in Item C-100.

MATERIAL ACCEPTANCE

403-6.1. Quality Assurance 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 RPR at no cost to the Contractor except that coring as required in this section shall be completed and paid for by the Contractor.

a. Quality Assurance (QA) testing laboratory. The QA testing laboratory performing these acceptance tests will be accredited in accordance with ASTM D3666. The QA laboratory accreditation will be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing will be listed on the lab accreditation.

b. Lot Size. A standard lot will be equal to one day's production divided into approximately equal sublots of between 400 to 600 tons. When only one or two sublots are produced in a day's production, the sublots will be combined with the production lot from the previous or next day.

Where more than one plant is simultaneously producing asphalt for the job, the lot sizes will apply separately for each plant.

c. Asphalt air voids. Plant-produced asphalt will be tested for air voids on a subplot basis.

(1) Sampling. Material from each subplot shall be sampled in accordance with ASTM D3665. Samples shall be taken from material deposited into trucks at the plant or at the job site in accordance with ASTM D979. The sample of asphalt may be put in a covered metal tin and placed in an oven for not less than 30 minutes nor more than 60 minutes to maintain the material at or above the compaction temperature as specified in the JMF.

(2) Testing. Air voids will be determined for each subplot in accordance with ASTM D3203 for a set of three compacted specimens prepared in accordance with ASTM D6925.

d. In-place asphalt mat and joint density. Each subplot will be tested for in-place mat and joint density as a percentage of the theoretical maximum density (TMD).

(1) Sampling. The Contractor will cut minimum 5 inches diameter samples in accordance with ASTM D5361. The Contractor shall furnish all tools, labor, and materials for cleaning, and filling the cored pavement. Laitance produced by the coring operation shall be removed immediately after coring, and core holes shall be filled within one day after sampling in a manner acceptable to the RPR.

(2) Bond. Each lift of asphalt shall be bonded to the underlying layer. If cores reveal that the surface is not bonded, additional cores shall be taken as directed by the RPR to determine the extent of unbonded areas. Unbonded areas shall be removed by milling and replaced at no additional cost as directed by the RPR.

(3) Thickness. Thickness of each lift of surface course will be evaluated by the RPR for compliance to the requirements shown on the plans after any necessary corrections for grade. Measurements of thickness will be made using the cores extracted for each subplot for density measurement. The maximum allowable deficiency at any point will not be more than 1/4 inch less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, will not be less than the indicated thickness. Where the thickness tolerances are not met, the lot or subplot 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 RPR to circumscribe the deficient area.

(4) Mat density. One core shall be taken from each subplot. Core locations will be determined by the RPR in accordance with ASTM D3665. Cores for mat density shall not be taken closer than one foot (30 cm) from a transverse or longitudinal joint. The bulk specific gravity of each cored sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each subplot sample by the TMD for that subplot.

(5) Joint density. One core centered over the longitudinal joint shall be taken for each subplot which contains a longitudinal joint. Core locations will be determined by the RPR in accordance with ASTM D3665. The bulk specific gravity of each core sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each joint density sample by the average TMD for the lot. The TMD used to determine the joint density at joints formed between lots will be the lower of the average TMD values from the adjacent lots.

403-6.2 Acceptance criteria.

a. General. Acceptance will be based on the implementation of the Contractor Quality Control Program (CQCP) and the following characteristics of the asphalt and completed pavements: air voids, mat density, joint density, and grade.

b. Air voids. Acceptance of each lot of plant produced material for air voids will be based upon the average air void from the sublots. If the average air voids of the lot are equal to or greater than 2% and equal to or less than 5%, then the lot will be acceptable. If the average is below 2% or greater than 5%, the lot shall be removed and replaced at the Contractor's expense.

c. Mat density. Acceptance of each lot of plant produced material for mat density will be based on the average of all of the densities taken from the sublots. If the average mat density of the lot so established equals or exceeds 94%, the lot will be acceptable. If the average mat density of the lot is below 94%, the lot shall be removed and replaced at the Contractor's expense.

d. Joint density. Acceptance of each lot of plant produced asphalt for joint density will be based on the average of all of the joint densities taken from the sublots. If the average joint density of the lot so established equals or exceeds 92%, the lot will be acceptable. If the average joint density of the lot is less than 92%, the Contractor shall stop production and evaluate the method of compacting joints. Production

may resume once the reason for poor compaction has been determined and appropriate measures have been taken to ensure proper compaction.

e. Grade. The final finished surface of the pavement of the completed project shall be surveyed to verify that the grade elevations and cross-sections shown on the plans do not deviate more than 1/2 inch vertically.

Cross-sections of the pavement shall be taken at a minimum [50-foot (15-m)] longitudinal spacing and at all longitudinal grade breaks. Minimum cross-section grade points shall include grade at centerline, \pm 10 feet of centerline, and edge of pavement.

The survey and documentation shall be stamped and signed by a licensed surveyor. Payment for sublots that do not meet grade for over 25% of the subplot shall not be more than 95%.

403-6.3 Resampling Pavement for Mat Density.

a. General. Resampling of a lot of pavement will only be allowed for mat density and then, only if the Contractor requests same in writing, within 48 hours after receiving the written test results from the RPR. A retest will consist of all the sampling and testing procedures contained in paragraphs 403-6.1. Only one resampling per lot will be permitted.

(1) A redefined mat density will be calculated for the resampled lot. The number of tests used to calculate the redefined mat density will include the initial tests made for that lot plus the retests.

(2) The cost for resampling and retesting shall be borne by the Contractor.

b. Payment for resampled lots. The redefined mat density for a resampled lot will be used to evaluate the acceptance of that lot in accordance with paragraph 403-6.2.

c. Outliers. Check for outliers in accordance with ASTM E178, at a significance level of 5%. Outliers will be discarded and density determined using the remaining test values.

METHOD OF MEASUREMENT

403-7.1 Measurement. Plant mix asphalt mix pavement shall be measured by the number of tons of asphalt pavement used in the accepted work. Recorded batch weights or truck scale weights will be used to determine the basis for the tonnage.

BASIS OF PAYMENT

403-8.1 Payment. Payment for a lot of asphalt mixture meeting all acceptance criteria as specified in paragraph 403-6.2 shall be made at the contract unit price per ton (kg) for asphalt. The price shall be compensation for furnishing all materials, quality control, for all preparation, mixing, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-403-8.1 Asphalt Mixture Course - per ton

REFERENCES

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

ASTM International (ASTM)

ASTM C29	Standard Test Method for Bulk Density (“Unit Weight”) and Voids in Aggregate
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	Standard Test Method for Materials Finer than 75- μm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C127	Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate
ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM C183	Standard Practice for Sampling and the Amount of Testing of Hydraulic Cement
ASTM C566	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D242	Standard Specification for Mineral Filler for Bituminous Paving Mixtures
ASTM D946	Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction
ASTM D979	Standard Practice for Sampling Bituminous Paving Mixtures
ASTM D1073	Standard Specification for Fine Aggregate for Bituminous Paving Mixtures
ASTM D1074	Standard Test Method for Compressive Strength of Bituminous Mixtures
ASTM D1461	Standard Test Method for Moisture or Volatile Distillates in Bituminous Paving Mixtures
ASTM D2041	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
ASTM D2172	Standard Test Method for Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D2489	Standard Practice for Estimating Degree of Particle Coating of Bituminous-Aggregate Mixtures
ASTM D2726	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures

ASTM D2950	Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods
ASTM D3203	Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
ASTM D3381	Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
ASTM D4125	Standard Test Methods for Asphalt Content of Bituminous mixtures by the Nuclear Method
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4552	Standard Practice for Classifying Hot-Mix Recycling Agents
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D4867	Standard Test Method for Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM D5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
ASTM D5581	Standard Test Method for Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus (6 inch-Diameter Specimen)
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6307	Standard Test Method for Asphalt Content of Hot-Mix Asphalt by Ignition Method
ASTM D6373	Standard Specification for Performance Graded Asphalt Binder
ASTM D6752	Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Automatic Vacuum Sealing Method
ASTM D6925	Standard Test Method for Preparation and Determination of the Relative Density of Hot Mix Asphalt (HMA) Specimens by Means of the SuperPave Gyratory Compactor
ASTM D6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures
ASTM D6995	Standard Test Method for Determining Field VMA based on the Maximum Specific Gravity of the Mix (Gmm)
ASTM E11	Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves
ASTM E178	Standard Practice for Dealing with Outlying Observations

ASTM E2133	Standard Test Method for Using a Rolling Inclinometer to Measure Longitudinal and Transverse Profiles of a Traveled Surface
American Association of State Highway and Transportation Officials (AASHTO)	
AASHTO M156	Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures
AASHTO T329	Standard Method of Test for Moisture Content of Hot Mix Asphalt (HMA) by Oven Method
AASHTO T 340	Standard Method of Test for Determining the Rutting Susceptibility of Hot Mix Asphalt (APA) Using the Asphalt Pavement Analyzer (APA)
Asphalt Institute (AI)	
MS-2	Mix Design Manual, 7th Edition
MS-26	Asphalt Binder Handbook AI State Binder Specification Database
FAA Orders	
5300.1	Modifications to Agency Airport Design, Construction, and Equipment Standards
Federal Highway Administration (FHWA)	
Long Term Pavement Performance Binder program	
Software	
FAARFIELD	

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Item T-905 Topsoil

DESCRIPTION

905-1.1 This item shall consist of preparing the ground surface for topsoil application, removing topsoil from designated stockpiles or areas to be stripped on the site or from approved sources off the site, and placing and spreading the topsoil on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the RPR.

MATERIALS

905-2.1 Topsoil. Topsoil shall be the surface layer of soil with no admixture of refuse or any material toxic to plant growth, and it shall be reasonably free from subsoil and stumps, roots, brush, stones (2 inches (50 mm) or more in diameter), and clay lumps or similar objects. Brush and other vegetation that will not be incorporated with the soil during handling operations shall be cut and removed. Ordinary sod and herbaceous growth such as grass and weeds are not to be removed, but shall be thoroughly broken up and intermixed with the soil during handling operations. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means, shall be removed. The topsoil or soil mixture, unless otherwise specified or approved, shall have a pH range of approximately 5.5 pH to 7.6 pH, when tested in accordance with the methods of testing of the Association of Official Agricultural Chemists in effect on the date of invitation of bids. The organic content shall be not less than 3% nor more than 20% as determined by the wet-combustion method (chromic acid reduction). There shall be not less than 20% nor more than 80% of the material passing the 200 mesh (75 μm) sieve as determined by the wash test in accordance with ASTM C117.

Natural topsoil may be amended by the Contractor with approved materials and methods to meet the above specifications.

905-2.2 Inspection and tests. Within 10 days following acceptance of the bid, the RPR shall be notified of the source of topsoil to be furnished by the Contractor. The topsoil shall be inspected to determine if the selected soil meets the requirements specified and to determine the depth to which stripping will be permitted. At this time, the Contractor may be required to take representative soil samples from several locations within the area under consideration and to the proposed stripping depths, for testing purposes as specified in paragraph 905-2.1.

CONSTRUCTION METHODS

905-3.1 General. Areas to be topsoiled shall be shown on the plans. If topsoil is available on the site, the location of the stockpiles or areas to be stripped of topsoil and the stripping depths shall be shown on the plans.

Suitable equipment necessary for proper preparation and treatment of the ground surface, stripping of topsoil, and for the handling and placing of all required materials shall be on hand, in good condition, and approved by the RPR before the various operations are started.

905-3.2 Preparing the ground surface. Immediately prior to dumping and spreading the topsoil on any area, the surface shall be loosened by discs or spike-tooth harrows, or by other means approved by the RPR, to a minimum depth of 2 inches (50 mm) to facilitate bonding of the topsoil to the covered subgrade

soil. The surface of the area to be topsoiled shall be cleared of all stones larger than 2 inches in any diameter and all litter or other material which may be detrimental to proper bonding, the rise of capillary moisture, or the proper growth of the desired planting. Limited areas, as shown on the plans, which are too compact to respond to these operations shall receive special scarification.

Grades on the area to be topsoiled, which have been established by others as shown on the plans, shall be maintained in a true and even condition. Where grades have not been established, the areas shall be smooth-graded and the surface left at the prescribed grades in an even and compacted condition to prevent the formation of low places or pockets where water will stand.

905-3.3 Obtaining topsoil. Prior to the stripping of topsoil from designated areas, any vegetation, briars, stumps and large roots, rubbish or stones found on such areas, which may interfere with subsequent operations, shall be removed using methods approved by the RPR. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means shall be removed.

When suitable topsoil is available on the site, the Contractor shall remove this material from the designated areas and to the depth as directed by the RPR. The topsoil shall be spread on areas already tilled and smooth-graded, or stockpiled in areas approved by the RPR. Any topsoil stockpiled by the Contractor shall be rehandled and placed without additional compensation. Any topsoil that has been stockpiled on the site by others, and is required for topsoil purposes, shall be removed and placed by the Contractor. The sites of all stockpiles and areas adjacent thereto which have been disturbed by the Contractor shall be graded if required and put into a condition acceptable for seeding.

When suitable topsoil is secured off the airport site, the Contractor shall locate and obtain the supply, subject to the approval of the RPR. The Contractor shall notify the RPR sufficiently in advance of operations in order that necessary measurements and tests can be made. The Contractor shall remove the topsoil from approved areas and to the depth as directed. The topsoil shall be hauled to the site of the work and placed for spreading, or spread as required. Any topsoil hauled to the site of the work and stockpiled shall be rehandled and placed without additional compensation.

905-3.4 Placing topsoil. The topsoil shall be evenly spread on the prepared areas to a uniform depth of 2 inches (50 mm) after compaction, unless otherwise shown on the plans or stated in the special provisions. Spreading shall not be done when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to the work. Spreading shall be carried on so that turfing operations can proceed with a minimum of soil preparation or tilling.

After spreading, any large, stiff clods and hard lumps shall be broken with a pulverizer or by other effective means, and all stones or rocks (2 inches (50 mm) or more in diameter), roots, litter, or any foreign matter shall be raked up and disposed of by the Contractor. After spreading is completed, the topsoil shall be satisfactorily compacted by rolling with a cultipacker or by other means approved by the RPR. The compacted topsoil surface shall conform to the required lines, grades, and cross-sections. Any topsoil or other dirt falling upon pavements as a result of hauling or handling of topsoil shall be promptly removed.

METHOD OF MEASUREMENT

905-4.1 Topsoil obtained on the site shall be measured by the number of cubic yards (cubic meters) of topsoil measured in its original position and stripped or excavated. Topsoil stockpiled by others and removed for topsoil by the Contractor shall be measured by the number of cubic yards (cubic meters) of topsoil measured in the stockpile. Topsoil shall be measured by volume in cubic yards (cubic meters) computed by the method of end areas.

905-4.2 Topsoil obtained off the site shall be measured by the number of cubic yards (cubic meters) of topsoil measured in its original position and stripped or excavated. Topsoil shall be measured by volume in cubic yards (meters) computed by the method of end areas.

BASIS OF PAYMENT

905-5.1 Payment will be made at the contract unit price per cubic yard for topsoil (obtained on the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

905-5.2 Payment will be made at the contract unit price per cubic yard (cubic meter) for topsoil (obtained off the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

905-5.3 Payment in both situations (905-5.1 & 905-5.2) shall be made at the contract unit price per cubic yard of topsoil obtained. Payment for the stockpiling, relocating, spreading, and all other incidentals necessary to install topsoil shall be incidental to the contract unit price for T-905-5.1.

Payment will be made under:

Item T-905-5.1 Topsoil (Obtained on Site or Removed from Stockpile) - per cubic yard

REFERENCES

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

ASTM International (ASTM)

ASTM C117 Materials Finer than 75 μm (No. 200) Sieve in Mineral Aggregates by Washing

Advisory Circulars (AC)

AC 150/5200-33 Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

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