Addendum #1

TULSA AIRPORT IMPROVEMENT TRUST (TAIT)

TULSA RIVERSIDE AIRPORT (RVS)

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT

TAIT PROJECT #70722

December 5, 2025

Prepared by:

43671 Trade Center Pl

Suite 130

Sterling, VA 20166

703.709.2540

Addendum No. 1

December 5th, 2025

Tulsa Airport Improvement Trust (TAIT)
Tulsa Riverside Airport (TUL)
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 plan sheets GN01.0001 (Index of Drawings and General Notes), GN01.0002 (Summary of Quantities, Legend & Abbreviation), EL01.0001 (Electrical Plan), and EL02.0001 (Electrical Details) of Project Drawings dated November 17, 2025, with the reissued Drawings that contain "Addendum 1" dated December 5, 2025, within the revision block.
    a. Updates include but are not limited to:
        i. Update to index to indicate New Sheets.
        ii. Update to Summary of Quantities to include new Electrical Items and Quantities.
        iii. Update to include additional/modified Electrical Design Parameters.
2. Add plan sheets EL02.0002 (Electrical Details 2) and EL02.0003 (Electrical Details 3) to Project Drawings dated November 17, 2025, with the new Project Drawings that contain "Addendum 1" dated December 5, 2025, within the revision block.
    a. Includes but are not limited to:
        i. New Electrical Design Parameters.

B. Project Quantities

a. Replace Bid Tab sheet dated November 17, 2025, with Bid Tab sheet dated December 5, 2025.

i. Item No. 23, L-100-5.1, “Remove Non-Encased Ductbank, 24” deep, 1W-2inch PVC in turf” with a quantity of 400 LF was removed.
ii. Item No. 24, L-110-5.1, “Non-Encased Electrical Conduit, 1W – 4 inch PVC” with a quantity of 750 LF was removed.
iii. Item No. 25, L-110-5.2, “Concrete-Encased Electrical Conduit, 1W – 4 inch PVC” with a quantity of 36 LF was removed.
iv. Item No. 26, L-110-5.3, “Electrical Pull Box” with a quantity of 6 EA was removed.
v. Item No. 23, L-100-5.1, “Remove and Salvage Gate Arm and Operator” with a quantity of 1 LS was added.
vi. Item No. 24, L-100-5.2, “Remove and Salvage Four Bollards” with a quantity of 1 LS was added.
vii. Item No. 25, L-100-5.3, “Remove and Salvage Light Pole and Fixture” with a quantity of 1 LS was added.
viii. Item No. 26, L-100-5.4, “Remove and Salvage Keypad and Stanchion” with a quantity of 1 LS was added.
ix. Item No. 27, L-100-5.5, “Remove and Salvage Electrical Rack” with a quantity of 1 LS was added.
x. Item No. 28, L-100-5.6, “Remove Non-Encased Duct Bank, 24” deep, 1W-PVC in turf” with a quantity of 855 LF was added.
xi. Item No. 29, L-100-5.7, “Demolish and Remove Concrete Foundations” with a quantity of 1 LS was added.
xii. Item No. 30, L-110-5.1, “Construct New Foundations” with a quantity of 1 LS was added.
xiii. Item No. 31, L-110-5.2, “Furnish and Install Conduit and Cable in Turf” with a quantity of 60 LF was added.
xiv. Item No. 32, L-110-5.3, “Furnish and Install Conduit and Cable Under Pavement” with a quantity of 40 LF was added.
xv. Item No. 33, L-110-5.4, “Install Gate Arm and Operator” with a quantity of 1 LS was added.
xvi. Item No. 34, L-110-5.5, “Cut Asphalt, Furnish and Install Loop Detector Cables” with a quantity of 1 LS was added.
xvii. Item No. 35, L-110-5.6, “Install Four Bollards” with a quantity of 1 LS was added.
xviii. Item No. 36, L-110-5.7, “Install Keypad and Stanchion” with a quantity of 1 LS was added.
xix. Item No. 37, L-110-5.8, “Install Light Pole and Fixture” with a quantity of 1 LS was added.
xx. Item No. 37, L-110-5.9, “Install Electrical Rack” with a quantity of 1 LS was added.

C. Project Technical Specifications

a. Replace L-100 (Demolition and Temporary Work) dated November 17, 2025, with L-100 (Demolition and Temporary Work) dated December 5, 2025.
    i. Additions/Modifications were made to the itemized quantities.

b. Replace L-110 (Airport Underground Electrical Duct Banks and Conduits) dated November 17, 2025, with L-110 (Airport Underground Electrical Duct Banks and Conduits) dated December 5, 2025.
    i. Additions/Modifications were made to the itemized quantities.

BID SHEETS

REALIGNED TAXILANE TB AND PERIMETER ROAD PROJECT ["Project"]

Addendum 01 – 12/05/2025

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	4,650		
11	P-152-4.2	Spoils (Haul Out or Stockpile on Site)	CY	1,200		
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	3,500		
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 Founations	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

RVS SHEET INDEX		
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

1

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 TREMMEL, 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.

NO.	REVISION	DATE
1	ADDENDUM 1	12/04/2025

RDM International, Inc.
43671 Trade Center Pl.
Suite 130
Sterling, VA 20166
T.703.709.2540
F.703.709.2535
www.rdmintlinc.com

BID SET

LICENSED PROFESSIONAL ENGINEER
CHRISTOPHER S. DECKER
25435
OKLAHOMA

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

Tulsa Riverside Airport

TULSA AIRPORTS IMPROVEMENT TRUST (TAIT)

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT

TULSA RIVERSIDE AIRPORT (RVS)
TULSA, OK

INDEX OF DRAWINGS & GENERAL NOTES

PROJECT IDENTIFIER	70722
SHEET NAME	GN01.0001
VOLUME NUMBER	1 of 1
SHEET NUMBER	2 of 48

Filename:....\RVSGN01.0001 INDEX_GENERAL NOTES.dwg

1

ITEM NO.	SPEC - ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	AS-BUILT QUANTITY
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	4,650	
11	P-152-4.2	Spoils (Haul Out or Stockpile on Site)	CY	1,200	
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	
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	3,500	
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 Founations	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	

1

ABBREVIATIONS

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
ADG	AIRPORT DESIGN GROUP
AE	AIRPORT ENGINEER
AOA	AIRCRAFT OPERATIONS AREA
APPROX.	APPROXIMATELY
ATG	ADJUST TO GRADE
AVE	AVENUE
BIT	BITUMINOUS (ASPHALTIC)
BLDG	BUILDING
BLVD	BOULEVARD
BM	BENCHMARK
CABC	CRUSHED AGGREGATE BASE COURSE
CF	CUBIC FEET
CL	CENTERLINE
CLF	CHAIN LINK FENCE
CLR.	CLEAR
CB	CATCH BASIN
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CMP	CORRUGATED METAL PIPE
COTR	CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE
CSPP	CONSTRUCTION SAFETY AND PHASING PLAN
CTB	CEMENT TREATED BASE COURSE
CTR.	CENTER
DIA or Ø	DIAMETER
EX.	EXISTING
E	EAST OR EASTING
EG	EXISTING GRADE (OR GROUND)
ELEV.	ELEVATION
EP	EDGE OF PAVEMENT
ETR	EXISTING TO REMAIN
FAA	FEDERAL AVIATION ADMINISTRATION
FBO	FIXED BASE OPERATOR
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FT.	FEET
G	GAS LINE
GA.	GAUGE
GAL.	GALLON
GALV	GALVANIZED
GB	GRADE BREAK
GS	GROUND SHOT
HDPE	HIGH DENSITY POLYETHYLENE
HMA	HOT MIX ASPHALT
HORIZ	HORIZONTAL
HP	HIGH POINT
HRS.	HOURS
I.E.	INVERT ELEVATION
IN.	INCHES
JT.	JOINT
L	LENGTH
LBS.	POUNDS
LF	LINEAR FEET
LT.	LEFT
MAX.	MAXIMUM
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MPH	MILES PER HOUR
N	NORTH OR NORTHING
(N)	NEW
N/A	NOT APPLICABLE
NO.	NUMBER
NTS	NOT TO SCALE
O.C.	ON CENTER
PCC	PORTLAND CEMENT CONCRETE
PIP	PROTECT IN PLACE
PVC	POLY-VINYL CHLORIDE
R	REINFORCEMENT
RAD.	RADIUS
R&R	REMOVE & REPLACE
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RT.	RIGHT
REQ	REQUIRED
RSA	RUNWAY SAFETY AREA
RWY	RUNWAY
SDMH	STORM DRAIN MANHOLE
SF	SQUARE FEET
SIDA	SECURITY IDENTIFICATION DISPLAY AREA
SG	STRAIGHT GRADE
SHDR	SHOULDER
SQ.	SQUARE
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
ST	STREET
STA	STATION
STD	STANDARD
TEL.	TELEPHONE LINE
TC	TOP OF CURB
TERM	TERMINAL
TG	TOP OF GRATE
TXL	TAXILANE
TOE	TOE OF BANK
TOP	TOP OF BANK
TWY	TAXIWAY
TYP.	TYPICAL
U/G	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
USA	UNDERGROUND SERVICE ALERT
VAR	VARIES
VASI	VISUAL APPROACH SLOPE INDICATOR
VERT	VERTICAL
VIF	VERIFY IN FIELD
VSR	VEHICLE SERVICE ROAD
VG	VALLEY GUTTER
WAT.	WATER LINE
W/	WITH
W/O	WITHOUT
WV	WATER VALVE
WWM	WELDED WIRE MESH

SYMBOLS

ACS MONUMENT

ROAD OFF LIMITS TO CONTRACTOR VEHICLES

DESIGNATED CONTRACTOR HAUL ROUTE

DESIGNATED TEMPORARY VSR ROUTE

IP — INLET PROTECTION

× 290.17 — EXISTING SPOT ELEVATION

× 289.17 — PROPOSED SPOT ELEVATION

REFLECTIVE PAVEMENT MARKER

EXISTING INLET

EXISTING SIGN

CO — EXISTING CLEANOUT

EXISTING TAXIWAY LIGHTS

LINESTYLES

STAGING AREA

CLOSURE BARRCADES

WORK AREA

TEMPORARY STOCK PILE LOCATION

TEMPORARY ROAD FOR MAINTENANCE

X X — AOA SECURITY FENCE

LEASE-AREAS

STM STM — EXISTING STORM SEWER PIPE

FO — EXISTING FIBER OPTIC LINE

UT UT — EXISTING COMMUNICATION LINE

WTR — EXISTING WATER PIPE

UG UG — EXISTING GAS LINE

OHE — EXISTING ELECTRICAL LINE

12.2 — EXISTING CONTOUR

12 — PROPOSED MAJOR CONTOUR

12.2 — PROPOSED MINOR CONTOUR

X / CV##.#### — CUT SECTION; SHEET NUMBER WHERE CUT SECTION DETAIL CAN BE FOUND

X / CV##.#### — DETAIL; SHEET NUMBER WHERE DETAIL CAN BE FOUND

NO.	REVISION	DATE
1	ADDENDUM 1	12/04/2025

RDM International, Inc.
43671 Trade Center Pl.
Suite 130
Sterling, VA 20166
T.703.709.2540
F.703.709.2535
www.rdmintlinc.com

BID SET

CHRISTOPHER S. DECKER — 25435 — LICENSED PROFESSIONAL ENGINEER — OKLAHOMA

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

Tulsa Riverside Airport

TULSA AIRPORTS IMPROVEMENT TRUST (TAIT)

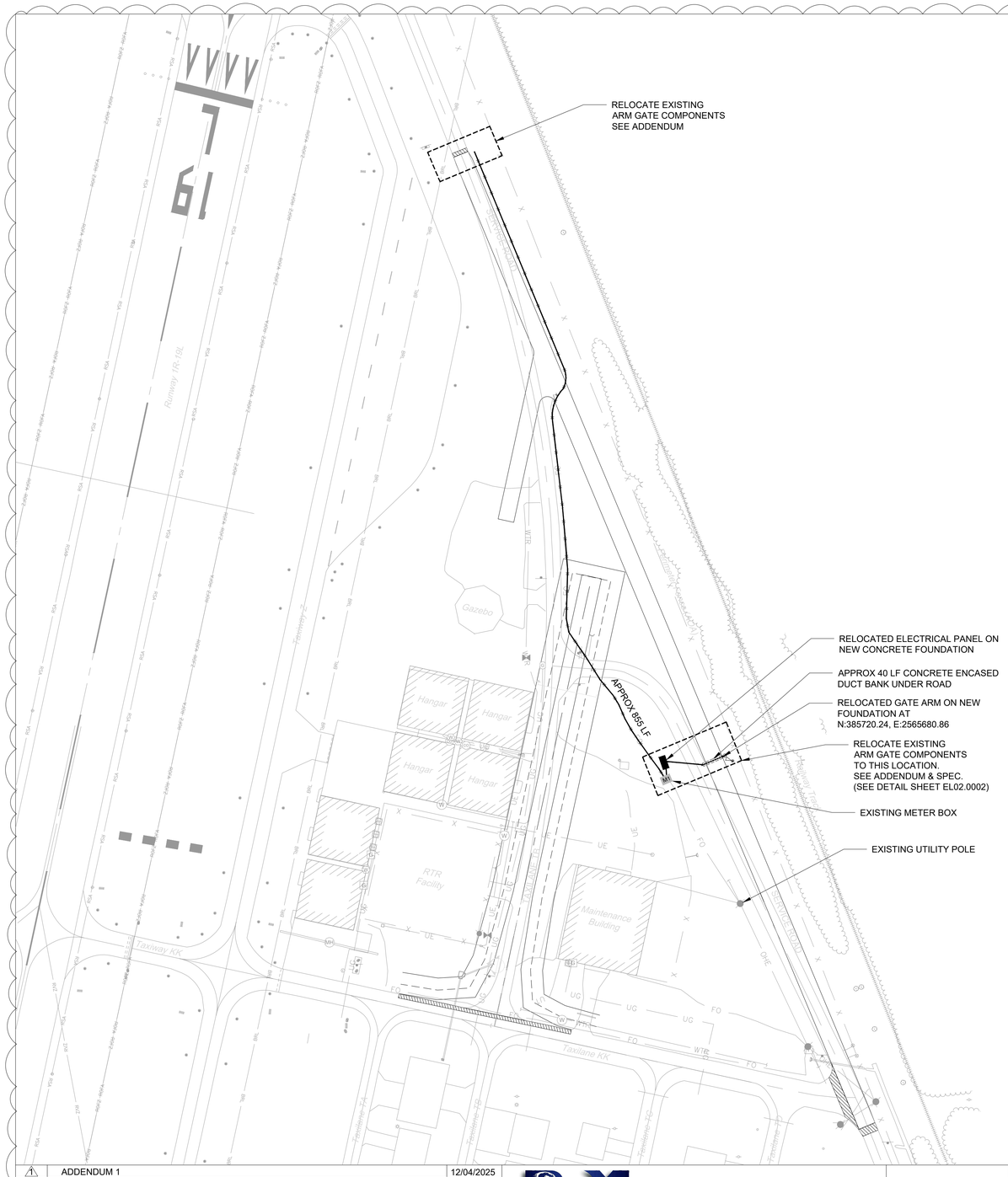
TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT

TULSA RIVERSIDE AIRPORT (RVS)
TULSA, OK

SUMMARY OF QUANITIES, LEGEND & ABBREVIATIONS

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

Filename:....\RVSGN01.0002 SOQ.dwg



LEGEND

- EXISTING FIBER OPTIC CONDUIT
- REMOVE EXISTING CONDUIT
- NEW DIRECT BURY 3" PVC CONDUIT (SEE 1/EL02.0001)
- EXISTING CONDUIT
- M# EXISTING METER BOX
- NEW CONCRETE ENCASED DUCT BANK (SEE 2/EL02.0001)

ELECTRICAL SCOPE OF WORK

1. REMOVE AND SALVAGE BARRIER ARM GATE AND OPERATOR. STORE FOR REUSE.
2. REMOVE AND SALVAGE FOUR (4) BOLLARDS. STORE FOR REUSE.
3. REMOVE AND SALVAGE LIGHT POLE. STORE FOR REUSE.
4. REMOVE AND SALVAGE GATE ACCESS KEY PAD AND STANCHION. STORE FOR REUSE.
5. REMOVE AND SALVAGE ELECTRICAL RACK. STORE FOR REUSE.
6. REMOVE EXISTING UNDERGROUND ELECTRICAL CONDUIT.
7. DEMOLISH AND REMOVE CONCRETE FOUNDATIONS.
8. CONSTRUCT NEW FOUNDATIONS
9. FURNISH AND INSTALL NEW CONDUIT AND CABLE AS SHOWN ON THE PLANS, OR PER MANUFACTURER'S INSTRUCTIONS.
10. INSTALL BARRIER ARM AND OPERATOR.
11. CUT ASPHALT, FURNISH AND INSTALL LOOP DETECTOR CABLES.
12. INSTALL BOLLARDS. (SEE 2/EL02.0002)
13. INSTALL GATE ACCESS KEY PAD AND STANCHION (SEE 1/EL02.0002)
14. INSTALL LIGHT POLE. (SEE 6/EL02.0002)
15. INSTALL ELECTRICAL RACK. (SEE 3/EL02.0002)

N

150' 0 150' 300'
SCALE: FULL SIZE

NO.	REVISION	DATE
1	ADDENDUM 1	12/04/2025

RDM International, Inc.
43671 Trade Center Pl.
Suite 130
Sterling, VA 20166
T.703.709.2540
F.703.709.2535
www.rdmintlinc.com

LICENSED PROFESSIONAL ENGINEER
CHRISTOPHER S. DECKER
25435
OKLAHOMA

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

Tulsa Riverside Airport

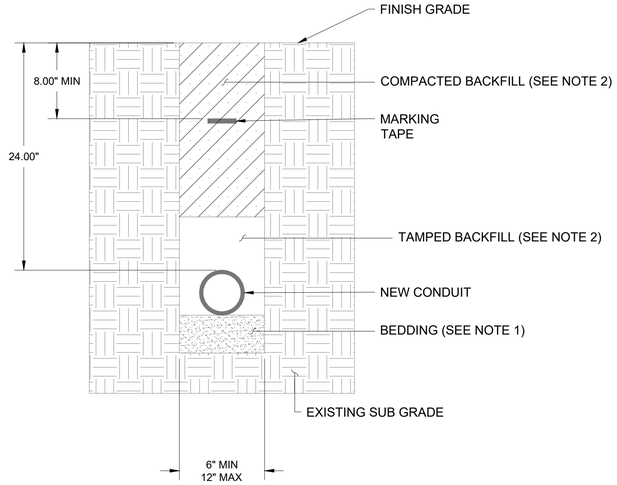
TULSA AIRPORTS IMPROVEMENT TRUST (TAIT)

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

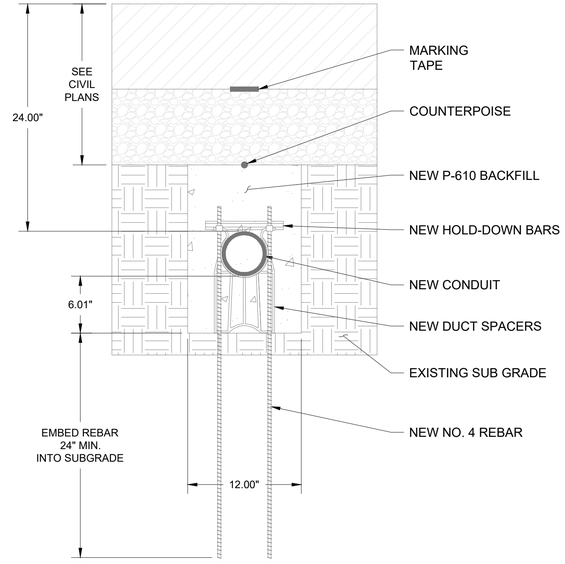


NOTES FOR CONDUIT

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

NTS



2 / EL02.0001 — 1W-4" NEW CONCRETE-ENCASED PVC DUCT BANK UNDER NEW PAVEMENT

NTS

NO.	REVISION	DATE
1	ADDENDUM 1	12/04/2025

RDM International, Inc.
43671 Trade Center Pl.
Suite 130
Sterling, VA 20166
T.703.709.2540
F.703.709.2535
www.rdmintlinc.com

CHRISTOPHER S. DECKER 25435 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

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

Tulsa Riverside Airport

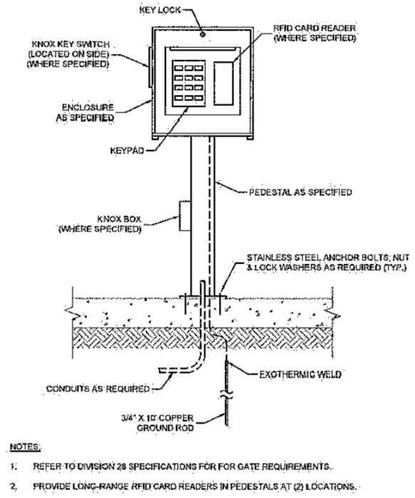
TULSA AIRPORTS IMPROVEMENT TRUST (TAIT)

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT

TULSA RIVERSIDE AIRPORT (RVS)
TULSA, OK

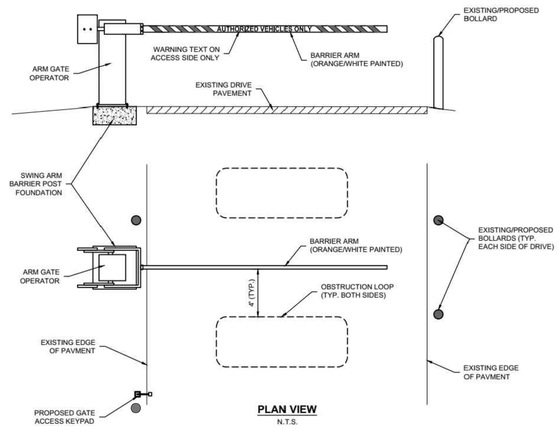
ELECTRICAL DETAILS

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



1 EL02.0002 TYPICAL KEYPAD PEDESTAL DETAIL

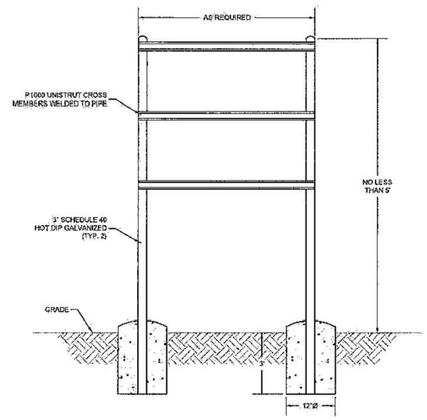
NTS



DETAIL NOTES:
1. LAYOUT AND MARK EQUIPMENT PROPOSED EQUIPMENT LOCATIONS AND OBTAIN APPROVAL FROM THE AIRPORT PRIOR TO EXCAVATION AND INSTALLATION.
2. CUT PAVEMENT AND INSTALL LOOP DETECTORS AS SHOWN.

2 EL02.0002 TYPICAL GATE SWING ARM DETAIL

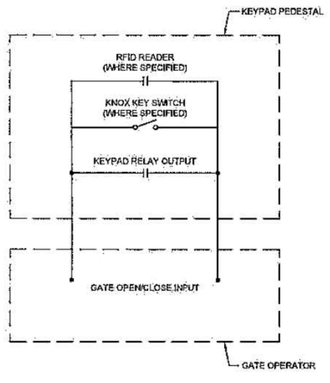
NTS



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.

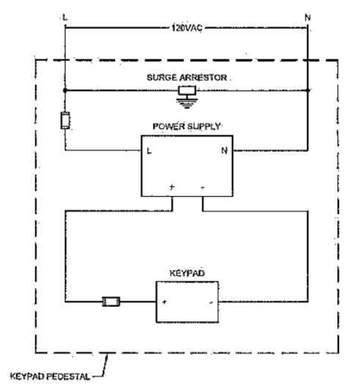
3 EL02.0002 ELECTRICAL RACK DETAIL

NTS



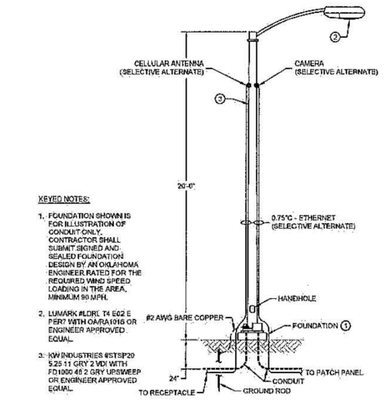
4 EL02.0002 TYPICAL GATE SECURITY ACCESS CONTROL SCHEMATIC

NTS



5 EL02.0002 TYPICAL GATE SECURITY POWER SCHEMATIC

NTS



6 EL02.0002 AREA LIGHT POLE DETAIL

NTS

NO.	REVISION	DATE
1	ADDENDUM 1	12/04/2025

RDM International, Inc.
43671 Trade Center Pl.
Suite 130
Sterling, VA 20166
T.703.709.2540
F.703.709.2535
www.rdmintlinc.com

CHRISTOPHER S. DECKER 25435 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

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

Tulsa Riverside Airport

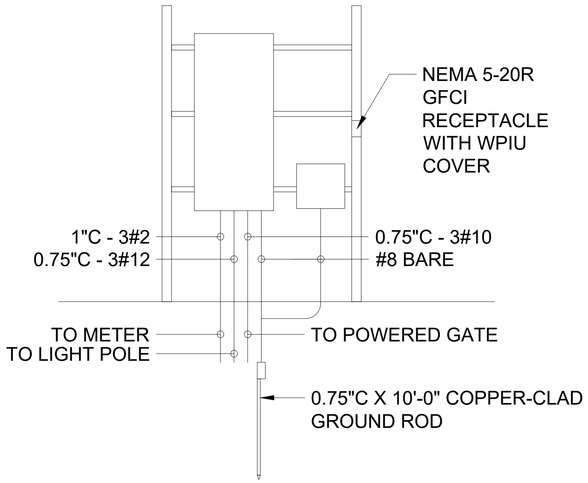
TULSA AIRPORTS IMPROVEMENT TRUST (TAIT)

TAXILANE TB AND PERIMETER ROAD REALIGNMENT PROJECT

TULSA RIVERSIDE AIRPORT (RVS)
TULSA, OK

ELECTRICAL DETAILS 2

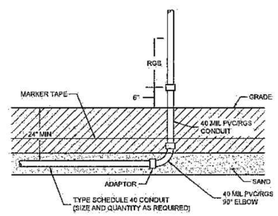
PROJECT IDENTIFIER	70722
SHEET NAME	EL02.0002
VOLUME NUMBER	1 of 1
SHEET NUMBER	47 of 48



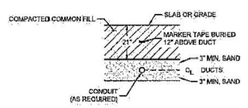
1 EL02.0003 ELECTRICAL RACK DETAIL
NTS

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

2 EL02.0003 PANELBOARD SCHEDULE
NTS



3 EL02.0003 DUCT BANK SECTION
NTS



4 EL02.0003 TYPICAL CONDUIT DETAIL
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.

NO.	REVISION	DATE
1	ADDENDUM 1	12/04/2025

RDM International, Inc.
43671 Trade Center Pl.
Suite 130
Sterling, VA 20166
T.703.709.2540
F.703.709.2535
www.rdmintlinc.com

CHRISTOPHER S. DECKER 25435 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

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

Tulsa Riverside Airport

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 L-100 Demolition and Temporary Work

DESCRIPTION

100-1.1 This item shall consist of demolition and removal of existing conduit.

EQUIPMENT AND MATERIALS

100-2.1 General

a. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the RPR.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials, that comply with these specifications, at the Contractor's cost.

c. All materials and equipment used to construct this item shall be submitted to the Engineer for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the plans and specifications. The Contractor's submittals shall be **electronically submitted in pdf format, tabbed by specification section.** The RPR reserves the right to reject any and all equipment, materials or procedures, that do not meet the system design and the standards and codes, specified in this document.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least **twelve (12) months** from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

CONSTRUCTION METHODS

100-3.1 Not Used.

METHOD OF MEASUREMENT

100-4.1 Removal of equipment shall be measured by the lump sum for removal of the equipment item and temporary storage.

100-4.2 Demolish and removal shall be measure by the demolition of all concrete foundations and the existing gate arm site.

BASIS OF PAYMENT

100-5.1 Payment will be made at the contract unit price for non-encased duct removal completed by the Contractor and accepted by the RPR. The price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item L-100-5.1	Remove and Salvage Gate Arm and Operator – per lump sum
Item L-100-5.2	Remove and Salvage Four Bollards – per lump sum
Item L-100-5.3	Remove and Salvage Light Pole and Fixture – per lump sum
Item L-100-5.4	Remove and Salvage Keypad and Stanchion – per lump sum
Item L-100-5.5	Remove and Salvage Electrical Rack – per lump sum
Item L-100-5.6	Remove Non-Encased Duct Bank, 24” Deep, 1W-PVC in Turf – per linear foot
Item L-100-5.7	Demolish and Remove Concrete Foundations.

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.

American National Standards Institute / Insulated Cable Engineers Association (ANSI/ICEA)

ANSI/IEEE STD 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

Advisory Circular (AC)

AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors

AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-53	Airport Lighting Equipment Certification Program

Commercial Item Description (CID)

A-A 59544	Cable and Wire, Electrical (Power, Fixed Installation)

ASTM International (ASTM)

ASTM A27	Standard Specification for Steel Castings, Carbon, for General Application
ASTM A47	Standard Specification for Ferritic Malleable Iron Castings
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A123	Standard Specification for Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A897	Standard Specification for Austempered Ductile Iron Castings
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C206	Standard Specification for Finishing Hydrated Lime

FAA Engineering Brief (EB)

EB #83 In Pavement Light Fixture Bolts

Mil Spec

MIL-P-21035	Paint High Zinc Dust Content, Galvanizing Repair

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)

END OF ITEM L-100

Page Intentionally Blank

Item L-110 Airport Underground Electrical Duct Banks and Conduits

DESCRIPTION

110-1.1 This item shall consist of underground electrical conduits and duct banks (single or multiple conduits encased in concrete or buried in sand) installed per this specification at the locations and per the dimensions, designs, and details shown on the plans. This item shall include furnishing and installing of all underground electrical duct banks and individual and multiple underground conduits. It shall also include all turfing trenching, backfilling, removal, and restoration of any paved or turfed areas; concrete encasement, mandrelling, pulling lines, duct markers, plugging of conduits, and the testing of the installation as a completed system ready for installation of cables per the plans and specifications. This item shall also include furnishing and installing conduits and all incidentals for providing positive drainage of the system. Verification of existing ducts is incidental to the pay items provided in this specification.

EQUIPMENT AND MATERIALS

110-2.1 General

a. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the RPR.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, that comply with these specifications, at the Contractor's cost.

c. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the plans and specifications. The Contractor's submittals shall be **electronically submitted in pdf format, tabbed by specification selection.** The RPR reserves the right to reject any and all equipment, materials or procedures, that do not meet the system design and the standards and codes, specified in this document.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for at least **twelve (12) months** from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

110-2.2 Steel conduit. Rigid galvanized steel (RGS) conduit and fittings shall be hot dipped galvanized inside and out and conform to the requirements of Underwriters Laboratories Standards 6, 514B, and 1242. All RGS conduits or RGS elbows installed below grade, in concrete, permanently wet locations or other similar environments shall be painted with a 10-mil thick coat of asphaltum sealer or shall have a factory-bonded polyvinyl chloride (PVC) cover. Any exposed galvanizing or steel shall be coated with 10 mil of asphaltum sealer. When using PVC coated RGS conduit, care shall be exercised not to damage the factory PVC coating. Damaged PVC coating shall be repaired per the manufacturer's written instructions. In lieu of PVC coated RGS, corrosion wrap tape shall be permitted to be used where RGS is in contact with direct earth.

110-2.3 Plastic conduit. Plastic conduit and fittings-shall conform to the following requirements:

- UL 514B covers W-C-1094-Conduit fittings all types, classes 1 thru 3 and 6 thru 10.
- UL 514C covers W-C-1094- all types, Class 5 junction box and cover in plastic (PVC).
- UL 651 covers W-C-1094-Rigid PVC Conduit, types I and II, Class 4.
- UL 651A covers W-C-1094-Rigid PVC Conduit and high density polyethylene (HDPE) Conduit type III and Class 4.

Underwriters Laboratories Standards UL-651 and Article 352 of the current National Electrical Code shall be one of the following, as shown on the plans:

a. Type I–Schedule 40 PVC suitable for underground use either direct-buried or encased in concrete.

b. Type II–Schedule 40 PVC suitable for either above ground or underground use.

c. Type III – Schedule 80 PVC suitable for either above ground or underground use either direct-buried or encased in concrete.

d. Type III –HDPE pipe, minimum standard dimensional ratio (SDR) 11, suitable for placement with directional boring under pavement.

The type of solvent cement shall be as recommended by the conduit/fitting manufacturer.

110-2.4 Split conduit. Split conduit shall be pre-manufactured for the intended purpose and shall be made of steel or plastic.

110-2.5 Conduit spacers. Conduit spacers shall be prefabricated interlocking units manufactured for the intended purpose. They shall be of double wall construction made of high grade, high density polyethylene complete with interlocking cap and base pads, They shall be designed to accept No. 4 reinforcing bars installed vertically.

110-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

110-2.7 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plan Certification Program or another RPR approved third party certification program. Precast concrete structures shall conform to ASTM C478.

110-2.8 Flowable backfill. Flowable material used to back fill conduit and duct bank trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.

110-2.9 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) red (electrical power lines, cables, conduit and lighting cable), orange (telephone/fiber optic cabling) with continuous legend magnetic tape shall be polyethylene film with a metallized foil core and shall be 3-6 inches wide. Detectable tape is incidental to the respective bid item.

CONSTRUCTION METHODS

110-3.1 General. The Contractor shall install underground duct banks and conduits at the approximate locations indicated on the plans. The RPR shall indicate specific locations as the work progresses, if required to differ from the plans. Duct banks and conduits shall be of the size, material, and type indicated on the plans or specifications. Where no size is indicated on the plans or in the specifications, conduits shall be not less than 2 inches inside diameter or comply with the National Electrical Code based on cable to be installed, whichever is larger. All duct bank and conduit lines shall be laid so as to grade toward access points and duct or conduit ends for drainage. Unless shown otherwise on the plans, grades shall be at least 3 inches per 100 feet . On runs where it is not practicable to maintain the grade all one way, the duct bank and conduit lines shall be graded from the center in both directions toward access points or conduit ends, with a drain into the storm drainage system. Pockets or traps where moisture may accumulate shall be avoided. Under pavement, the top of the duct bank shall not be less than 18 inches below the subgrade; in other locations, the top of the duct bank or underground conduit shall be not less than 18 inches below finished grade.

The Contractor shall mandrel each individual conduit whether the conduit is direct-buried or part of a duct bank. An iron-shod mandrel, not more than 1/4 inch smaller than the bore of the conduit shall be pulled or pushed through each conduit. The mandrel shall have a leather or rubber gasket slightly larger than the conduit hole.

The Contractor shall swab out all conduits/ducts and clean base can, manhole, pull boxes, etc., interiors IMMEDIATELY prior to pulling cable. Once cleaned and swabbed the light bases, manholes, pull boxes, etc., and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, base cans, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be recleaned at the Contractor's expense. All accessible points shall be kept closed when not installing cable. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the RPR of any blockage in the existing ducts.

For pulling the permanent wiring, each individual conduit, whether the conduit is direct-buried or part of a duct bank, shall be provided with a 200 pound test polypropylene pull rope. The ends shall be secured and sufficient length shall be left in access points to prevent it from slipping back into the conduit. Where spare

conduits are installed, as indicated on the plans, the open ends shall be plugged with removable tapered plugs, designed for this purpose.

All conduits shall be securely fastened in place during construction and shall be plugged to prevent contaminants from entering the conduits. Any conduit section having a defective joint shall not be installed. Ducts shall be supported and spaced apart using approved spacers at intervals not to exceed 5 feet .

Unless otherwise shown on the plans, concrete encased duct banks shall be used when crossing under pavements expected to carry aircraft loads, such as runways, taxiways, taxilanes, ramps and aprons. When under paved shoulders and other paved areas, conduit and duct banks shall be encased using flowable fill for protection.

All conduits within concrete encasement of the duct banks shall terminate with female ends for ease in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored.

Trenches for conduits and duct banks may be excavated manually or with mechanical trenching equipment unless in pavement, in which case they shall be excavated with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of shoulder surface is disturbed. Blades of graders shall not be used to excavate the trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches below the required conduit or duct bank depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4 inch sieve. Flowable backfill may alternatively be used.

Underground electrical warning (Caution) tape shall be installed in the trench above all underground duct banks and conduits in unpaved areas. Contractor shall submit a sample of the proposed warning tape for approval by the Engineer. If not shown on the plans, the warning tape shall be located 6 inches above the duct/conduit or the counterpoise wire if present.

Joints in plastic conduit shall be prepared per the manufacturer’s recommendations for the particular type of conduit. Plastic conduit shall be prepared by application of a plastic cleaner and brushing a plastic solvent on the outside of the conduit ends and on the inside of the couplings. The conduit fitting shall then be slipped together with a quick one-quarter turn twist to set the joint tightly. Where more than one conduit is placed in a single trench, or in duct banks, joints in the conduit shall be staggered a minimum of 2 feet.

Changes in direction of runs exceeding 10 degrees, either vertical or horizontal, shall be accomplished using manufactured sweep bends.

Whether or not specifically indicated on the drawings, where the soil encountered at established duct bank grade is an unsuitable material, as determined by the RPR, the unsuitable material shall be removed per Item P-152 and replaced with suitable material. Alternatively, additional duct bank supports that are adequate and stable shall be installed, as approved by the RPR.

All excavation shall be unclassified and shall be considered incidental to Item L-110. Dewatering necessary for duct installation, and erosion per federal, state, and local requirements is incidental to Item L-110.

Unless otherwise specified, excavated materials that are deemed by the RPR to be unsuitable for use in backfill or embankments shall be removed and disposed of offsite.

Any excess excavation shall be filled with suitable material approved by the RPR and compacted per Item P-152.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

a. Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred

b. Trenching, etc., in cable areas shall then proceed with approval of the RPR, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair.

110-3.2 Duct banks. Unless otherwise shown in the plans, duct banks shall be installed so that the top of the concrete envelope is not less than 18 inches below the bottom of the base or stabilized base course layers where installed under runways, taxiways, aprons, or other paved areas, and not less than 18 inches below finished grade where installed in unpaved areas.

Unless otherwise shown on the plans, duct banks under paved areas shall extend at least 3 feet beyond the edges of the pavement or 3 feet beyond any under drains that may be installed alongside the paved area. Trenches for duct banks shall be opened the complete length before concrete is placed so that if any obstructions are encountered, provisions can be made to avoid them. Unless otherwise shown on the plans, all duct banks shall be placed on a layer of concrete not less than 3 inches thick prior to its initial set. The Contractor shall space the conduits not less than 3 inch apart (measured from outside wall to outside wall). All such multiple conduits shall be placed using conduit spacers applicable to the type of conduit. As the conduit laying progresses, concrete shall be placed around and on top of the conduits not less than 3 inches thick unless otherwise shown on the plans. All conduits shall terminate with female ends for ease of access in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Conduits forming the duct bank shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches to anchor the assembly into the earth prior to placing the concrete encasement. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

When specified, the Contractor shall reinforce the bottom side and top of encasements with steel reinforcing mesh or fabric or other approved metal reinforcement. When directed, the Contractor shall supply additional supports where the ground is soft and boggy, where ducts cross under roadways, or where shown on the plans. Under such conditions, the complete duct structure shall be supported on reinforced concrete footings, piers, or piles located at approximately 5-foot intervals.

All pavement surfaces that are to have ducts installed therein shall be neatly saw cut to form a vertical face. All excavation shall be included in the contract with price for the duct.

Install a plastic, detectable, color as noted, 3 to 6 inches wide tape, 8 inches minimum below grade above all underground conduit or duct lines not installed under pavement. Utilize the 3-inch wide tape only for single conduit runs. Utilize the 6-inch wide tape for multiple conduits and duct banks. For duct banks equal to or greater than 24 inches in width, utilize more than one tape for sufficient coverage and identification of the duct bank as required.

When existing cables are to be placed in split duct, encased in concrete, the cable shall be carefully located and exposed by hand tools. Prior to being placed in duct, the Engineer shall be notified so that he may inspect the cable and determine that it is in good condition. Where required, split duct shall be installed as shown on the drawings or as required by the RPR.

110-3.3 Conduits without concrete encasement. Trenches for single-conduit lines shall be not less than 6 inches nor more than 12 inches wide. The trench for 2 or more conduits installed at the same level shall be proportionately wider. Trench bottoms for conduits without concrete encasement shall be made to conform accurately to grade so as to provide uniform support for the conduit along its entire length.

Unless otherwise shown on the plans, a layer of fine earth material, at least 4 inches thick (loose measurement) shall be placed in the bottom of the trench as bedding for the conduit. The bedding material shall consist of soft dirt, sand or other fine fill, and it shall contain no particles that would be retained on a 1/4 inch sieve. The bedding material shall be tamped until firm. Flowable backfill may alternatively be used.

Unless otherwise shown on plans, conduits shall be installed so that the tops of all conduits within the Airport's secured area where trespassing is prohibited are at least 18 inches below the finished grade. Conduits outside the Airport's secured area shall be installed so that the tops of the conduits are at least 24 inches below the finished grade per National Electric Code (NEC), Table 300.5.

When two or more individual conduits intended to carry conductors of equivalent voltage insulation rating are installed in the same trench without concrete encasement, they shall be spaced not less than 3 inches apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches apart in a vertical direction. Where two or more individual conduits intended to carry conductors of differing voltage insulation rating are installed in the same trench without concrete encasement, they shall be placed not less than 3 inches apart (measured from outside wall to outside wall) in a horizontal direction and lot less than 6 inches apart in a vertical direction.

Trenches shall be opened the complete length between normal termination points before conduit is installed so that if any unforeseen obstructions are encountered, proper provisions can be made to avoid them.

Conduits shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches to anchor the assembly into the earth while backfilling. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

110-3.4 Markers. The location of each end and of each change of direction of conduits and duct banks shall be marked by a concrete slab marker 2 feet square and 4 - 6 inches thick extending approximately one inch (25 mm) above the surface. The markers shall also be located directly above the ends of all conduits or duct banks, except where they terminate in a junction/access structure or building. Each cable or duct run from a line of lights and signs to the equipment vault must be marked at approximately every 200 feet along the cable or duct run, with an additional marker at each change of direction of cable or duct run.

The Contractor shall impress the word “DUCT” or “CONDUIT” on each marker slab. Impression of letters shall be done in a manner, approved by the Engineer, for a neat, professional appearance. All letters and words must be neatly stenciled. After placement, all markers shall be given one coat of high-visibility orange paint, as approved by the RPR. The Contractor shall also impress on the slab the number and size of conduits beneath the marker along with all other necessary information as determined by the RPR. The letters shall be 4 inches high and 3 inches wide with width of stroke 1/2 inch and 1/4 inch deep or as large as the available space permits. Furnishing and installation of duct markers is incidental to the respective duct pay item.

110-3.5 Backfilling for conduits. For conduits, 8 inches of sand, soft earth, or other fine fill (loose measurement) shall be placed around the conduits 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 back fill shall be select material not larger than 4 inches in diameter.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during back filling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.6 Backfilling for duct banks. After the concrete has cured, the remaining trench shall be backfilled and compacted per Item P-152 “Excavation and Embankment” except that the material used for backfill shall be select material not larger than 4 inches in diameter. In addition to the requirements of P-152, where duct banks are installed under pavement, one moisture/density test per lift shall be made for each 250 linear feet of duct bank or one work period’s construction, whichever is less.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during backfilling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.7 Restoration. Where sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by the work shall be restored to its original condition. The restoration shall include **seeding and mulching** shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. All restoration shall be considered incidental to the respective L-110 pay item. Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

METHOD OF MEASUREMENT

110-4.1 Underground conduits and duct banks shall be measured by the linear feet of conduits and duct banks installed, including encasement, locator tape, trenching and backfill with designated material, and for drain lines, the termination at the drainage structure, all measured in place, completed, and accepted. Separate measurement shall be made for the various types and sizes.

110-4.2 Construction of new foundations shall be measured by the excavation and installation of all concrete foundations at the new gate arm site.

110-4.3 Furnish and install cable and conduit shall be measured by the linear foot of conduit and cable installed under Turf or Pavement, including excavation, supports, anchors, encasement if required, backfill, compaction, and turf repair.

110-4.4 Installation of equipment shall be measured by the lump sum for installation of the indicated equipment item, including all accessories attached or required for full function.

110-4.5 Installation of loop detectors shall be measured by the lump sum for cutting asphalt, placing the cable, and sealing the cable as recommended by the manufacturer.

BASIS OF PAYMENT

110-5.1 Payment will be made at the contract unit price per linear foot for each type and size of conduit and duct bank completed and accepted, including trench and backfill with the designated material, and, for drain lines, the termination at the drainage structure. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item per the provisions and intent of the plans and specifications.

Payment will be made under:

Item L-110-5.1 Construct New Foundations – per lump sum

Item L-110-5.2 Furnish and Install Conduit and Cable in Turf – per linear foot

Item L-110-5.3 Furnish and Install Conduit and Cable under Pavement – per linear foot

Item L-110-5.4 Install Gate Arm and Operator – per lump sum

Item L-110-5.5 Cut Asphalt, Furnish and Install Loop Detector Cables – per lump sum

Item L-110-5.6 Install Four Bollards – per lump sum

Item L-110-5.7 Install Keypad and Stanchion – per lump sum

Item L-110-5.8 Install Light Pole and Fixture – per lump sum

Item L-110-5.9 Install Electrical Rack – per 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 basic designation only.

Advisory Circular (AC)

AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-53	Airport Lighting Equipment Certification Program

ASTM International (ASTM)

ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)

Underwriters Laboratories (UL)

UL Standard 6	Electrical Rigid Metal Conduit - Steel
UL Standard 514B	Conduit, Tubing, and Cable Fittings
UL Standard 514C	Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers
UL Standard 1242	Electrical Intermediate Metal Conduit Steel
UL Standard 651	Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings
UL Standard 651A	Type EB and A Rigid PVC Conduit and HDPE Conduit

END OF ITEM L-110