**DE066 TOTAL SHEETS: 56** 

# CONSTRUCTION PLANS

FOR

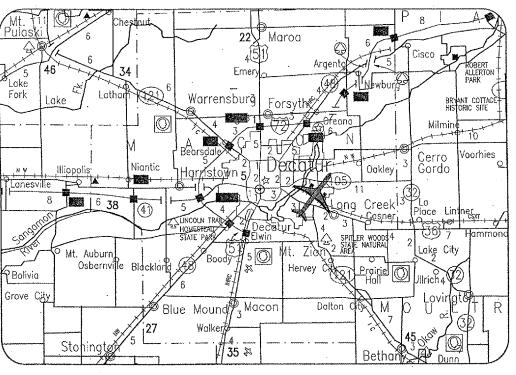
# **DECATUR AIRPORT**

DECATUR, MACON COUNTY, ILLINOIS TAXIWAY "C" RECONSTRUCTION

# SCOPE OF WORK

BASE BID: THE PROPOSED IMPROVEMENTS INCLUDE THE RECONSTRUCTION AND WIDENING OF TAXIWAY 'C' FROM 50' TO 75'. THE WORK INCLUDES THE REMOVAL OF THE EXISTING PAVEMENT, CONSTRUCTION OF A 14.5 IN. PORTLAND CEMENT CONCRETE PAVEMENT ON A 4" STABILIZED BITUMINOUS BASE, SUBGRADE STABILIZATION, EXCAVATION, INSTALLATION OF UNDERDRAINS, TURFING, MARKING, AND THE INSTALLATION OF A MEDIUM INTENSITY TAXIWAY LIGHTING SYSTEM (MITL).

ADDITIVE ALTERNATE BID: THE PROPOSED IMPROVEMENTS INCLUDE THE INSTALLATION OF SIX (6) LIGHTED WIND CONES, ASSOCIATED CABLING, AND PROVISION OF ELECTRICAL SERVICES.



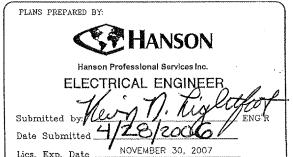
# **LOCATION**

ILL. PROJ.: DEC-3588 A.I.P. PROJ.:

88' 51' 59" LONGITUDE: **ELEVATION:** 682.0' M.S.L. DATE: APRIL 21, 2006











LOCATION OF COUNTY

HANSON

	SUMMARY OF QUANTITIES —	BASE BID		
ITEM No.	DESCRIPTION	UNIT	BID QUANTITIES	as-Built Quantities
AR108158	1/C #8 5 KV UG CABLE IN UD	L.F.	5,800	
AR109200	INSTALL ELECTRICAL EQUIPMENT	L.S.	1	
AR109430	POWER AND CONTROL WIRING	L.S.	1	,
AR109600	L-821 CONTROL PANEL	EACH	1	
AR110014	4" DIRECTIONAL BORE	L.F.	156	
AR110504	4-WAY CONCRETE ENCASED DUCT	L.F.	81	
AR110550	SPLIT DUCT	L.F.	12	·····
AR110558	EXTEND 8-WAY DUCT	L.F.	16	
AR110710	ELECTRICAL MANHOLE	EACH	1	
AR110906	REMOVE ELECTRICAL HANDHOLE	EACH	1	
AR125410	MITL-STAKE MOUNTED	EACH	33	
AR125415	MITL-BASE MOUNTED	EACH	3	
AR125442	TAXI GUIDANCE SIGN, 2 CHARACTER	EACH	1	
AR125443	TAXI GUIDANCE SIGN, 3 CHARACTER	EACH	2	
AR125452	TAXI GUIDANCE SIGN, 12 CHARACTER	EACH EACH	1 4	
AR125565	SPLICE CAN	EACH		
AR125901 AR125902	REMOVE STAKE MOUNTED LIGHT REMOVE BASE MOUNTED LIGHT	EACH	36 4	
AR125902 AR125904	REMOVE TAXI GUIDANCE SIGN	EACH	3	
AR125961	RELOCATE STAKE MOUNTED LIGHT	EACH	4	***************************************
AR125962	RELOCATE BASE MOUNTED LIGHT	EACH	2	
AR125964	RELOCATE TAXI GUIDANCE SIGN	EACH	1	
AR150510	ENGINEER'S FIELD OFFICE	L.S.	1	
AR150530	TRAFFIC MAINTENANCE	L.S.	1	
AR150540	HAUL ROUTE	L.S.	1	
AR152410	UNCLASSIFIED EXCAVATION	C.Y.	2,581	
AR155540	BY-PRODUCT LIME	TON	362	
AR155616	SOIL PROCESSING ~ 16"	S.Y.	9,298	
AR156520	INLET PROTECTION	EACH	3	
AR201610	BITUMINOUS BASE COURSE	TON	2,203	
AR208540	OVERSIZE AGGREGATE	TON	881	
AR209510	CRUSHED AGGREGATE BASE COURSE	TON	606	
AR401900	REMOVE BITUMINOUS PAVEMENT	S.Y.	7,659	
AR401910	REMOVE & REPLACE BIT. PAVEMENT	S.Y.	107	
AR501524 AR501530	14.5" PCC PAVEMENT PCC TEST BATCH	S.Y. EACH	11,051	
AR501900	REMOVE PCC PAVEMENT	S.Y.	71	
AR501910	REMOVE & REPLACE PCC PAVEMENT	S.Y.	63	
AR603510	BITUMINOUS TACK COAT	GAL.	1,377	
AR620520	PAVEMENT MARKINGWATERBORNE	S.F.	6,248	
AR620590	TEMPORARY MARKING	S.F.	125	
AR620900	PAVEMENT MARKING REMOVAL	S.F.	421	
AR701512	12" RCP, CLASS IV	L.F.	313	***************************************
AR701900	REMOVE PIPE	L.F.	390	
AR705411	POROUS BACKFILL No. 1	C.Y.	448	
AR705526	6" PERFORATED UNDERDRAIN W/SOCK	L.F.	2,503	
AR705630	UNDERDRAIN INSPECTION HOLE	EACH	8	
AR705900	REMOVE UNDERDRAIN	L.F.	2,689	***************************************
AR751410	INLET	EACH	1	
AR751540	MANHOLE 4'	EACH	2	
AR751900	REMOVE INLET	EACH	1	
AR751903	REMOVE MANHOLE	EACH	2	
AR751943	ADJUST MANHOLE	EACH	3	
AR800501	OFF PEAK CONSTRUCTION	L.S.	1	
AR901510 AR908510	SEEDING MULCHING	ACRE ACRE	4.3 4.3	
DICOUGHA	MOLGINAG	I MURE	4.3	

			BID	AS-BUILT
ITEM No.	DESCRIPTION	UNIT	QUANTITIES	QUANTITIES
AS107408	L-806 WIND CONE-8' LIGHTED	EACH	6	
AS108656	3/C #6 600 V UG CABLE IN UD	L.F.	12,060	
AS110014	4" DIRECTIONAL BORE	L.F.	675	
AS800579	ELECTRICAL SERVICE FOR RWY 12 AND RWY 18 WIND CONES	L.S.	1	-
AS800580	ELECTRICAL SERVICE FOR RWY 24 AND RWY 30 WIND CONES	L.S.	1	
AS800581	ELECTRICAL POWER FOR RWY 6 AND RWY 36 WIND CONES	L.S.	1	
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7	PROPOSED THECAL SECTIONS  PROPOSED PLAN & PROFIE: STA. 118+04.56 TO STA. 124+00.00	4			
8	PROPOSED PLAN & PROFLE: STA. 124+00.00 TO STA. 131+75.00	ш		11	T
9	PROPOSED PAVEMENT PREPARATION PLAN	DAT			
10	EXISTING DRAINAGE REMOVAL				
11	PROPOSED DRAINAGE PLAN	Г			
12	Drainage Details	]			
13	PROPOSED JOINTING PLAN: STA. 118+04.56 TO STA. 124+50.00	_			
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16	EXISTING ELECTRICAL REMOVAL: STA. 117+99 TO STA. 124+80	-			
17	EXISTING ELECTRICAL REMOVAL: STA. 124+80 TO STA. 133+21	- 1	<b>1</b> .i	· C	)
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19	PROPOSED ELECTRICAL PLAN: STA. 124+80 TO STA. 133+21	- 1		Ž	-
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23	ELECTRICAL NOTES ELECTRICAL NOTES	4		F	•
25	PROPOSED MARKING PLAN	- 1		ֻ	
26	PROPOSED STAKING, GRADING, SEEDING, AND MULCHING PLAN: STA. 117+99 TO STA. 124+80	┨┞		Щ	í
27	PROPOSED STAKING, GRADING, SEEDING, AND MULCHING PLAN: STA. 124+80 TO STA. 132+50	-			ì
28	LOW PROFILE BARRIER DETAIL AND NOTES				
29	PROPOSED CROSS-SECTIONS: STA, 117+50 TO STA, 118+00	1			
30	PROPOSED CROSS-SECTIONS: STA. 118+50 TO STA. 119+50	]			
31	PROPOSED CROSS-SECTIONS: STA. 120+00 TO STA. 121+00	]			
32 33	PROPOSED CROSS-SECTIONS: STA. 121+48.17 TO STA. 122+00				т-
34	PROPOSED CROSS-SECTIONS: STA. 122+50 TO STA. 123+50 PROPOSED CROSS-SECTIONS: STA. 123+52.29 TO STA. 124+50	┨,			30/
35	PROPOSED CROSS-SECTIONS: STA. 125+02.29 TO STA. 124+00  PROPOSED CROSS-SECTIONS: STA. 125+00 TO STA. 126+00	8			15
36	PROPOSED CROSS-SECTIONS: STA. 126+50 TO STA. 127+50	1 🗟			8
37	PROPOSED CROSS-SECTIONS: STA. 128+00 TO STA. 128+50	18	وا		r
38	PROPOSED CROSS-SECTIONS: STA. 129+00 TO STA. 129+50	Project No. 802-06TXYD 0800	R-002FLP.DWG N/A	6	ļ
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41 42	ELECTRICAL LEGEND AND ABBREVIATIONS	끃	œ z	0	Ŀ
43	ELECTRICAL SITE PLAN: RUNWAY 12 & RUNWAY 18 WIND CONES ELECTRICAL SITE PLAN: RUNWAY 24 & RUNWAY 30 WIND CONES	- Pai	Flenome Scale	20	AVOUT
44	ELECTRICAL SITE PLAN: RUNWAY 6 & RUNWAY 36 WIND CONES	무	[1] %	3	F
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46	ELECTRICAL ONE LINE DIAGRAM FOR RUNWAY 12 & RUNWAY 18 WIND CONES	1	Z		
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49	CONTROL PANEL FOR WIND CONES	]	Z		<u> </u>
50	WIND CONE ELEVATION DETAIL ELECTRICAL VAULT GROUNDING PLAN	1	$\triangleleft$	٥	ñ i
52	VAULT GROUNDING RISER	1	I		Sio
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55	TRANSFER RELAY PANEL DETAILS				Hanson Professional Services Inc.
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TAXIWAY "C"
RECONSTRUCTION
SUMMARY OF QUANTITIES
INDEX TO SHEETS

THE PROPOSED IMPROVEMENTS INCLUDE THE RECONSTRUCTION AND WIDENING OF TAXIWAY "C" FROM 50' TO 75'. THE WORK INCLUDES THE REMOVAL OF THE EXISTING PAVEMENT, CONSTRUCTION OF A 14.5" PORTLAND CEMENT CONCRETE PAVEMENT ON 4" STABILIZED BITUMINOUS BASE, SUBGRADE STABILIZATION, EXCAVATION, INSTALLATION OF UNDERDRAINS TURFING, MARKING, THE INSTALLATION OF A MEDIUM INTENSITY TAXIWAY LIGHTING SYSTEM (MITL), AND CONTROL & GROUNDING MODIFICATIONS IN THE VAULT AND AIR TRAFFIC CONTROL TOWER.

THE PROPOSED IMPROVEMENTS INCLUDE THE INSTALLATION OF SIX (6) LIGHTED WIND CONES, ASSOCIATED CABLING, AND PROVISION OF ELECTRICAL SERVICES.

## PROPOSED SAFETY PLAN

GENERAL - THE DECATUR AIRPORT IS COMPRISED OF THREE RUNWAYS. THE PROPOSED CONSTRUCTION WILL NECESSITATE CLOSING RUNWAYS 6-24 AND 18-36 PERIODICALLY AS DESCRIBED ON THE "PROPOSED OPENING AND CLOSING SCHEDULE" ON SHEET 4. TAXIWAY "C" (SOUTH OF TAXIWAY "G") AND TAXIWAY "G" (WEST OF RUNWAY 18-36) WILL BE CLOSED FOR THE DURATION OF THE PROJECT. ANY TIME THE CONTRACTOR IS WORKING WITHIN 200' OF THE RUNWAY CENTERLINE THE RUNWAY WILL BE CLOSED. ALL WORK INCLUDED IN OPENING AND CLOSING THE RUNWAY WILL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

IDENTIFICATION - WHEN THE CONTRACTORS VEHICLES AND EQUIPMENT ARE ON THE AIRPORT THEY SHALL BE PROPERLY MARKED WITH THREE (3') FOOT SQUARE CHECKERED FLAGS (INTERNATIONAL ORANGE AND WHITE). THE CONTRACTOR WILL ALSO PROVIDE WORKERS WITH SOME TYPE OF TAG OR GARMENT TO IDENTIFY THE PERSON AS BEING PART OF THE CONSTRUCTION CREW.

RADIO CONTROL - THE CONTRACTOR WILL BE REQUIRED TO BE IN TWO-WAY RADIO CONTACT (121.75 MHz.) WITH THE AIRPORT UNICOM. THIS WILL KEEP THE CONTRACTOR IN CONSTANT CONTACT WITH THE DECATUR AIRPORT AND ENABLE THE AIRPORT TO IMMEDIATELY CONTACT THE CONTRACTOR IN CASE OF AN AERONAUTIC EMERGENCY THAT WOULD REQUIRE ACTION BY THE CONTRACTOR AND/OR HIS PERSONNEL.

## AIRPORT SECURITY NOTE

AIRPORT SECURITY WILL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR WILL CLOSE AND LOCK THE EXISTING GATE IN THE HAUL ROUTE AT THE END OF EACH WORKING DAY.

#### CONTRACTOR RESPONSIBILITIES

THE CONTRACTOR'S EQUIPMENT PARKING AND STORAGE AREA WILL BE AS SHOWN ON THIS SHEET. THE CONTRACTOR'S EMPLOYEES WILL PARK THEIR VEHICLES IN THIS AREA. ONLY CONTRACTOR VEHICLES WILL BE ALLOWED OUTSIDE THIS AREA.

THE CONTRACTOR AND HIS EMPLOYEES WILL BE RESTRICTED TO THE WORK AREA AND ALL OTHER AREAS OF THE AIRPORT ARE "OFF LIMITS" TO THEM

THE CONTRACTOR SHALL KEEP ONE RUNWAY OPEN AT ALL TIMES AND MAINTAIN CONTINUOUS TAXIWAY ACCESS TO ALL HANGARS AND ADMINISTRATIVE AREAS.

ALL WORK PERFORMED SHALL BE DONE IN A ORDERLY AND EFFECTIVE MANNER TO MINIMIZE RUNWAY CLOSURE.

#### HAUL ROUTE, VEHICLE PARKING, MATERIAL STORAGE

THE CONTRACTOR WILL USE THE DESIGNATED HAUL ROUTE AND PARKING/MATERIAL STORAGE AREA AS SHOWN ON THIS SHEET. THE PROPOSED PARKING/MATERIAL STORAGE AREA WILL BE 350'x100'. ALL EQUIPMENT WILL BE STORED WITHIN THE PROJECT AREA WHEN NOT IN USE. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THE PROPOSED HAUL ROUTE AND PARKING/MATERIAL STORAGE AREA THROUGHOUT THE COURSE OF THE PROJECT. ANY AREAS DAMAGEÓ OUTSIDE OF THESE AREAS WILL BE REPAIRED BY THE CONTRACTOR AND AT THE CONTRACTOR'S OWN EXPENSE. AT THE CONCLUSION OF THE PROJECT THE CONTRACTOR WILL GRADE, FERTILIZE, SEED AND MULCH THE HAUL ROUTE AND PARKING AREA AS NEEDED TO RESTORE IT TO ITS' ORIGINAL STATE. RESTORATION OF THE HAUL ROUTE AND PARKING/MATERIAL STORAGE AREA WILL BE CONSIDERED INCIDENTAL TO ITEM AR150540 -HAUL RÓUTE, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

#### BARRICADES, BARRIERS, AND TRAFFIC CONES

IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PLACE AND MAINTAIN BARRICADES AND BARRIERS AT THE LOCATIONS SHOWN ON THIS SHEET AND THE TEMPORARY BARRIER SHEET IN

THE BARRICADES WILL BE I.D.O.T. TYPE 1, EQUIPPED WITH RED CONTINUOUS LIGHTS AND EXTENDED 18 INCH SQUARE ORANGE FLAG.

THE BARRIER WILL BE CONSTRUCTED AS DETAILED ON THE TEMPORARY BARRIER DETAIL SHEET

PAYMENT FOR BARRICADES AND BARRIERS, THEIR PLACEMENT AND REMOVALS AS RUNWAYS AN TAXIWAYS ARE OPENED AND CLOSED, MAINTENANCE, AND REPAIRS WILL BE MADE BY ITEM: AR150530 "TRAFFIC MAINTENANCE"\_\_\_\_PER LUMP SUM.

-105' FROM THESHOLD PROPOSED AIRCRAFT OPERATION LINE PROPOSED AIRCRAFT PROPOSED AIRCRAFT OPERATION LINE OPERATION LINE 200' -SEE SHEET 4 FOR DETAIL OF WORK AREAS AND STAGING REQUIREMENTS ıß IQ

#### AIRCRAFT OPERATION LINE

THE CONTRACTOR WILL LOCATE THIS LINE AT THE START OF CONSTRUCTION AND WILL PLACE FLAGGED LATHE EVERY 150' ALONG IT. THIS LINE WILL BE THE LIMITS THAT ALL CONTRACTOR PERSONNEL MAY VENTURE WHEN A RUNWAY IS NOT CLOSED. THE CONTRACTOR WILL MAINTAIN THE LATHE LINE FOR RUNWAYS

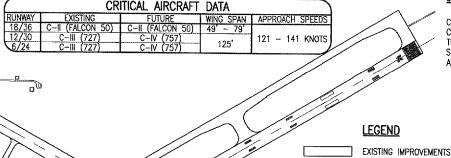
#### **EROSION CONTROL**

THIS PROJECT WILL DISTURB MORE THAN 1 ACRE OF LAND, THEREFORE A N.P.D.E.S. PERMIT WILL BE RQUIRED AND APPLIED FOR BY HANSON PROFESSIONAL SERVICES, INC.

	CONTROL P	oint data		
NO.	DESCRIPTION	NORTHING	EASTING	ELEVATION
1	END OF RUNWAY 06	1,151,385.236	832,252.084	N/A
2	END OF RUNWAY 36	1,151,315.601	832,373.780	N/A
3	END OF RUNWAY 18	1,156,614.214		N/A
4	CB#12 CHSLD "X" ON N. RIM OF INLET,	80' LT OF RWY 1	8/36	676.01
5	CB#15 CHSLD SQUARE ON N. CORNER OF	F CONC. HEADWAL	L W. OF TXY F	667.81
6	CB#21 CHSLD "X" ON N. RIM OF A MANH	HOLE ON E. SIDE	OF AIRPORT RD	672.63

**CLOSURE MARKER NOTES** 

TWO LIGHTED RUNWAY CLOSURE MARKERS AS MANUFACTURED BY SHERWIN INDUSTRIES, INC., HALIBRITE INC., OR ANOTHER FAA APPROVED MANUFACTURER WILL BE PROVIDED BY THE CONTRACTOR. PAYMENT FOR PROVIDING THE TWO LIGHTED RUNWAY CLOSURE MARKERS, PLACING THEM TO OPEN AND CLOSE RUNWAY 6-24, AND MAINTAINING THEM THROUGHOUT THE PROJECT WILL BE MADE UNDER ITEM AR150530 - TRAFFIC MAINTENANCE, PER LUMP SUM. AT THE END OF THE PROJECT THE TWO LICHTED RUNWAY CLOSURE MARKERS WILL BE TURNED OVER TO THE AIRPORT FOR THEIR PERMENANT POSSESSION AND USE.



COUNTY: DECATUR TOWNSHIP LONG CREEK SECTION NO.: 20 & 21 ADDRESS: DECATUR AIRPORT AIRPORT ROAD DECATUR, ILLINOIS 62524 FULL SIZE SCALE: 1"= 500" HALF SIZE SCALE: 1"= 1000

CRITICAL POINT DATA

LATITUDE: 39' 49' 39.12"

LONGITUDE: 88° 52' 30.17"

J.U.L.I.E. INFORMATION

ELEVATION: 672,00 M.S.L.

(SEE SHEET 4)

PROPOSED IMPROVEMENTS EXISTING BUILDINGS PROPOSED HAUL ROUTE AND EQUIPMENT PARKING AREA (SEE SHEET 4 FOR CLARITY)

PROPOSED BARRICADES AND TRAFFIC CONES (SEE SHEET 4 FOR CLARITY)

PROPOSED BARRIERS (SEE SHEET 4 FOR CLARITY)

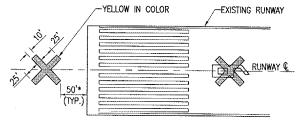
THE COST OF CONSTRUCTING, PLACING, MAINTAINING, AND REMOVING NON-LIT RUNWAY CLOSURE MARKERS (CROSSES) WILL BE PAID FOR UNDER ITEM AR150530 "TRAFFIC MAINTENANCE" PER LUMP SUM. THE CROSSES WILL BE YELLOW IN COLOR AND SHALL BE MADE OF A SUITABLE MATERIAL AS APPROVED BY THE AIRPORT DIRECTOR. THE CROSSES WILL BE PLACED OVER THE NUMERALS AND PLACED IN A MANNER APPROVED BY THE AIRPORT DIRECTOR. THE PROPOSED CROSSES WILL BE PLACED EACH DAY THE RUNWAY IS CLOSED AND REMOVED WHEN THE RUNWAY IS RE-OPENED. THE CONTRACTOR WILL BE RESPOSIBLE FOR THE PLACEMENT AND REMOVAL OF THE CROSSES.

THE COST OF SUPPLYING, PLACING, MAINTAINING, AND REMOVING LIGHTED RUNWAY CLOSURE MARKERS WILL BE PAID FOR UNDER ITEM AR150530 "TRAFFIC MAINTENANCE" PER LUMP SUM. THE DESIGN OF THE LIGHTED RUNWAY CLOSURE MARKERS WILL COMPLY WITH FAA ADVISORY CIRCULAR AC 150/5345-55 AND THE SPECIAL PROVISIONS. THE LIGHTED RUNWAY CLOSURE MARKERS WILL BE PLACED OVER THE NUMERALS AS SHOWN IN THE DETAIL BELOW, AT A LOCATION APPROVED BY THE AIRPORT DIRECTOR. THE PROPOSED LIGHTED RUNWAY CLOSURE MARKERS WILL BE PLACED EACH DAY WHEN THE RUNWAY IS CLOSED AND REMOVED WHEN THE RUNWAY IS RE-OPENED. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PLACEMENT AND REMOVAL OF THE LIGHTED RUNWAY CLOSURE MARKERS.

# CONSTRUCTION EQUIPMENT HEIGHT

CLOSURE MARKER NOTES CONT.

THE MAXIMUM ANTICIPATED HEIGHT OF THE CONSTRUCTION EQUIPMENT WILL BE 25 FEET. THE TALLEST EQUIPMENT IS EXPECTED TO BE A SEMI-TRACTOR AND



\* UNLESS OTHERWISE NOTED

DETAIL OF RUNWAY CLOSURE MARKER

"NOT TO SCALE"

THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

CALL J.U.L.I.E. FOR UTILITY INFORMATION AT 1-800-892-0123.

#### UTILITY NOTE

THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND AGENCIES WHICH HAVE LINES OR CONDUITS IN THE PROPOSED WORK AREA. ALL LINES AND CONDUITS SHALL BE LOCATED AND IDENTIFIED FOR DEPTH BEFORE ANY EXCAVATION BEGINS. THE CONTRACTOR WILL CALL J.U.L.I.E. (1-800-892-0123) TO ACCOMPLISH THE ABOVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY ALL UNDERGROUND NON-JULIE UTILITIES LOCATED WITHIN THE PROPOSED CONSTRUCTION LIMITS. THESE UNDERGROUND IMPROVEMENTS WILL BE LOCATED AT THE CONTRACTOR'S OWN EXPENSE PRIOR TO THE START OF CONSTRUCTION

#### ENGINEER'S FIELD OFFICE

THE PROPOSED ENGINEER'S FIELD OFFICE WILL BE FURNISHED, MAINTAINED, AND REMOVED IN ACCORDANCE WITH ITEM AR150510 "ENGINEER'S FIELD OFFICE" AS STATED ON PAGE 168 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1, 2004.

THE LOCATION OF THE PROPOSED ENGINEER'S FIELD OFFICE WILL BE DETERMINED AT THE PRE-CONSTRUCTION MEETING.

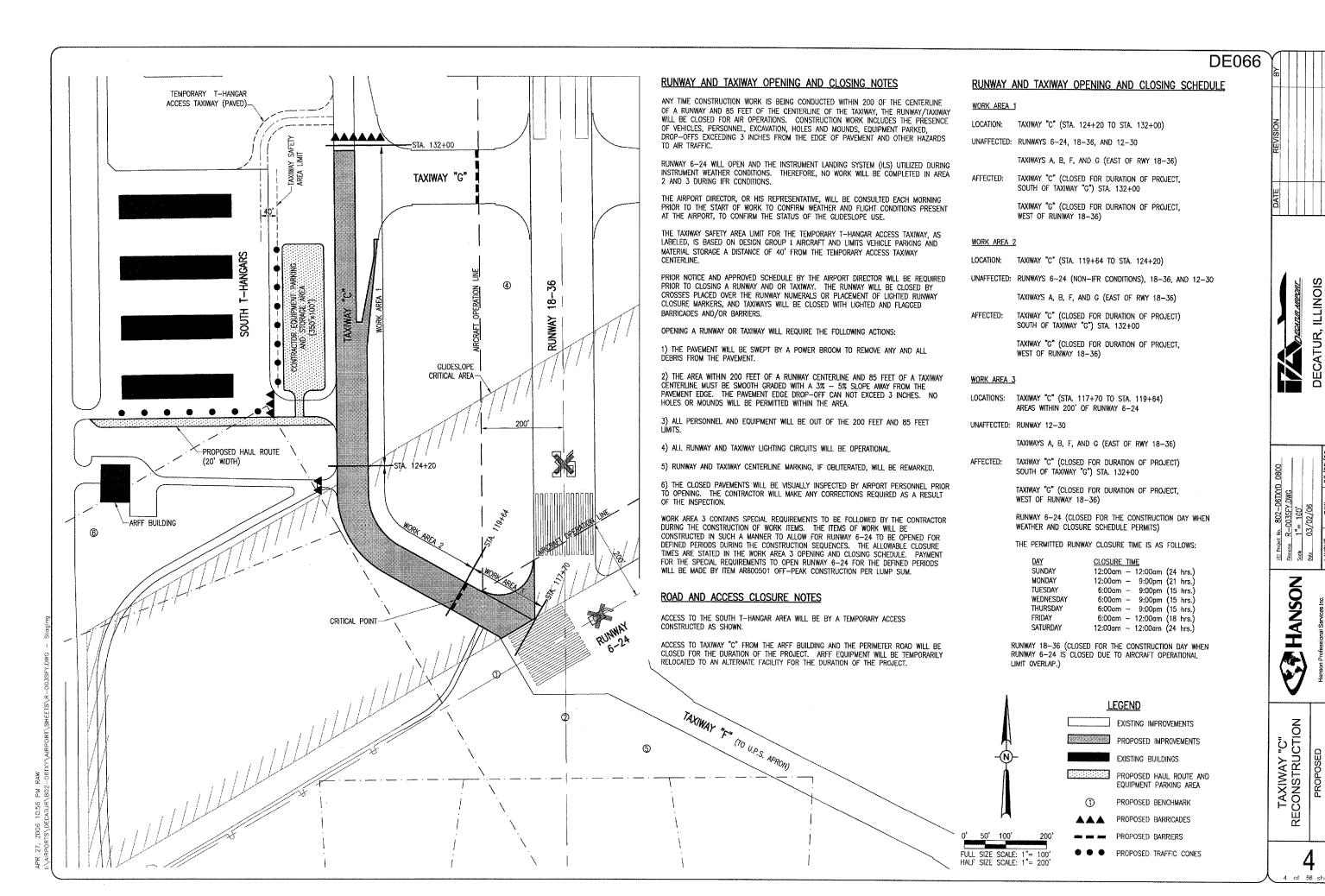
THE ENGINEERING FIRM WILL MAKE PAYMENT FOR ALL LONG DISTANCE TELEPHONE CALLS IN EXCESS OF ONE HUNDRED DOLLARS (\$100.00) PER MONTH.

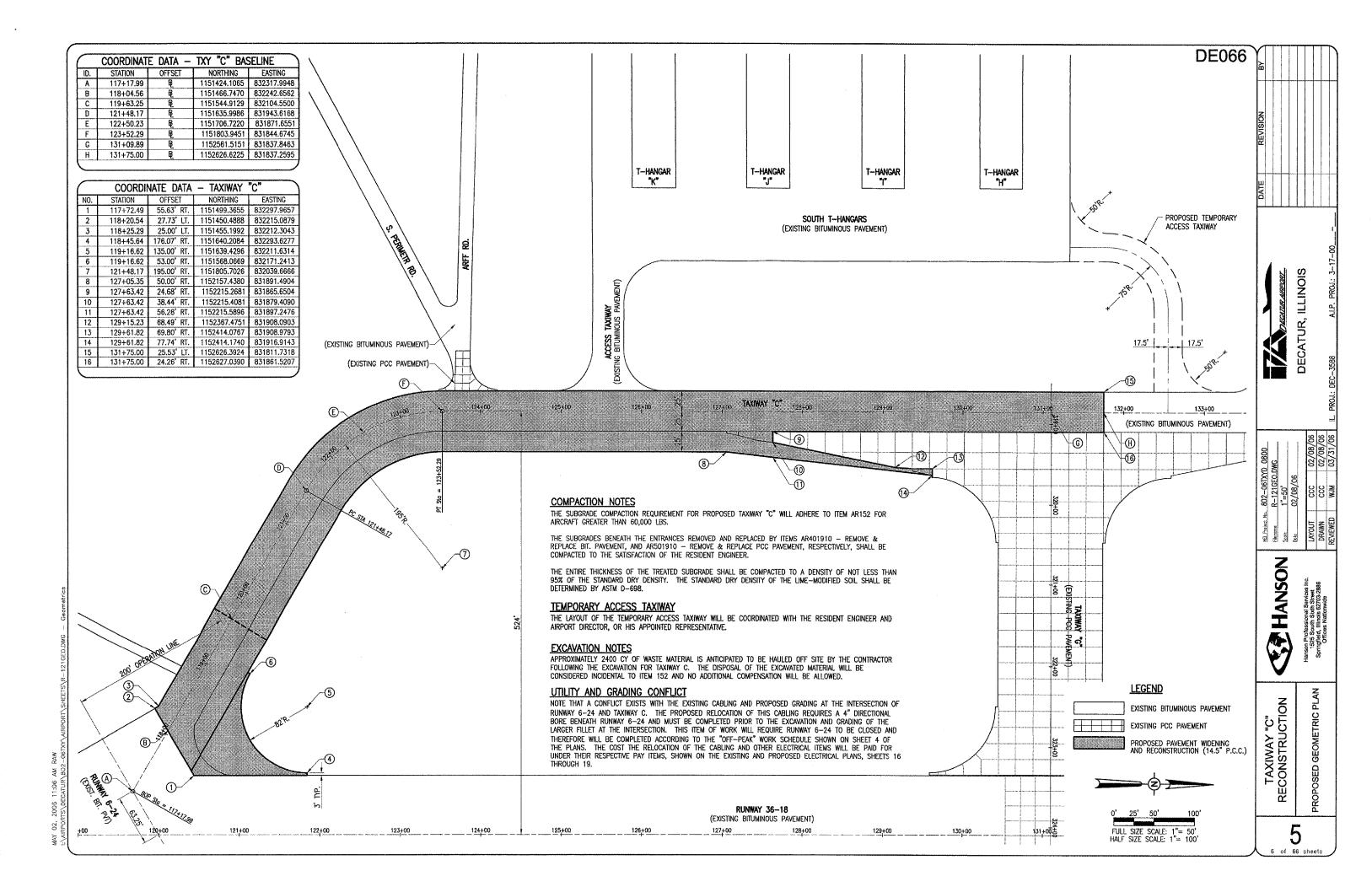
THE PROPOSED ENGINEER'S FIELD OFFICE WILL BE PAID FOR UNDER ITEMS: AR150510 ENGINEER'S FIELD OFFICE \_\_\_\_\_ 1 L.S.

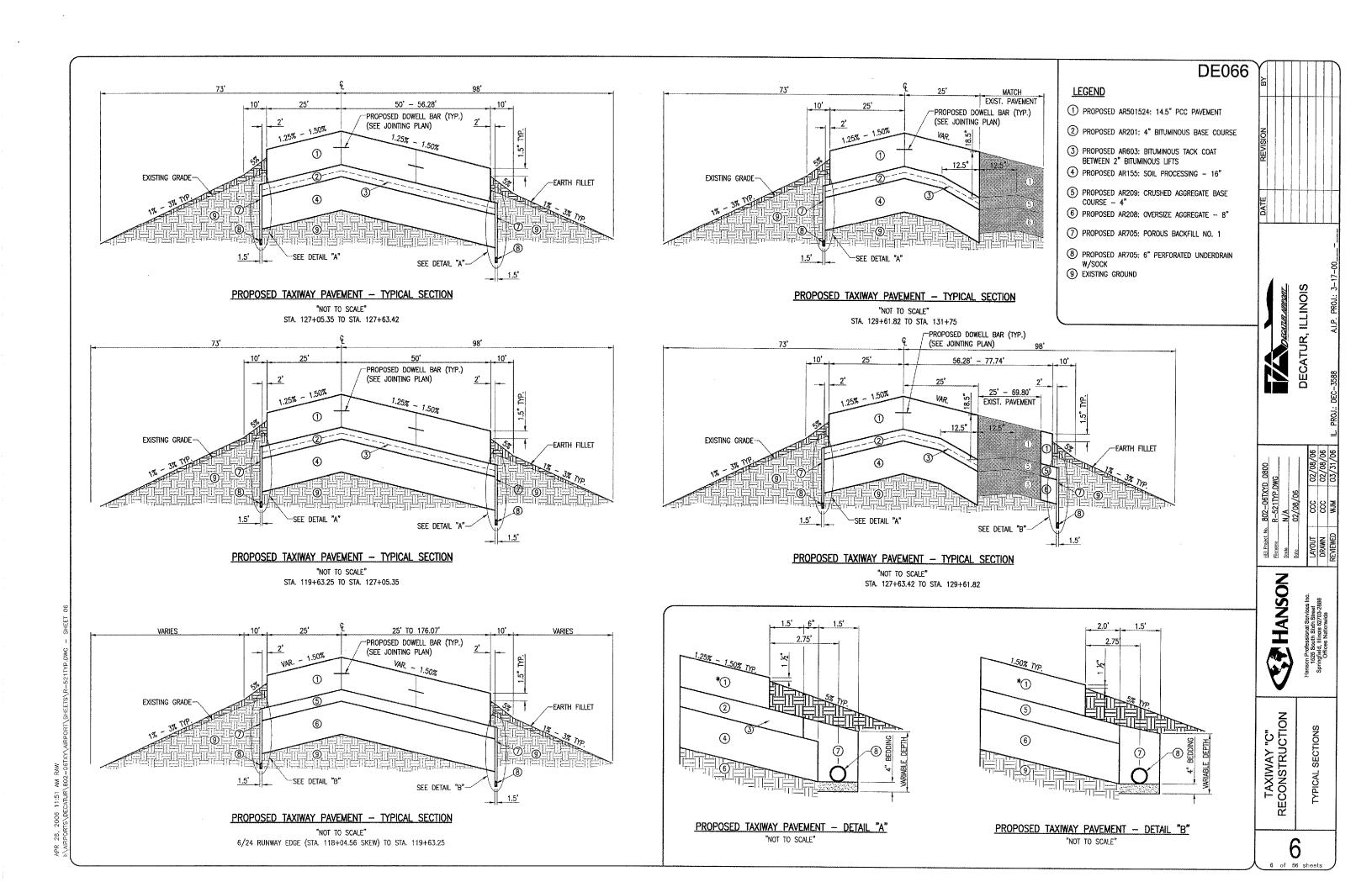
**DE066** 

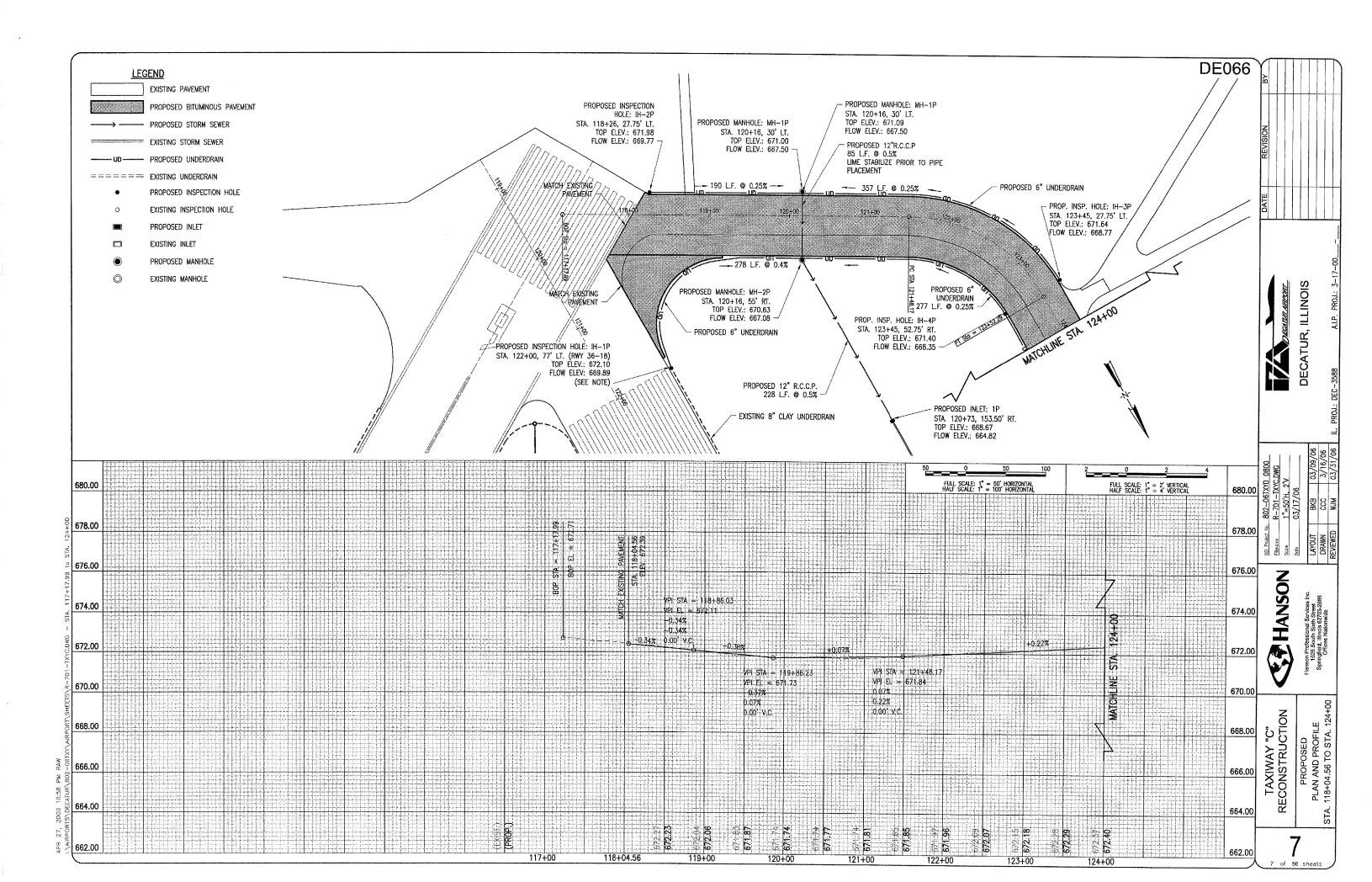
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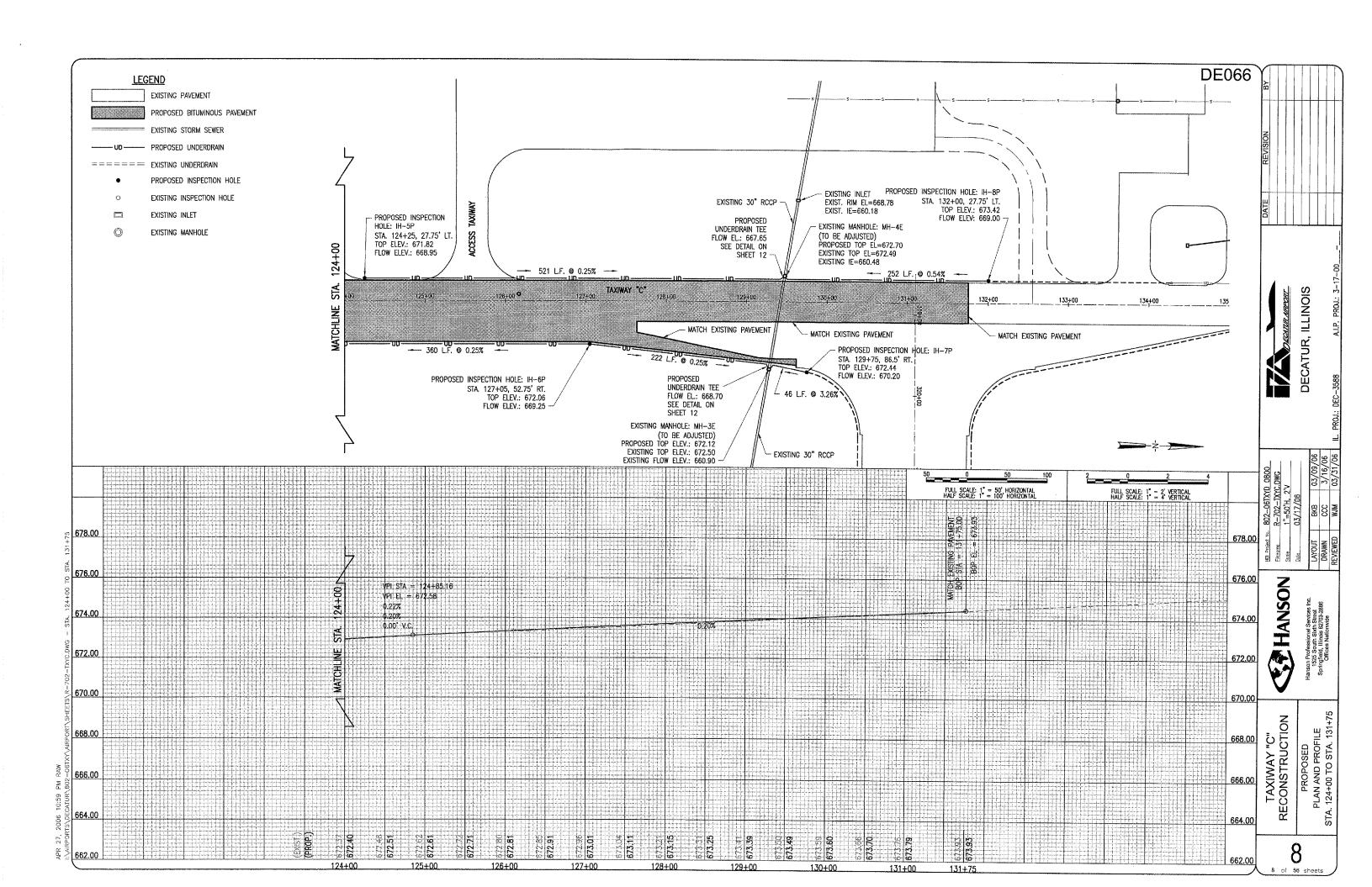
HANSON 

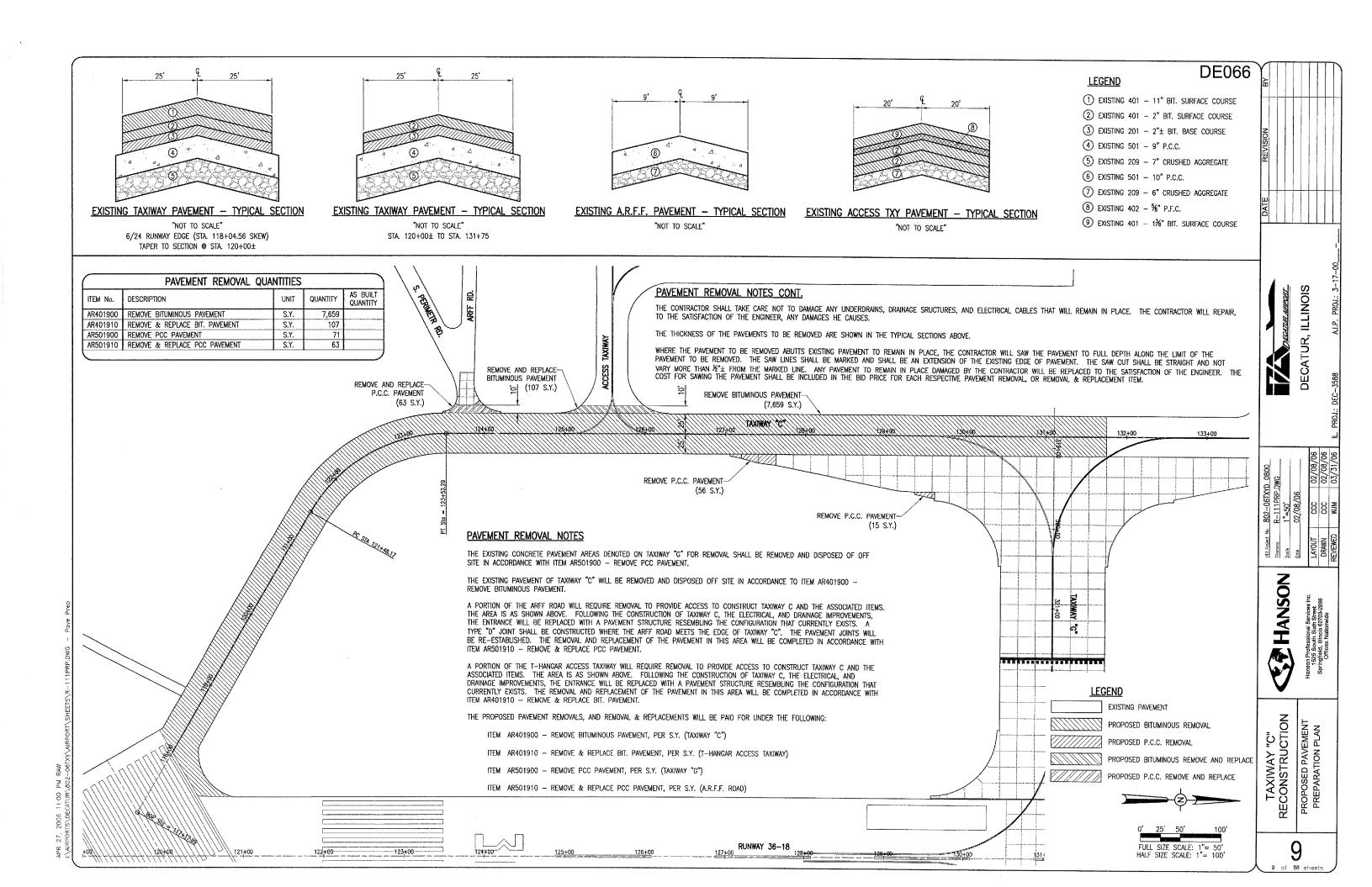












# INSPECTION HOLES AND UNDERDRAIN REMOVAL

EXISTING UNDERDRAINS THAT ARE LOCATED IN THE PROPOSED PAVEMENT SECTION OR THE 16" SOIL PROCESSING AREA WILL BE REMOVED.

EXISTING UNDERDRAINS THAT ARE LOCATED BENEATH THE 16" SOIL PROCESS AREA WILL BE EXCAVATED.

HOLES THAT REMAIN FROM REMOVING UNDERDRAIN PIPE AT MANHOLES OR PIPE SECTIONS WILL BE REPAIRED. THE REPAIR WILL RESTORE REINFORCING AND FULL WALL THICKNESS WITH AR610 STRUCTURAL CONCRETE.

ALONG THE LINE OF UNDERDRAIN REMOVAL, INSPECTION HOLES WILL BE REMOVED TO A DEPTH BENEATH THE SOIL PROCESS ELEVATION.

WHERE THE UNDERDRAIN PIPE IS EXCAVATED, P.E. TUBING OR BROKEN CLAY PIPE WILL NOT BE PERMITTED IN THE FILL USED FOR EMBANKMENTS.

WHERE THE UNDERDRAIN PIPE IS EXCAVATED BELOW THE SOIL PROCESSING DEPTH, THE EXCAVATION WILL BE BACKFILLED WITH A GRANULAR MATERIAL COMPLYING TO AR209 SPECIFICATIONS. LOOSE EARTH MATERIAL WILL BE REMOVED FROM THE EXCAVATION PRIOR TO PLACING THE AR209 GRANULAR MATERIAL.

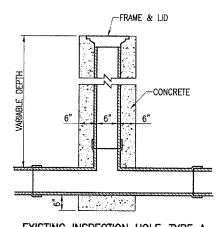
THE REMOVED INSPECTION HOLES AND PIPE MATERIAL WILL BE DISPOSED OFF AIRPORT SITE BY CONTRACTOR.

PAYMENT FOR THE UNDERDRAIN EXCAVATION WILL BE MADE UNDER ITEM: AR705900

DRAINAGE REMOVAL AND ADJUSTMENT QUANTITIES				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	AS BUILT QUANTITY
AR701900	REMOVE PIPE	L.F.	390	***************************************
AR705900	REMOVE UNDERDRAIN	L.F.	2,689	
AR751900	REMOVE INLET	EACH	1	
AR751903	REMOVE MANHOLE	EACH	2	
AR751943	ADJUST MANHOLE	EACH	3	
			•	

	AR701900 "REMOVE PIPE"	
STRUCTURES	LOCATION	DISTANCE (L.F.)
MH-1E TO MH-2E	TXY "C" STA. 118+58 LT. TO TXY "C" STA. 119+15 RT.	82
MH-2E TO INLET-1E	TXY "C" STA. 119+15 RT. TO TXY "C" STA. 122+09.17 RT.	308
l .		

STRUCTURES	LOCATION	DISTANCE (L.F.)
MH-1E TO IH-1E	TXY "C" STA. 118+58 LT. TO TXY "C" STA. 123+48 LT.	516.
IH-1E TO MH-4E	TXY "C" STA. 123+48 LT. TO TXY "C" STA. 129+47 LT.	597.7
MH-4E TO 132+00	TXY "C" STA. 129+47 LT. TO TXY "C" STA. 132+00 LT.	251.5
122+00 TO MH-2E	RWY 36-18 STA. 122+00 RT. TO TXY "C" STA. 119+15 RT.	281.5
MH-2E TO IH-2E	TXY "C" STA. 119+15 RT. TO TXY "C" STA. 123+53 RT.	413.0
IH-2E TO IH-3E	TXY "C" STA. 123+53 RT. TO TXY "C" STA. 126+86 RT.	332.8
IH-3E TO MH-3E	TXY "C" STA. 126+86 RT. TO TXY "C" STA. 129+28 RT.	248.5
MH-3E TO 129+75	TXY "C" STA. 129+28 RT. TO TXY "C" STA. 129+75 RT.	47.5



**DE066** 

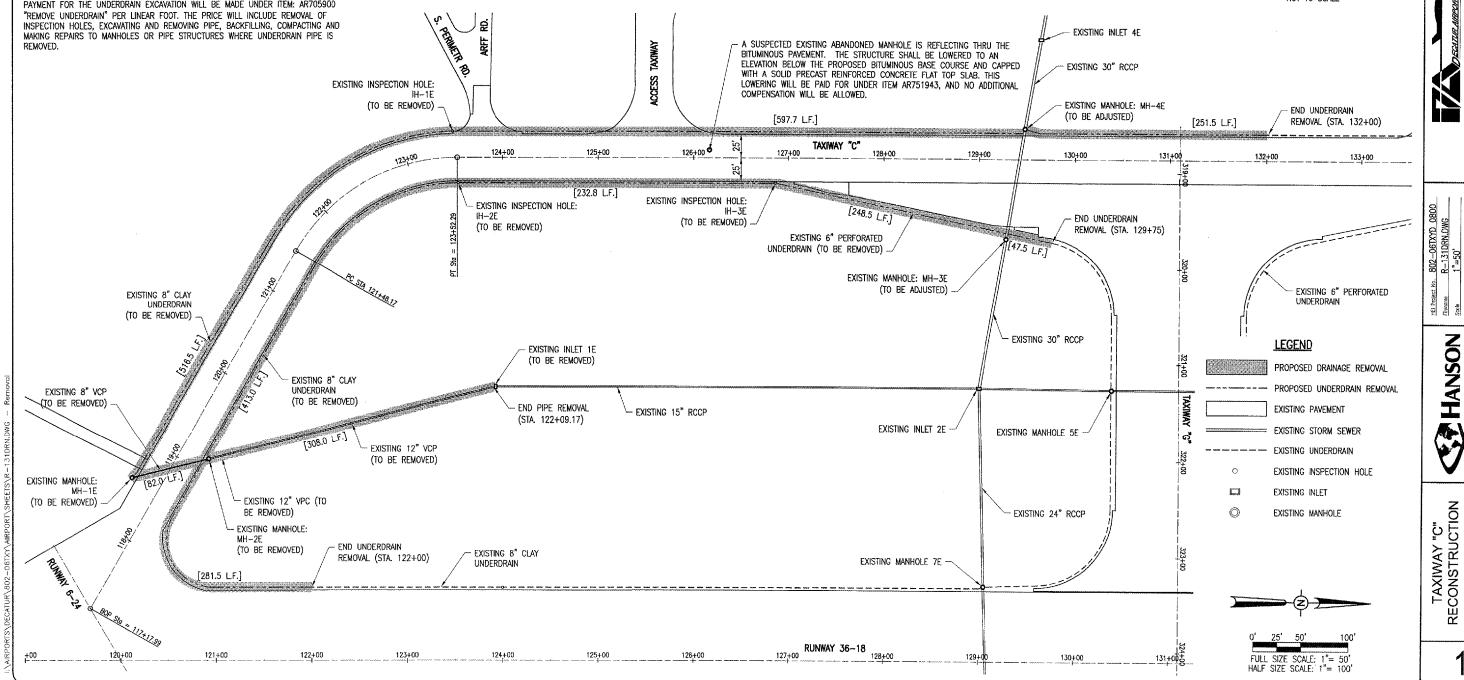
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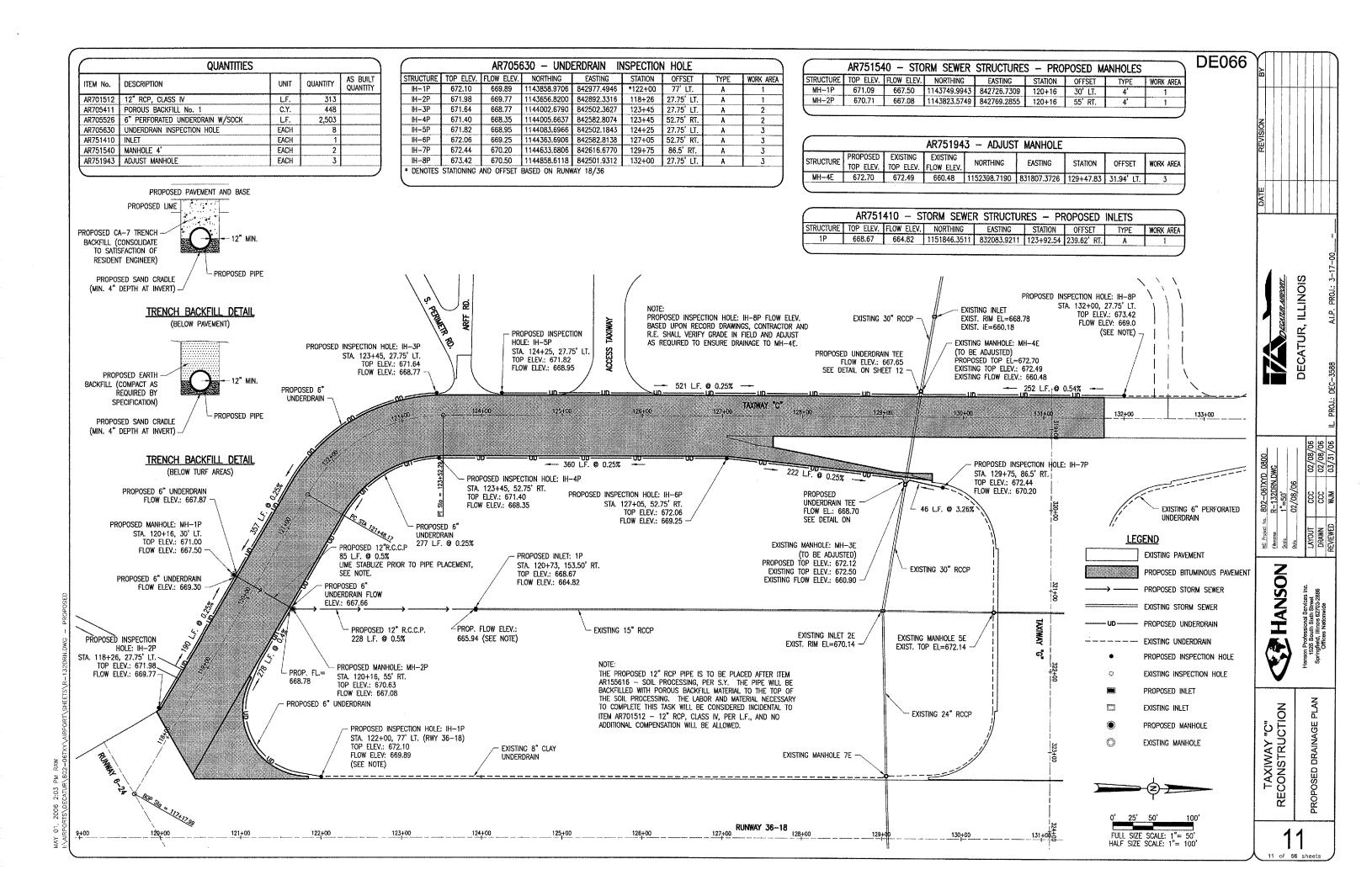
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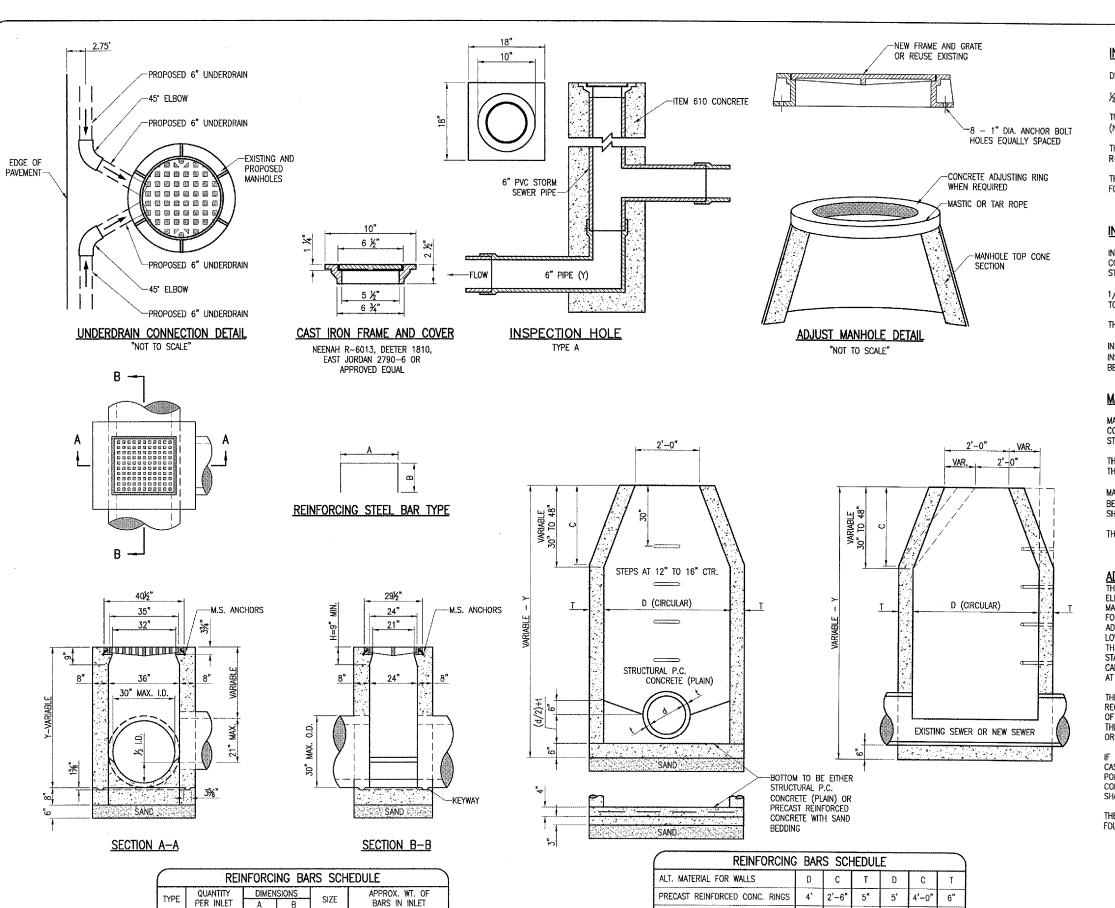
HANSON

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EXISTING INSPECTION HOLE-TYPE A "NOT TO SCALE"







**INSPECTION HOLE NOTES** 

DIAMETER OF PIPE AS SPECIFIED.

1/2" CHAMFER TO BE USED ON ALL EXPOSED EDGES OF INSPECTION HOLES.

THE CONCRETE SHALL BE STRUCTURAL PORTLAND CEMENT CONCRETE (NON-REINFORCED).

THE INSPECTION FRAME AND LID SHALL BE EAST JORDAN 2790-6, NEENAH R-6013 OR DEETER 1810.

THE PROPOSED INSPECTION HOLE WILL BE PAID FOR UNDER THE FOLLOWING:

ITEM AR705630 "UNDERDRAIN INSPECTION HOLE"

#### **INLET NOTES**

INLET TO BE CONSTRUCTED OF STRUCTURAL P.C. CONCRETE. THE CONTRACT UNIT PRICE PER INLET SHALL INCLUDE THE FRAME, GRATE AND STEPS IN PLACE AND COMPLETE PER UNIT.

1/2" CHAMFER TO BE USED ON ALL EXPOSED CORNERS OF INLETS. BARS TO BE INSTALLED 2" FROM FACE OF WALLS.

THE FRAME AND GRATE SHALL BE NEENAH R-3475-E, DEETER 2425-E.

INLET STEPS SHALL BE NEENAH R-1980-1. 12" TO 15" C.C. STEPS TO BE INSTALLED WHEN Y IS GREATER THAN 5'. THE COST OF THE STEPS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR EACH INLET.

# MANHOLE NOTES

MANHOLE TO BE CONSTRUCTED OF STRUCTURAL P.C. CONCRETE. THE CONTRACT UNIT PRICE PER MANHOLE SHALL INCLUDE THE FRAME, LID AND

THE FRAME AND LID SHALL BE NEENAH R-3492 OR EQUAL, ANCHORED TO THE MANHOLE STRUCTURE.

MANHOLE STEPS SHALL BE NEENAH R-1980-1, 12" TO 15" C.C. STEPS TO BE INSTALLED WHEN Y IS GREATER THAN 5'. THE COST OF THE STEPS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR EACH MANHOLE.

THE PROPOSED MANHOLES WILL BE PAID FOR UNDER THE FOLLOWING: ITEM AR751540 "MANHOLE 4" "

# ADJUSTED MANHOLE NOTES

THE ADJUSTMENTS NECESSARY FOR THE CHANGE IN MANHOLE TOP ELEVATIONS VARIES BY LOCATION. TO RAISE THE ELEVATION A CONCRETE MANHOLE ADJUSTING RING CAN BE USED TO OBTAIN THE PROPER ELEVATION FOR THE TOP OF THE LID ELEVATION. EXISTING CONCRETE MANHOLE ADJUSTING RINGS EXIST ON THE MANHOLE AT STA. 129+28 RT, TO BE LOWERED, AND THE ADJUSTEMENT WILL BE ACCOMPLISHED BY REMOVING THE EXISTING RINGS. THE SUSPECTED EXISTING ABANDONED MANHOLE AT STA. 126+20 SHALL BE LOWERED BY REMOVING THE MANHOLE WALL AND CAPPING IT WITH A SOLID PRECAST REINFORCED CONCRETE FLAT TOP SLAB. AT AN ELEVATION BENEATH THE PROPOSED BITUMINOUS BASE COURSE.

THE PROPOSED CONCRETE ADJUSTING RING SHALL CONFORM TO THE REQUIREMENTS OF ASTM C478. THE RING DIAMETER WILL MATCH THE TOP OF THE CONE SECTION OF THE MANHOLE, AND BE OF EQUAL WALL THICKNESS TO THE STRUCTURE. THE RING WILL BE SECURED WITH MASTIC

IF CASTING LEVELING IS NECESSARY, MORTAR LEVELING BETWEEN RING AND CASTING WILL BE ALLOWED. THE MORTAR SHALL CONSIST OF ONE PART PORTLAND CEMENT AND TWO PARTS SAND. THE PORTLAND CEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C150, TYPE 1. THE SAND SHALL CONFORM TO THE REQUIREMENTS OF ASTM C144.

THE PROPOSED MANHOLE ADJUSTMENTS WILL BE PAID FOR UNDER THE

ITEM AR751943 - ADJUST MANHOLE, PER EACH.

**DE066** 

HANSON 

TAXIWAY "C"
ECONSTRUCTION

12 of 56 sheets

3'-4" 2'-4"

INLET DETAILS - TYPE "A"

"NOT TO SCALE"

#5

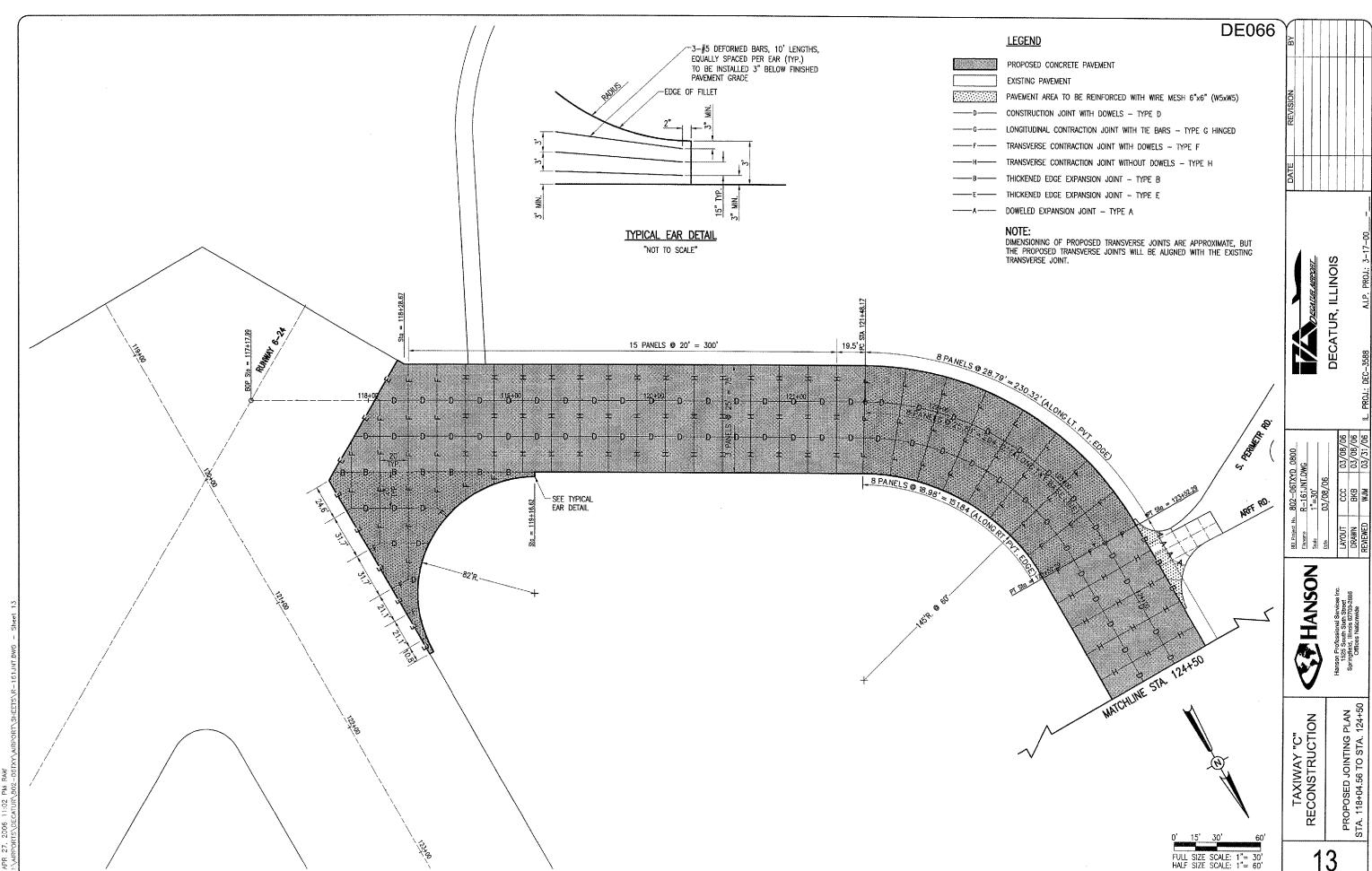
MANHOLE DETAILS "NOT TO SCALE"

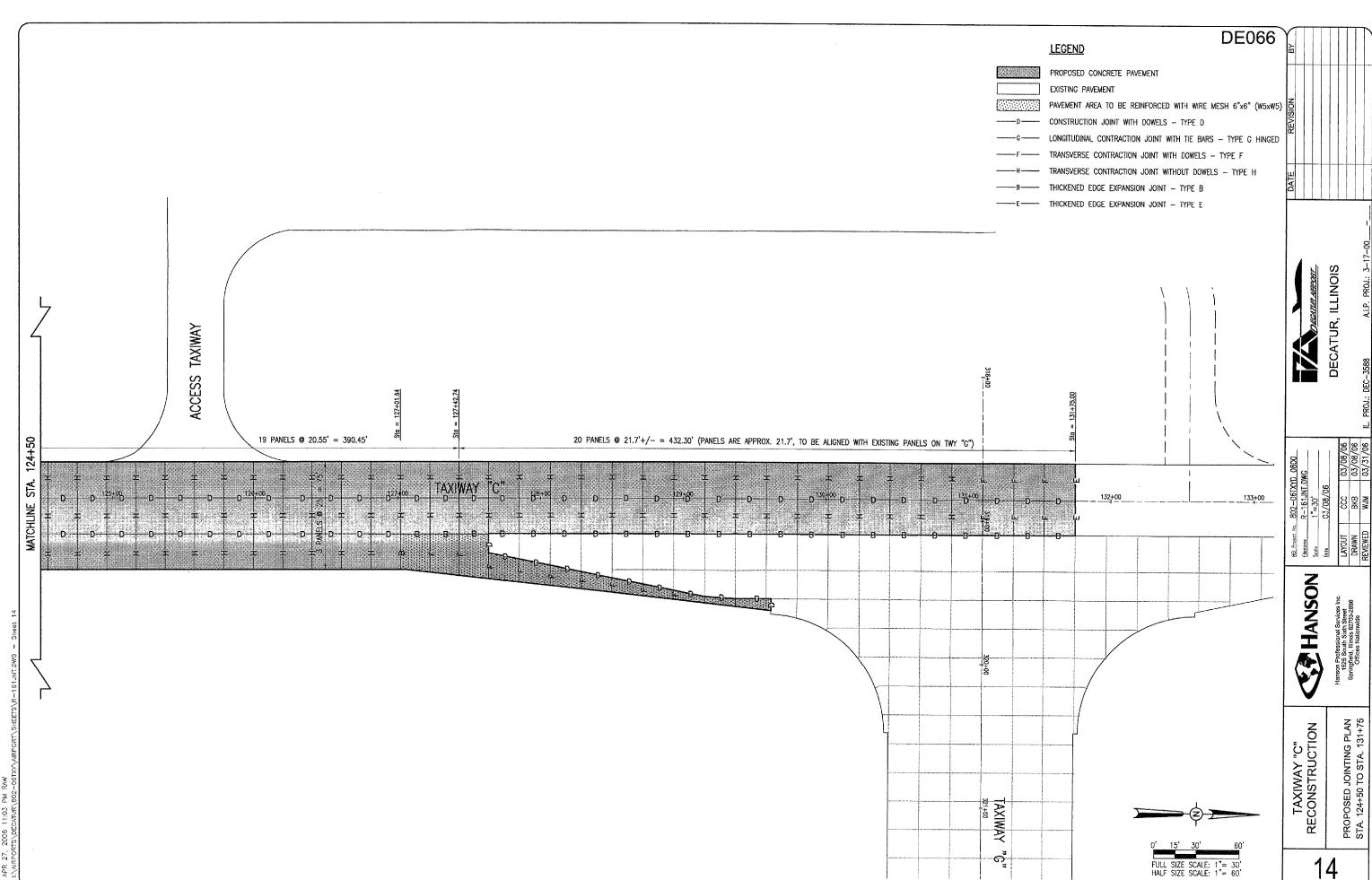
2'~6"

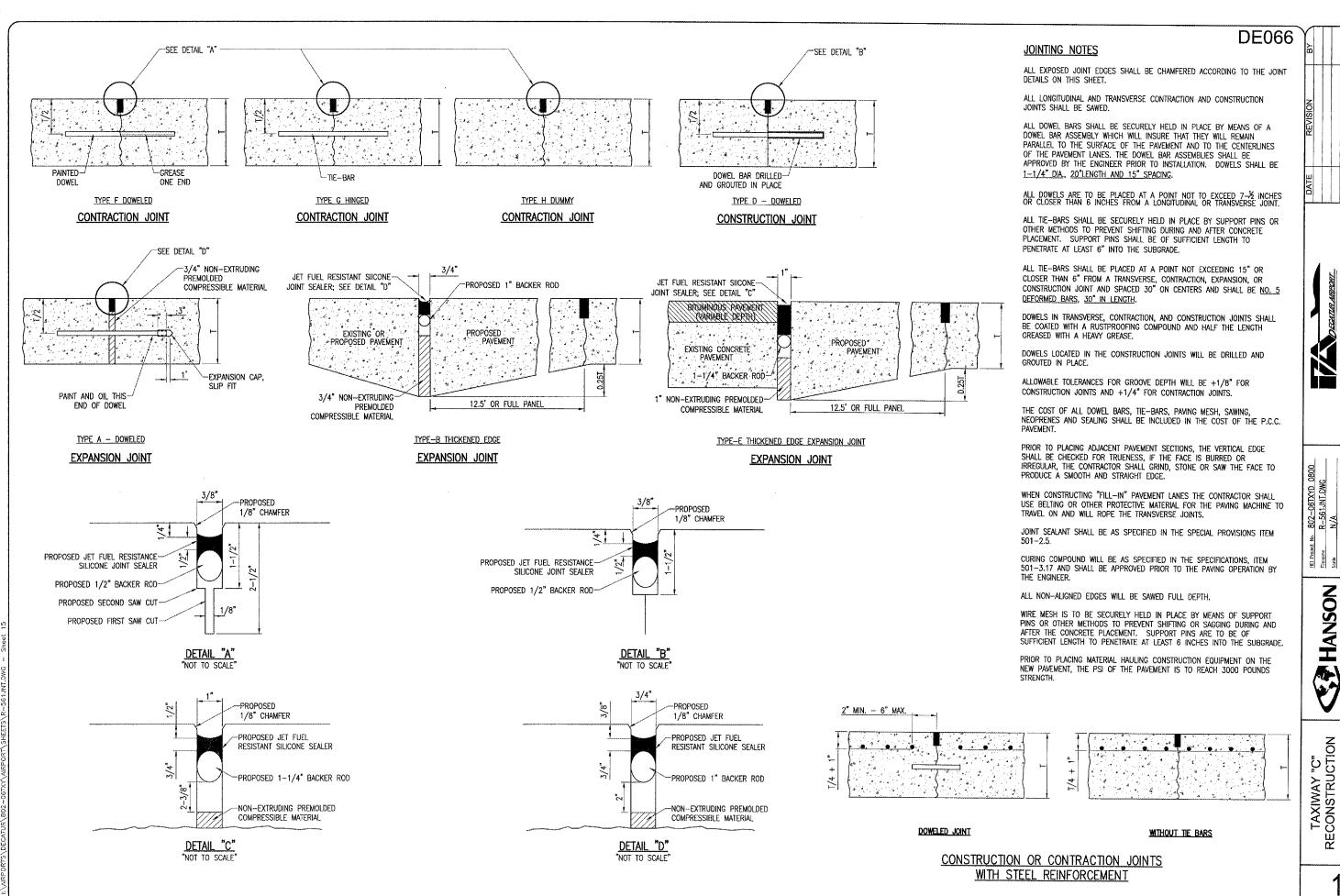
6"

5'

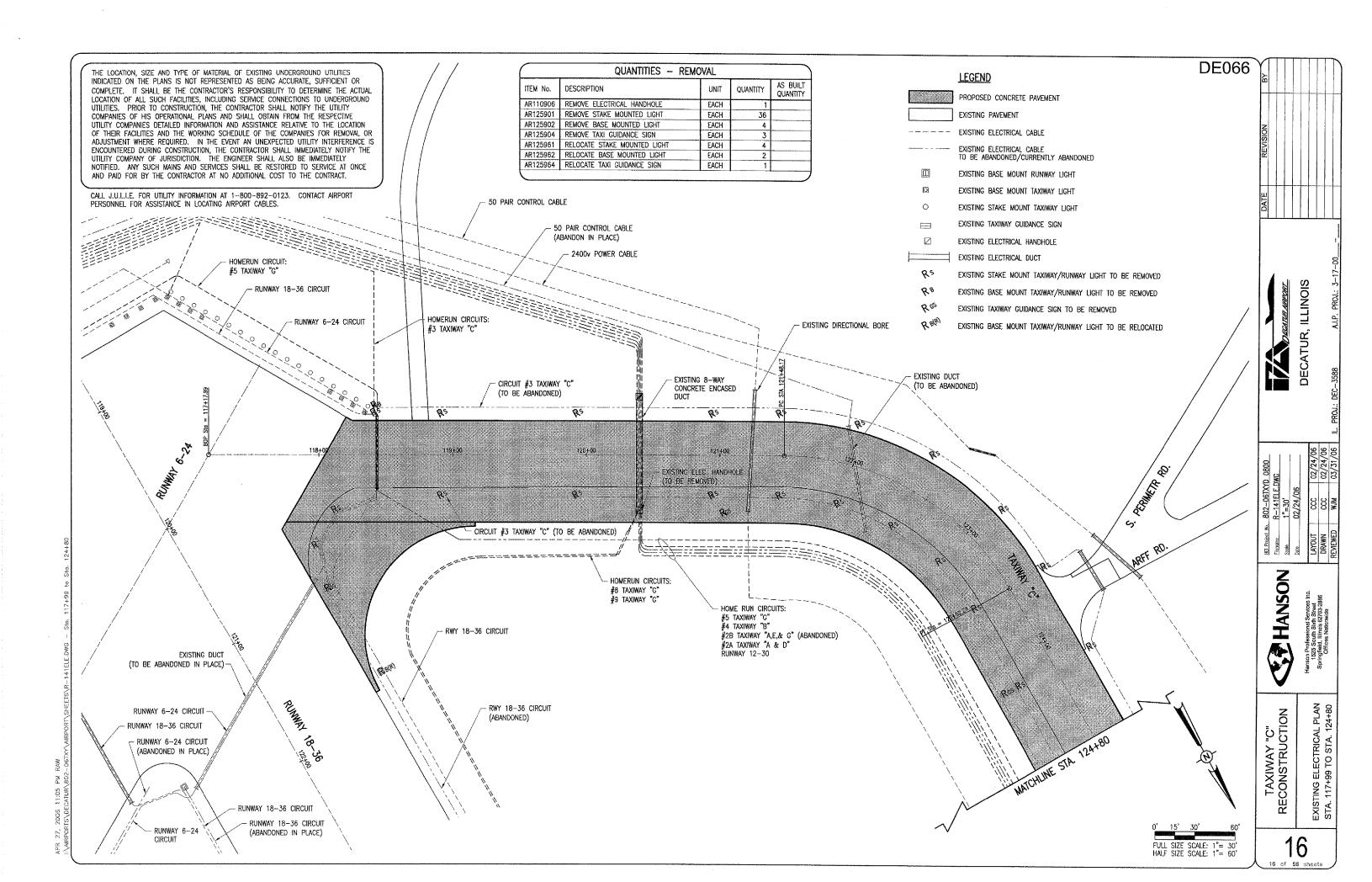
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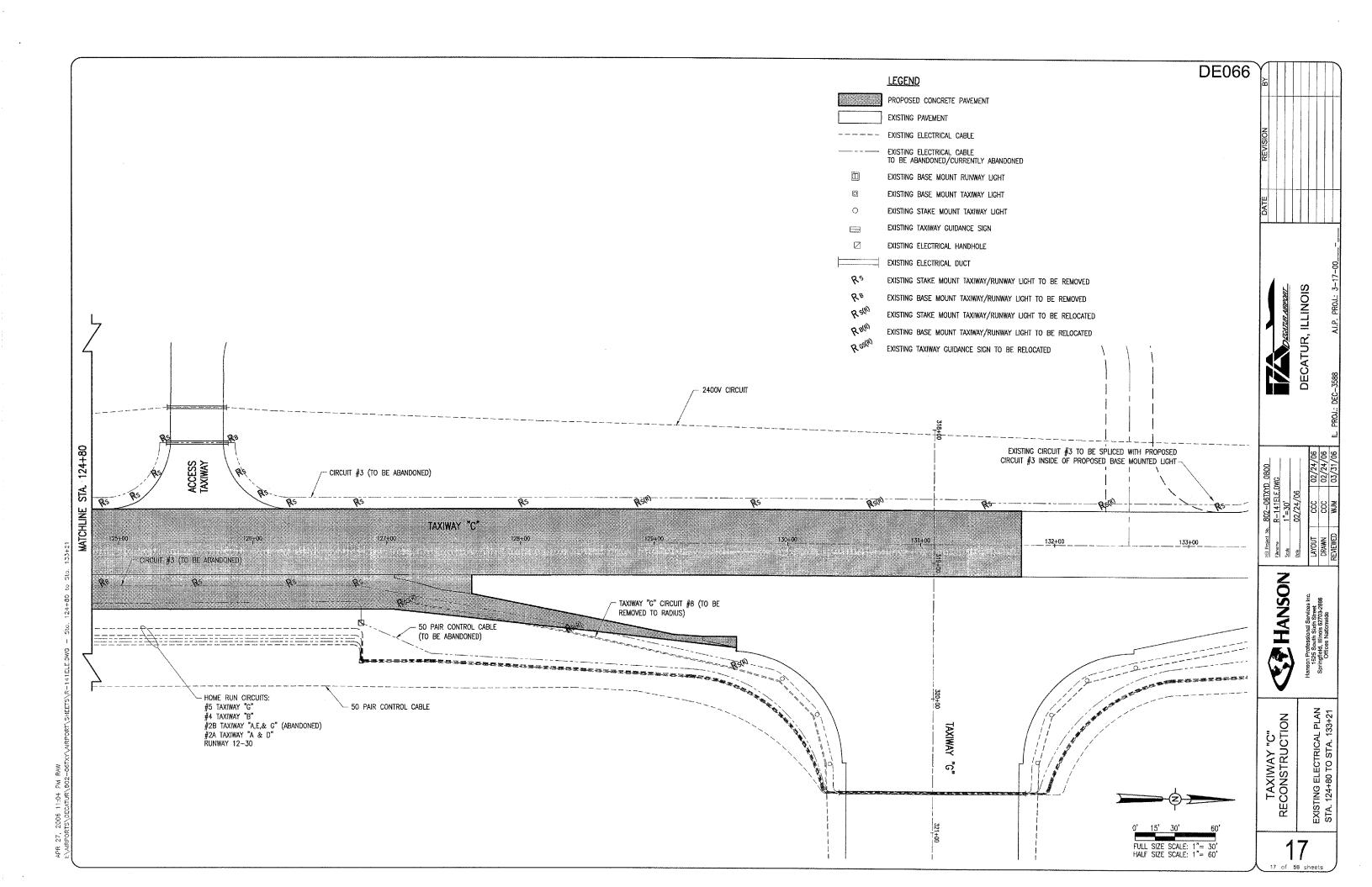


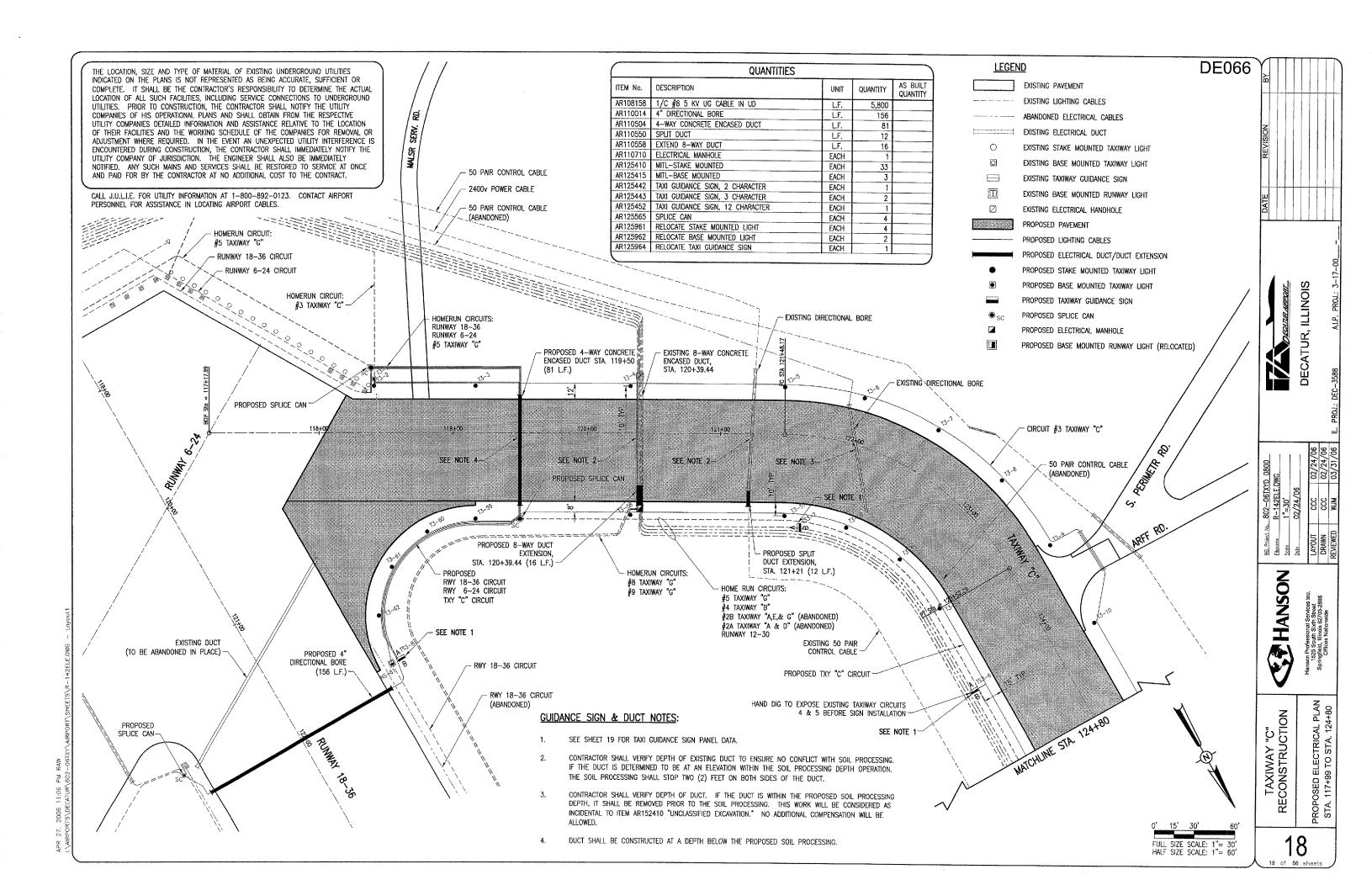


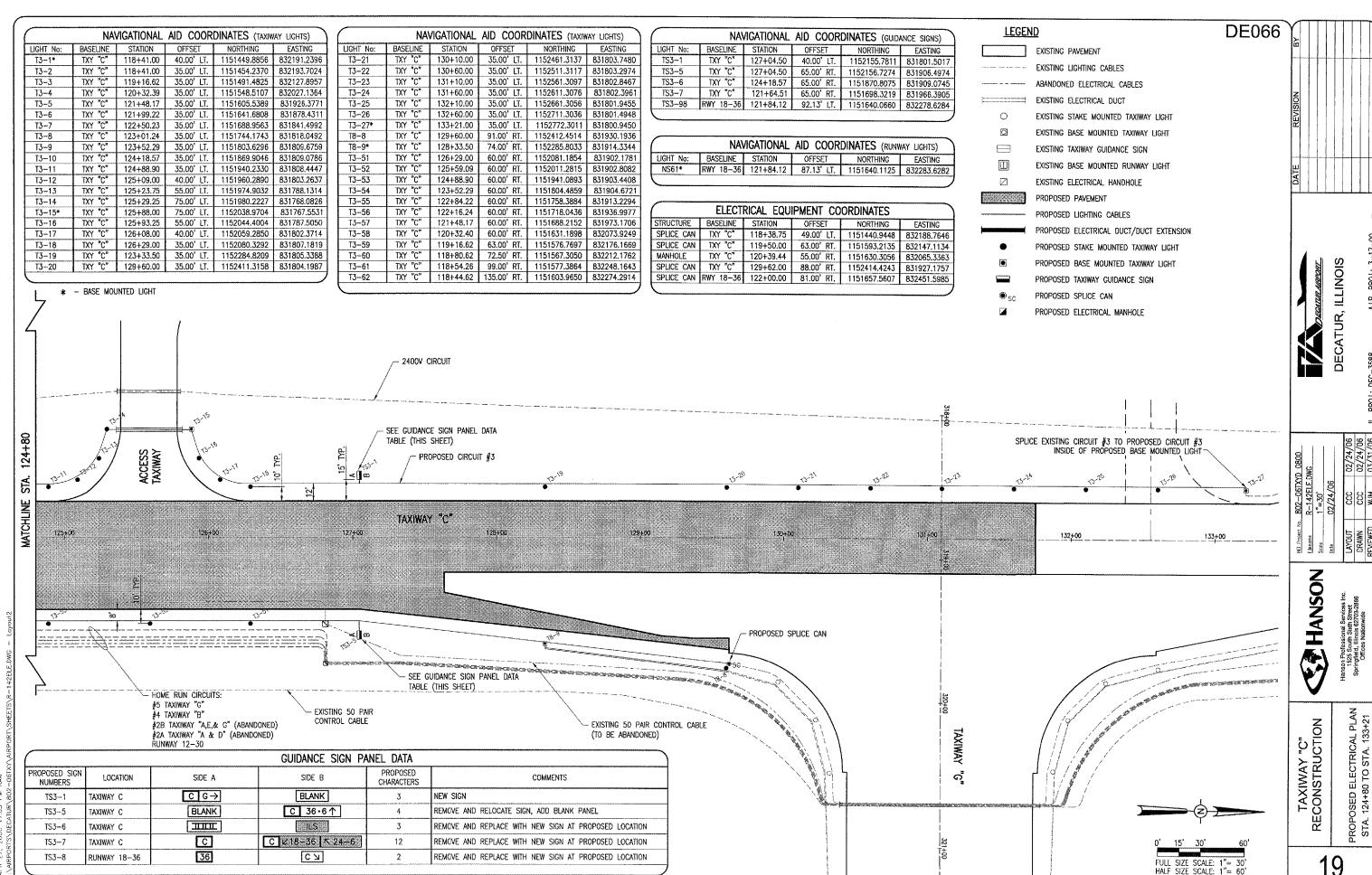


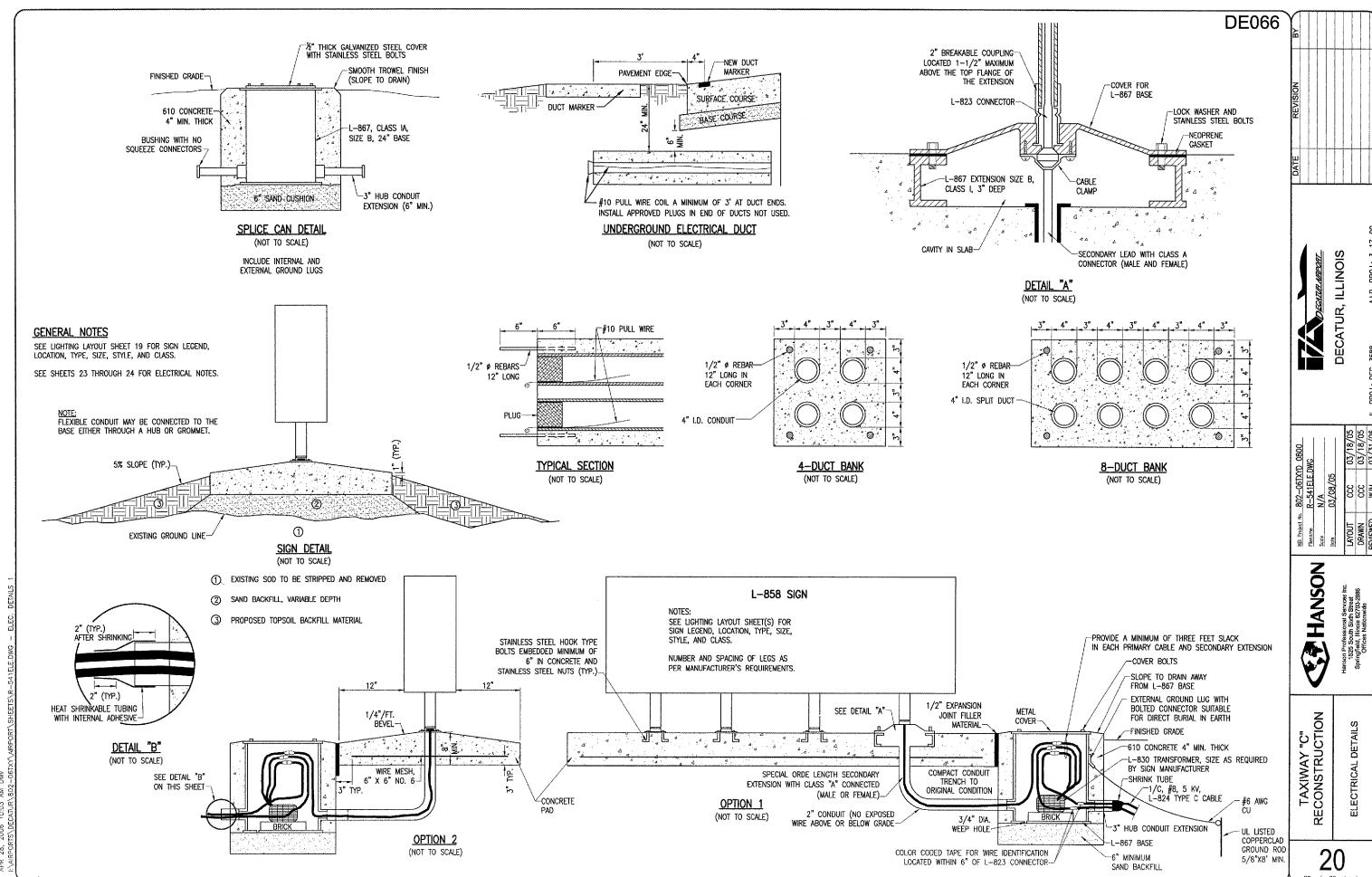
DECATUR, ILLINOIS

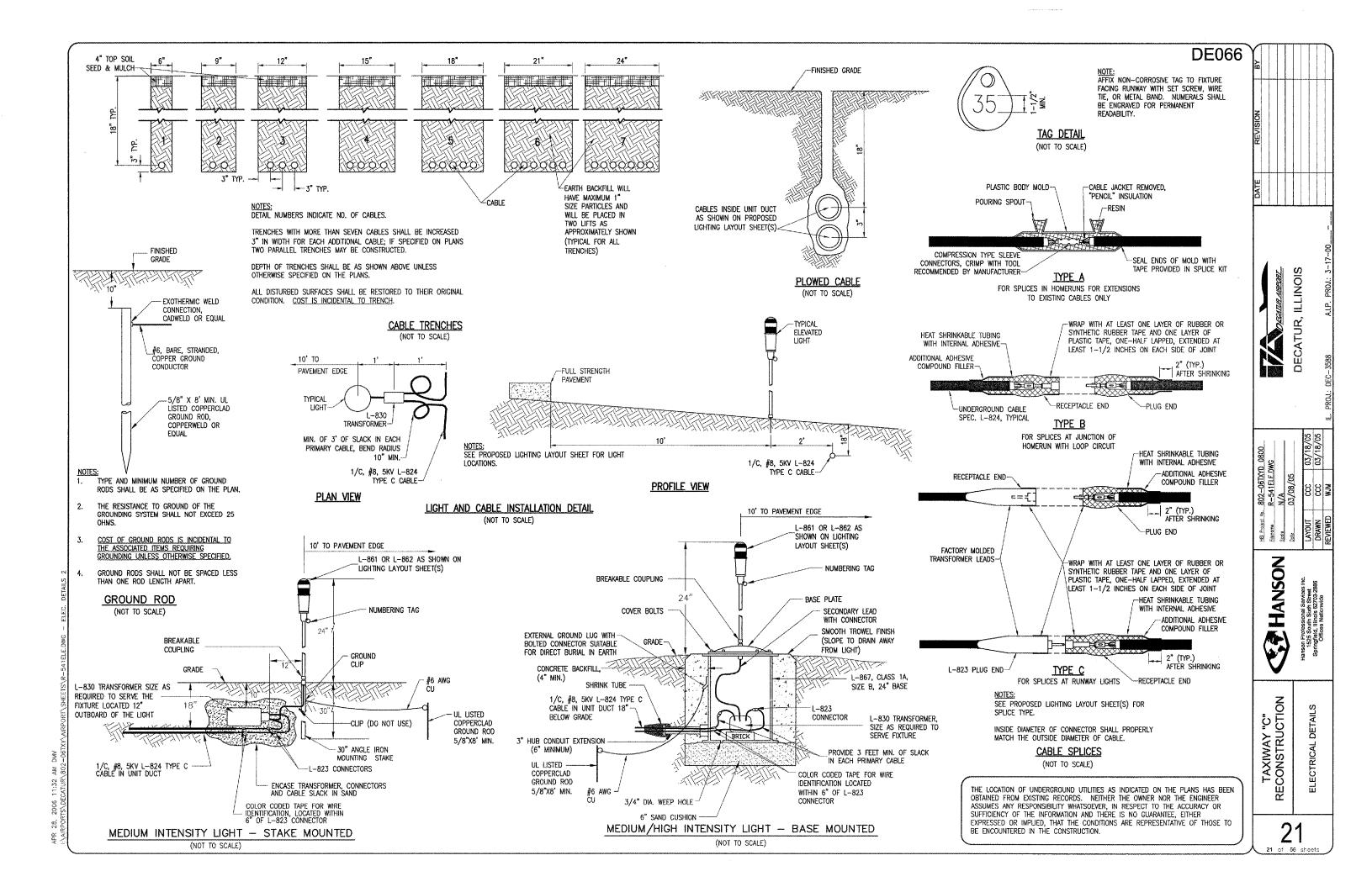


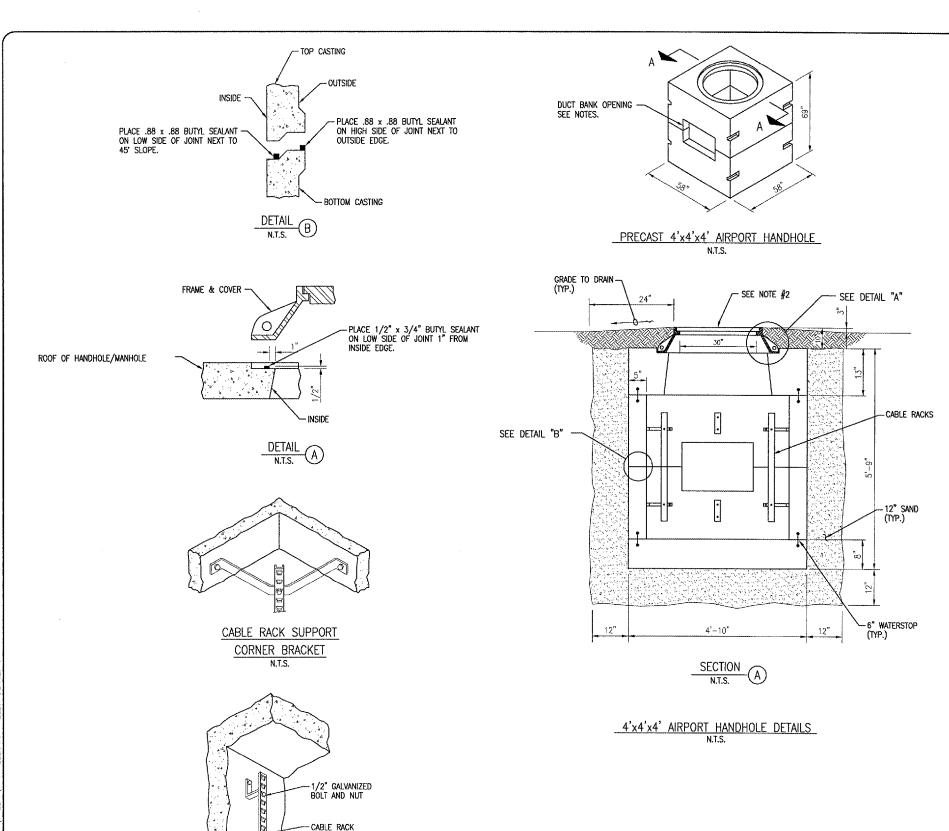












-1/2" GALVANIZED BOLT

CABLE RACK SUPPORT

CABLE RACK

PRECAST 4'x4'x4' AIRPORT HANDHOLE NOTES

1. 4'x4'x4' AIRPORT HANDHOLE SHALL BE CONSTRUCTED TO MEET THE FOLLOWING:

- DESIGN CRITERIA:

  1) DESIGN SPECIFICATIONS: ACI 318, ASTM C858, FAA AC 150/5320-6D

  2) DESIGN LOADING:
- 8727-200 (210,000 LB. TAX! WEIGHT, 97,600 LB. MAX. GEAR) B777-200/300 (752,000 LB. TAXI WEIGHT, 352,000 LB. MAX. GEAR)
- 3) LIVE LOAD SURCHARGE: 24.5% OF THE WHEEL LOAD SOIL PRESSURE
- 4) CONCRETE COMPRESSIVE STRENGTH: F'c = 5,000 PSI
- 5) REINFORCING STEEL: ASTM A706, Fy = 60,000 PSI

- DESIGN ASSUMPTIONS:
  1) GROUND WATER LEVEL: 3'-6" BELOW GRADE
  2) EARTH COVER: 0'-8" 2'-0"
- 3) LIVE LOAD IMPACT: I = 20%
- 4) COEFFICIENT OF ACTIVE EARTH PRESSURE: Kg = 0.3
- 5) SPECIFIC WEIGHT OF STD. AGGREGATE CONCRETE: 150 PCF
- 6) SPECIFIC WEIGHT OF DRY EARTH: 100 PCF 7) SPECIFIC WEIGHT OF SATURATED EARTH: 120 PCF
- 8) EQUIVALENT FLUID PRESSURE OF DRY EARTH: 30 PSF
- 9) EQUIVALENT FLUID PRESSURE OF SATURATED EARTH: 80 PSF
- AIRPORT HANDHOLE FRAME & LID SHALL BE CAPABLE OF WITHSTANDING MINIMUM 100,000 POUND LOADS AS CALLED FOR IN FAA ADVISORY CIRCULAR AC 150/5320-6D APPENDIX 3 ITEM 2.d. (1). AIRPORT HANDHOLE FRAME & LID SHALL BE NEENAH CATALOG NO. R-3492-A OR APPROVED EQUAL. LID SHALL BE LABELED "ELECTRIC".
- COORDINATE DUCT BANK INTERFACE & OPENINGS WITH THE HANDHOLE MFR.
  CONTRACTOR SHALL SLOPE DUCT BANK TO PRECAST HANDHOLE OPENINGS. ALL
  OPENINGS SHALL BE SEALED WATERTIGHT AFTER DUCT BANK INSTALLATION.
- 4'x4'x4' AIRPORT HANDHOLE SHALL BE MANUFACTURED BY HARTFORD CONCRETE PRODUCTS, INC., 1400 N. WABASH AVE., P.O. BOX 660, HARTFORD CITY, IN. 47348, PHONE 765-348-3506 OR 1-800-428-8110, OR APPROVED EQUIVALENT.
- 4'x4'x4' AIRPORT HANDHOLE SHALL BE PAID FOR UNDER ITEM AR110710 ELECTRICAL

**DE066** 

DECATUR, ILLINOIS

HANSON ELECTRICAL DETAILS

TAXIWAY "C" RECONSTRUCTION

#### **GENERAL**

- THE ELECTRICAL INSTALLATION, AS A MINIMUM, SHALL MEET THE NATIONAL ELECTRICAL CODE (LATEST RECOGNIZED VERSION) AND LOCAL REGULATIONS.
- THE CONTRACTOR SHALL ASCERTAIN THAT ALL LIGHTING SYSTEM COMPONENTS FURNISHED BY HIM, INCLUDING FAA APPROVED EQUIPMENT, ARE COMPATIBLE IN ALL RESPECTS WITH EACH OTHER AND THE REMAINDER OF THE NEW/EXISTING SYSTEM. ANY NONCOMPATIBLE COMPONENTS FURNISHED BY THIS CONTRACTOR SHALL BE REPLACED BY HIM AT NO ADDITIONAL COST TO THE AIRPORT SPONSOR WITH A SIMILAR UNIT, APPROVED BY THE ENGINEER (DIFFERENT MODEL OR DIFFERENT MANUFACTURER) THAT IS COMPATIBLE WITH THE REMAINDER OF THE AIRPORT
- IN CASE THE CONTRACTOR ELECTS TO FURNISH AND INSTALL AIRPORT LIGHTING EQUIPMENT REQUIRING ADDITIONAL WIRING, TRANSFORMERS, ADAPTORS, MOUNTINGS, ETC., TO THOSE SHOWN ON THE DRAWINGS AND/OR ADATIONS, MOINTINGS, EIG., TO THOSE SHOWN ON THE DIAMINGS AN LISTED IN THE SPECIFICATION, ANY COST. FOR THESE ITEMS SHALL BE INCIDENTAL TO THE EQUIPMENT COST.
- 4. THE CONTRACTOR INSTALLED EQUIPMENT (INCLUDING FAA APPROVED) SHALL NOT GENERATE ANY ELECTROMAGNETIC INTERFERENCE IN THE EXISTING AND/OR NEW COMMUNICATIONS, WEATHER, AIR NAVIGATION, AND AIR TRAFFIC CONTROL EQUIPMENT. ANY EQUIPMENT GENERATING SUCH INTERFERENCE SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST WITH THE EQUIPMENT MEETING THE APPLICABLE SPECIFICATIONS AND NOT GENERATING ANY INTERFERENCE.
- WHEN A SPECIFIC TYPE, STYLE, CLASS, ETC. OF FAA APPROVED EQUIPMENT IS SPECIFIED ONLY THAT TYPE, STYLE, CLASS, WILL BE ACCEPTABLE, EVEN THOUGH EQUIPMENT OF OTHER TYPES STYLES, CLASSES, ETC. MAY BE
- 6. ANY AND ALL INSTRUCTIONS FROM THE ENGINEER TO THE CONTRACTOR REGARDING CHANGES IN OR DEVIATIONS FROM THE PLANS AND SPECIFICATIONS SHALL BE IN WRITING WITH COPIES SENT TO THE AIRPORT SPONSOR AND THE FAA FIELD OFFICE (ADO/AFO). THE CONTRACTOR SHALL NOT ACCEPT ANY VERBAL INSTRUCTIONS FROM THE RESIDENT ENGINEER REGARDING ANY CHANGES FROM THE PLANS AND SPECIFICATIONS.
- A MINIMUM OF THREE COPIES OF THE INSTRUCTION BOOK SHALL BE SUPPLIED WITH EACH DIFFERENT TYPE OF EQUIPMENT. THE BOOKS DESCRIBING A MORE SOPHISTICATED TYPE OF FOUIPMENT SUCH AS REGULATORS, PAPI, REIL, ETC. AS A MINIMUM SHALL CONTAIN THE
  - A DETAILED DESCRIPTION OF THE OVERALL EQUIPMENT AND ITS INDIVIDUAL COMPONENTS.
  - THEORY OF OPERATION INCLUDING THE FUNCTION OF EACH
  - INSTALLATION INSTRUCTIONS
  - START-UP INSTRUCTIONS.
  - PREVENTATIVE MAINTENANCE REQUIREMENTS.
  - CHART FOR TROUBLE-SHOOTING.
  - COMPLETE POWER AND CONTROL DETAILED WIRING DIAGRAM(S), SHOWING EACH CONDUCTOR/CONNECTION/COMPONENT - "BLACK" BOXES ARE NOT ACCEPTABLE. THE DIAGRAM OF THE NARRATIVE SHALI SHOW VOLTAGE/CURRENTS/WAVE SHAPES AT STRATEGIC LOCATIONS TO BE USED WHEN CHECKING AND/OR TROUBLE—SHOOTING THE FOLIPMENT, WHEN THE FOLIPMENT HAS SEVERAL MODES OF OPERATION, SUCH AS SEVERAL BRIGHTNESS STEPS, THESE PARAMETERS SHALL BE INDICATED FOR ALL DIFFERENT MODES.
  - H. PARTS LIST WHICH WILL INCLUDE ALL MAJOR AND MINOR COMPONENTS SUCH AS RESISTORS, DIODES, ETC. IT SHALL INCLUDE A COMPLETE NOMENCLATURE OF EACH COMPONENT AND, IF APPLICABLE, THE NAME OF ITS MANUFACTURER AND THE CATALOG NUMBER.
  - SAFETY INSTRUCTIONS.

#### POWER AND CONTROL

- STENCIL ALL ELECTRICAL EQUIPMENT TO IDENTIFY FUNCTION, CIRCUIT VOLTAGE AND PHASE. WHERE THE EQUIPMENT CONTAINS FUSES, ALSO STENCIL. THE FUSE OR FUSE LINK AMPERE RATING. WHERE THE EQUIPMENT DOES NOT HAVE SUFFICIENT STENCILING AREA, THE STENCILING SHALL BE DONE ON THE WALL NEXT TO THE UNIT. THE LETTERS SHALL BE ONE INCH HIGH AND PAINTED IN WHITE OR BLACK TO PROVIDE THE HIGHEST CONTRACT
- COLOR CODE ALL PHASE WIRING BY THE USE OF COLORED WIRE INSULATION AND/OR COLORED TAPE. WHERE TAPE IS USED, THE WIRE INSULATION SHALL BE BLACK, BLACK AND RED SHALL BE USED FOR SINGLE-PHASE, THREE VIRE SYSTEMS AND BLACK, RED AND BLUE SHALL BE USED FOR THREE-PHASE SYSTEMS. NEUTRAL CONDUCTORS, SIZE NO. 6 AWG OR SMALLER, SHALL BE IDENTIFIED BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ITS ENTIRE LENGTH. NEUTRAL CONDUCTORS LARGER THAN NO. 6 AWG SHALL BE IDENTIFIED EITHER BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ITS ENTIRE LENGTH OR BY THE USF OF WHITE TAPE AT ITS TERMINATIONS AND INSIDE ACCESSIBLE WIREWAYS.
- ALL BRANCH CIRCUIT CONDUCTORS CONNECTED TO A PARTICULAR PHASE SHALL BE IDENTIFIED WITH THE SAME COLOR. THE COLOR CODING SHALL BE EXTENDED TO THE POINT OF UTILIZATION.
- IN CONTROL WIRING THE SAME COLOR SHALL BE USED THROUGHOUT THE SYSTEM FOR THE SAME FUNCTION, SUCH AS 10%, 30%, 100% BRIGHTNESS
- LOW VOLTAGE (600 V.) AND HIGH VOLTAGE (5000 V.) CONDUCTORS SHALL BE INSTALLED IN SEPARATE WIREWAYS.
- NEATLY LACE WIRING IN DISTRIBUTION PANELS, WIREWAYS, SWITCHES AND JUNCTION/PULL BOXES.
- THE MINIMUM SIZE OF PULL/JUNCTION BOXES, REGARDLESS OF THE QUANTITY AND SIZE OF THE CONDUCTORS SHOWN, SHALL BE AS FOLLOWS:
  - IN STRAIGHT PULLS THE LENGTH OF THE BOX SHALL NOT BE LESS THAN EIGHT TIMES THE TRADE DIAMETER OF THE LARGER CONDUIT. THE TOTAL AREA (INCLUDING THE CONDUIT CROSS-SECTIONAL AREA) OF A BOX END SHALL BE AT LEAST 3 TIMES GREATER THAN THE TOTAL TRADE CROSS-SECTIONAL AREA OF THE CONDUITS TERMINATING AT THE END.
  - IN ANGLE PULLS OR 'U' PULLS THE DISTANCE BETWEEN EACH CONDUIT ENTRY INSIDE THE BOX AND THE OPPOSITE WALL OF THE BOX SHALL NOT BE LESS THAN SIX (6) TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT. THIS DISTANCE SHALL BE INCREASED FOR ADDITIONAL ENTRIES BY THE AMOUNT OF THE SUM OF THE DIAMETERS OF ALL OTHER CONDUIT ENTRIES ON THE SAME WALL AS THE BOX. THE DISTANCE BETWEEN CONDUIT ENTRIES ENCLOSING THE SAME CONDUCTOR SHALL NOT BE LESS THAN SIX TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT.
- A RUN OF CONDUIT BETWEEN TERMINATIONS AT EQUIPMENT ENCLOSURES, SQUARE DUCTS AND PULL/JUNCTION BOXES, SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL). INCLUDING THOSE BENDS LOCATED IMMEDIATELY AT THE TERMINATIONS, CAST, CONDUIT TYPE OUTLETS SHALL NOT BE TREATED AS PULL/JUNCTION BOXES.
- EQUIPMENT CABINETS SHALL NOT BE USED AS PULL/JUNCTION BOXES, ONLY WIRING TERMINATING AT THE EQUIPMENT SHALL BE BROUGHT INTO THESE
- SPLICES AND JUNCTION POINTS SHALL BE PERMITTED ONLY IN JUNCTION BOXES, DUCTS EQUIPPED WITH REMOVABLE COVERS, AND AT EASILY ACCESSIBLE LOCATIONS.
- CIRCUIT BREAKERS IN POWER DISTRIBUTION PANEL(S) SHALL BE THERMAL-MAGNETIC MOLDED CASE, PERMANENT TRIP WITH 100 AMPERE,

- 12. DUAL LUGS SHALL BE USED WHERE TWO (2) WIRES, SIZE NO. 6 OR LARGER, ARE TO BE CONNECTED TO THE SAME TERMINAL.
- 13. ALL WALL MOUNTED EQUIPMENT ENCLOSURES SHALL BE MOUNTED ON WOODEN MOUNTING BOARDS.
- 14. WOODEN EQUIPMENT MOUNTING BOARDS SHALL BE PLYWOOD, EXTERIOR TYPE, 3/4 INCH, MINIMUM, THICKNESS, BOTH SIDES PAINTED WITH ONE COAT OF PRIMER AND TWO COATS OF GRAY OIL-BASED PAINT.
- 15. RIGID STEEL CONDUIT SHALL BE USED THROUGHOUT THE INSTALLATION UNLESS OTHERWISE SPECIFIED. THE MINIMUM TRADE SIZE SHALL BE 3/4
- ALL RIGID CONDUIT SHALL BE TERMINATED AT CONSTANT CURRENT REGULATORS WITH A SECTION (10" MINIMUM) OF FLEXIBLE CONDUIT.
- 17. UNLESS OTHERWISE SHOWN, ALL EXPOSED CONDUITS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES WITH THE LINES OF THE STRUCTURE.
- 18. ALL STEEL CONDUITS, FITTINGS, NUTS, BOLTS, ETC. SHALL BE GALVANIZED.
- USE CONDUIT BUSHINGS AT EACH CONDUIT TERMINATION. WHERE NO. 4 AWG OR LARGER UNDERGROUND WIRE IS INSTALLED, USE INSULATED BUSHINGS.
- 20. USE DOUBLE LOCK NUTS AT EACH CONDUIT TERMINATION.
- 21. WRAP ALL PRIMARY AND SECONDARY POWER TRANSFORMER CONNECTIONS WITH SUFFICIENT LAYERS OF INSULTING TAPE AND COVER WITH INSULATING VARNISH FOR FULL VALUE OF CABLE INSULATION VOLTAGE.
- 22. UNLESS OTHERWISE NOTED, ALL INDOOR SINGLE CONDUCTOR CONTROL WIRING SHALL BE NO. 12 AWG. MINUMUM.
- 23. THE FOLLOWING SHALL APPLY TO RELAY/CONTACTOR PANELS/ENCLOSURES:
  - ALL COMPONENTS SHALL BE MOUNTED IN DUST PROOF ENCLOSURE(S) WITH VERTICALLY HINGED COVERS.
  - THE ENCLOSURE(S) SHALL HAVE AMPLE SPACE FOR THE CIRCUIT COMPONENTS, TERMINAL BLOCKS AND INCOMING AND INTERNAL WIRING.
  - ALL CONTROL CONDUCTOR TERMINATIONS SHALL BE OF THE OPEN—EYE CONNECTOR/SCREW TYPE. SOLDERED CLOSED—EYE TERMINATIONS, OR TERMINATIONS WITHOUT CONNECTORS ARE NOT ACCEPTABLE.
  - WHEN THE ENCLOSURE COVER IS OPENED, ALL CIRCUIT COMPONENTS, WIRING AND TERMINALS SHALL BE EXPOSED AND ACCESSIBLE WITHOUT REMOVAL OF ANY PANELS, COVERS, ETC., EXCEPT THOSE COVERING HIGH VOLTAGE COMPONENTS.
  - ACCESS TO, OR REMOVAL OF A CIRCUIT COMPONENT OR TERMINAL BLOCK WILL NOT REQUIRE THE REMOVAL OF ANY OTHER CIRCUIT COMPONENT OR TERMINAL BLOCK.
  - EACH CIRCUIT COMPONENT SHALL BE CLEARLY IDENTIFIED INDICATING ITS CORRESPONDING NUMBER SHOWN ON THE DRAWINGS AND ITS FUNCTION.
  - A COMPLETE WIRING DIAGRAM (NOT A SCHEMATIC DIAGRAM) SHALL BE MOUNTED ON THE INSIDE OF THE COVER. THE DIAGRAM SHALL REPRESENT EACH CONDUCTOR BY A SEPARATE LINE.
  - THE DIAGRAM SHALL IDENTIFY EACH CIRCUIT COMPONENT AN NUMBERING AND COLOR OF EACH TERMINAL CONDUCTOR AND TERMINAL.
  - ALL WIRING SHALL BE NEATLY TRAINED AND LACED.
  - MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.

TAXIWAY "C" ECONSTRUCTION  $\alpha$ 

#### FIELD LIGHTING NOTES

- UNLESS OTHERWISE NOTED, ALL UNDERGROUND FIELD POWER
  MULTIPLE AND SERIES CIRCUIT CONDUCTORS WHETHER DEB OR IN
  DUCT/CONDUIT SHALL BE FAA APPROVED L-824 TYPE.
  INSULATION VOLTAGE AND SIZE SHALL BE AS SPECIFIED.
- NO COMPONENTS OF PRIMARY CIRCUIT SUCH AS CABLE, CONNECTORS AND TRANSFORMERS SHALL BE BROUGHT ABOVE GROUND AT EDGE LIGHTS, SIGNS, REIL, PAPI, ETC.
- 3. THERE SHALL BE NO EXPOSED POWER/CONTROL CABLES BETWEEN THE POINT WHERE THEY LEAVE THE UNDERGROUND (DEB OR L-867 BASES) AND WHERE THEY ENTER THE EQUIPMENT (SUCH AS TAXIWAY SIGNS, PAPI, REIL, ETC.) ENCLOSURES. THESE CABLES SHALL BE ENCLOSED IN RIGID CONDUIT OR IN FLEXIBLE, WATERTIGHT CONDUIT WITH BREAKABLE COUPLING(S) AT THE GRADE OR THE HOUSING COVER, AS SHOWN IN APPLICABLE DETAILS.
- 4. THE JOINTS OF THE L-823 PRIMARY CONNECTORS SHALL BE WRAPPED WITH AT LEAST ONE LAYER OF RUBBER OR SYNTHETIC RUBBER TAPE AND ONE LAYER OF PLASTIC TAPE, ONE-HALF LAPPED, EXTENDING AT LEAST 1-1/2 INCHES ON EACH SIDE OF THE JOINT, AS SHOWN ON SHEET NO. 21.
- THE CABLE ENTRANCE INTO THE FIELD—ATTACHED L—823 CONNECTORS SHALL BE ENCLOSED BY A HEAT—SHRINKABLE TUBING WITH CONTINUOUS INTERNAL ADHESIVE, AS SHOWN ON SHEET NO. 21.
- L-823 TYPE II, TWO-CONDUCTOR SECONDARY CONNECTORS SHALL BE CLASS 'A' (FACTORY MOLDED).
- THERE SHALL BE NO SPLICES IN THE SECONDARY CABLE(S)
  WITHIN THE STEMS OF A RUNWAY/TAXIWAY EDGE/THRESHOLD
  LIGHTING FIXTURE AND THE WIREWAYS LEADING TO TAXIWAY
  SIGNS AND PAPI/REIL EQUIPMENT.
- 8. ELECTRICAL INSULATING GREASE SHALL BE APPLIED WITHIN THE L-823, SECONDARY, TWO CONDUCTOR CONNECTORS TO PREVENT WATER ENTRANCE. THESE CONNECTORS SHALL NOT BE TAPFO.
- DEB ISOLATION TRANSFORMERS SHALL BE BURIED AT A DEPTH OF TEN (10") INCHES ON A LINE CROSSING THE LIGHT AND PERPENDICULAR TO THE RUNWAY/TAXIWAY CENTERLINE AT A LOCATION TWELVE (12") INCHES FROM THE LIGHT OPPOSITE FROM THE RUNWAY/TAXIWAY.
- 10. A SLACK OF THREE (3') FEET, MINIMUM, SHALL BE PROVIDED IN THE PRIMARY CABLE AT EACH TRANSFORMER/CONNECTOR TERMINATION. AT STAKE—MOUNTED LIGHTS, THE SLACK SHALL BE LOOSELY COILED IMMEDIATELY BELOW THE ISOLATION TRANSFORMER.
- 11. DIRECTION OF PRIMARY CABLES SHALL BE IDENTIFIED BY COLOR CODING AS FOLLOWS: WHEN FACING LIGHT WITH BACK TO PAVEMENT, CABLE TO THE LEFT IS CODED RED AND CABLE TO RIGHT IS CODED BLUE. THIS APPLIES TO STAKE MOUNTED LIGHTS AND BASE MOUNTED LIGHTS WHERE THE BASE HAS ONLY ONE ENTRANCE.
- L-867 BASES SHALL BE SIZE B, 24" DEEP, CLASS I, UNLESS OTHERWISE NOTED.
- 13. BASE MOUNTED BREAKABLE COUPLINGS SHALL NOT HAVE WEEP HOLES TO THE OUTSIDE. PLUGGED UP HOLES SHALL NOT BE ACCEPTABLE. IT SHALL BE A 1/4" DIAMETER, MINIMUM, OR EQUIVALENT OPENING FOR DRAINAGE FROM THE SPACE AROUND THE SECONDARY CONNECTOR INTO THE L-867 BASE.
- 14. THE ELEVATION OF THE BREAKABLE COUPLING GROOVE SHALL NOT EXCEED 1~1/2" ABOVE THE EDGE OF THE COVER IN CASE OF BASE MOUNTED COUPLINGS, OR THE TOP OF THE STAKE IN CASE OF STAKE MOUNTED COUPLINGS.

- 15. WHERE THE BREAKABLE COUPLING IS NOT AN INTEGRAL PART OF THE LIGHT FIXTURE STEM OR MOUNTING LEG, A BEAD OF SILICON SEAL SHALL BE APPLIED COMPLETELY AROUND LIGHT STEM OR WIREWAY AT BREAKABLE COUPLING TO PROVIDE A WATERTIGHT SFAI
- TOPS OF THE STAKES SUPPORTING LIGHT FIXTURES SHALL BE FLUSH WITH THE SURROUNDING GRADE.
- PLASTIC LIGHTING FIXTURE COMPONENTS, SUCH AS LAMP HEADS, STEMS, BREAKABLE COUPLINGS, BASE COVERS, BRACKETS, STAKES, SHALL NOT BE ACCEPTABLE.
- 18. THE TOLERANCE FOR THE HEIGHT OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE: ONE (1) INCH. IN CASE OF STAKE MOUNTED LIGHTS, THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE STAKE AND THE TOP OF THE LENS. IN CASE OF BASE MOUNTED LIGHTS, THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE BASE FLANGE AND THE TOP OF THE LENS, THUS INCLUDING THE BASE COVER, THE FRANGIBLE COUPLING, THE STEM. THE LAMP HOUSING AND THE LENS.
- 19. THE TOLERANCE FOR THE LATERAL SPACING (LIGHT LANE TO RUNWAY/TAXIWAY CENTERLINE) OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE ONE (1) INCH. THIS ALSO APPLIES AT INTERSECTIONS TO LATERAL SPACING BETWEEN LIGHTS OF A RUNWAY/TAXIWAY AND THE INTERSECTING RUNWAY/TAXIWAY.
- ENTRANCES INTO L-867 BASES SHALL BE SEALED WITH HEAT SHRINK AS SHOWN IN DETAIL "B" ON SHEET NO. 20.
- 21. GALVANIZED/PAINTED EQUIPMENT/COMPONENT SURFACES SHALL
  NOT BE DAMAGED BY DRILLING, FILING, ETC. DRAIN HOLES IN
  METAL TRANSFORMER HOUSINGS SHALL BE MADE BEFORE
  GALVANIZING.
- 22. EDGE LIGHT NUMBERING TAGS SHALL BE FACING THE PAVEMENT.
- 23. CABLE/SPLICE/DUCT MARKERS SHALL BE PRECAST CONCRETE OF THE SIZE SHOWN. LETTERS/NUMBERS/ARROWS FOR THE LEGEND TO BE IMPRESSED INTO THE TOPS OF THE MARKERS SHALL BE PRE— ASSEMBLED AND SECURED IN THE MOLD BEFORE THE CONCRETE IS POURED. LEGEND INSCRIBED BY HAND IN WET CONCRETE SHALL NOT BE ACCEPTABLE.
- 24. ALL UNDERGROUND CABLE RUNS SHALL BE IDENTIFIED BY CABLE MARKERS AT 200 FEET MAXIMUM SPACING, WITH AN ADDITIONAL MARKER AT EACH CHANGE OF DIRECTION OF THE CABLE RUN. CABLE MARKERS SHALL BE INSTALLED IMMEDIATELY ABOVE THE CABLES.
- THERE SHALL BE NO SPLICES BETWEEN THE ISOLATION TRANSFORMERS. L-823 CONNECTORS ARE ALLOWED AT TRANSFORMER CONNECTIONS ONLY, UNLESS OTHERWISE SHOWN.
- APPLY AN OXIDE INHIBITING, ANTI-SEIZING COMPOUND TO ALL SCREWS, NUTS AND BREAKAGE COUPLING THREADS.
- LOCATIONS OF ENDS OF ALL UNDERGROUND DUCTS SHALL BE IDENTIFIED BY DUCT MARKERS.
- WHERE A PARALLEL, CONSTANT VOLTAGE PAPI SYSTEM IS PROVIDED, THE "T" SPLICES SHALL BE OF THE CAST TYPE.
- CONCRETE USED FOR SLABS, FOOTINGS, BACKFILL AROUND TRANSFORMER HOUSINGS, MARKINGS, ETC. SHALL BE 3000 PSI, AIR\_ENTRAINED.
- 30. ALL POWER AND CONTROL CABLES IN MAN/HAND HOLES SHALL BE TAGGED. USE EMBOSSED COPPER STRIPS TO BE ATTACHED AT BOTH ENDS TO THE CABLE BY THE USE OF PLASTIC STRAPS. MINIMUM OF TWO TAGS SHALL BE PROVIDED ON EACH CABLE IN A MAN/HAND HOLE—ONE AT THE CABLE ENTRANCE AND ONE AT THE CABLE EXIT.

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#### GROUNDING NOTES

- ALL GROUND CONNECTIONS TO GROUND RODS, BUSSES, PANELS, ETC.
  SHALL BE MADE WITH PRESSURE TYPE SOLDERLESS LUGS AND
  GROUND CLAMPS SOLDERED OR BOLT AND WASHER TYPE
  CONNECTIONS ARE NOT ACCEPTABLE. CLEAN ALL METAL SURFACES
  BEFORE MAKING GROUND CONNECTIONS. CONNECTIONS TO GROUND
  RODS SHALL BE EXCTHERMIC WELD WHERE SPECIFIED HEREIN.
- TOP OF GROUND RODS SHALL BE TEN (10) INCHES BELOW GRADE, UNLESS SPECIFIED OTHERWISE HEREIN, FOR RESPECTIVE APPLICATIONS.
- THE RESISTANCE TO GROUND OF THE VAULT GROUNDING SYSTEM WITH THE COMMERCIAL POWER LINE NEUTRAL DISCONNECTED SHALL NOT EXCEED 10 OHMS.

DE066

TE REVISION BY

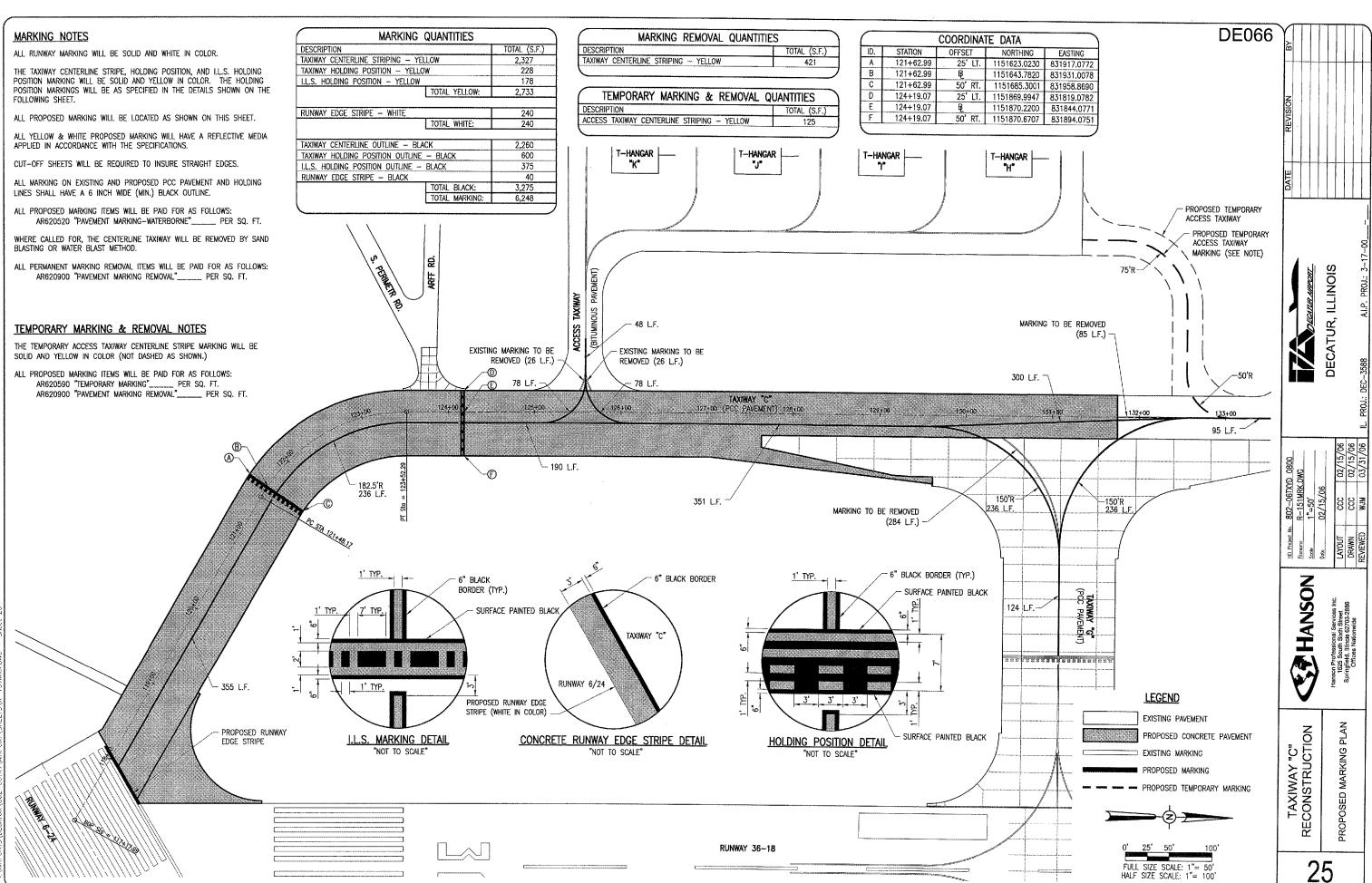
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DECATUR, ILLINOIS

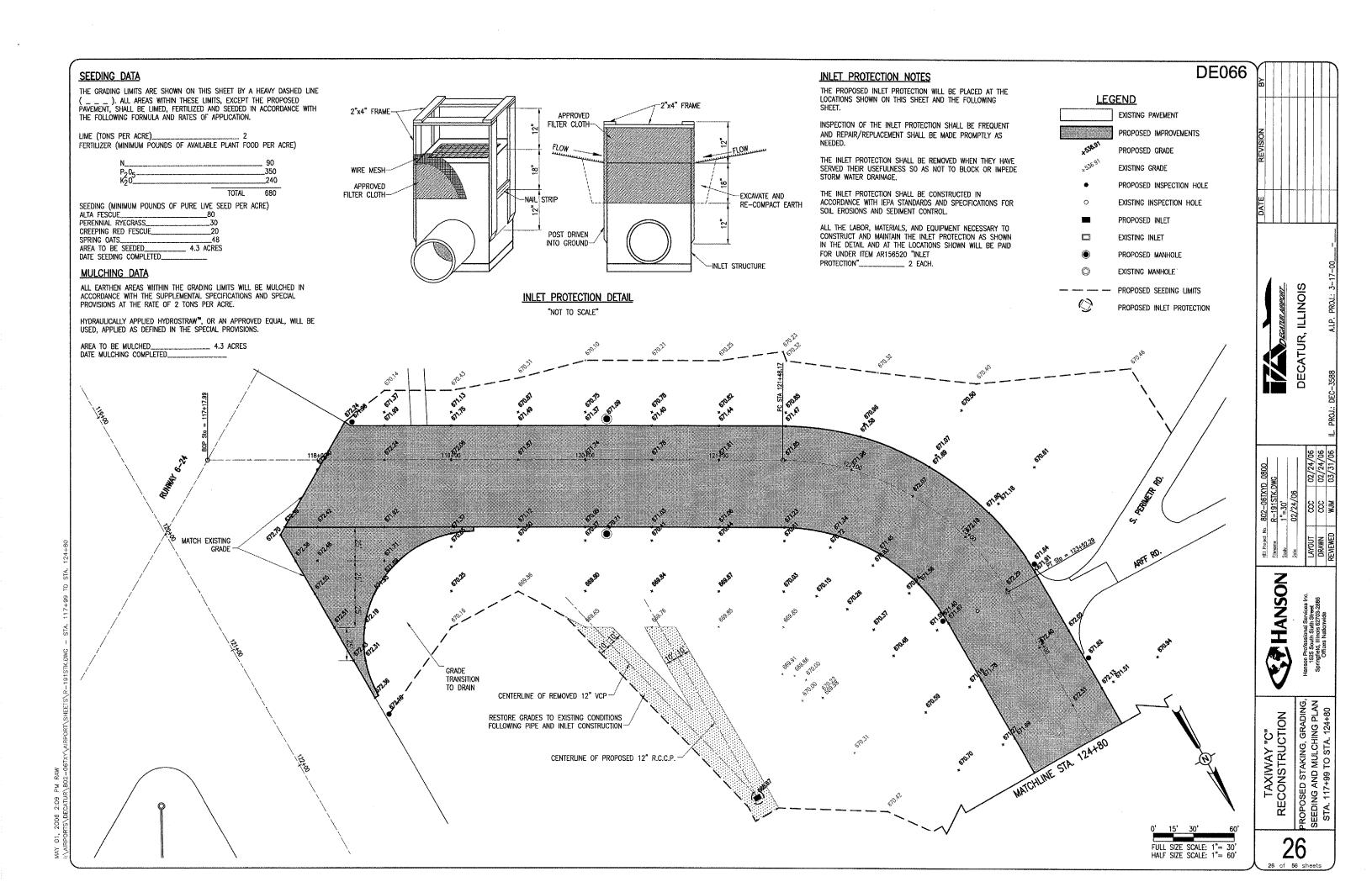
anson Professional Services Inc. 1525 South Sixth Street Springfield, Illinos 62703-2886 Offices Nationwide

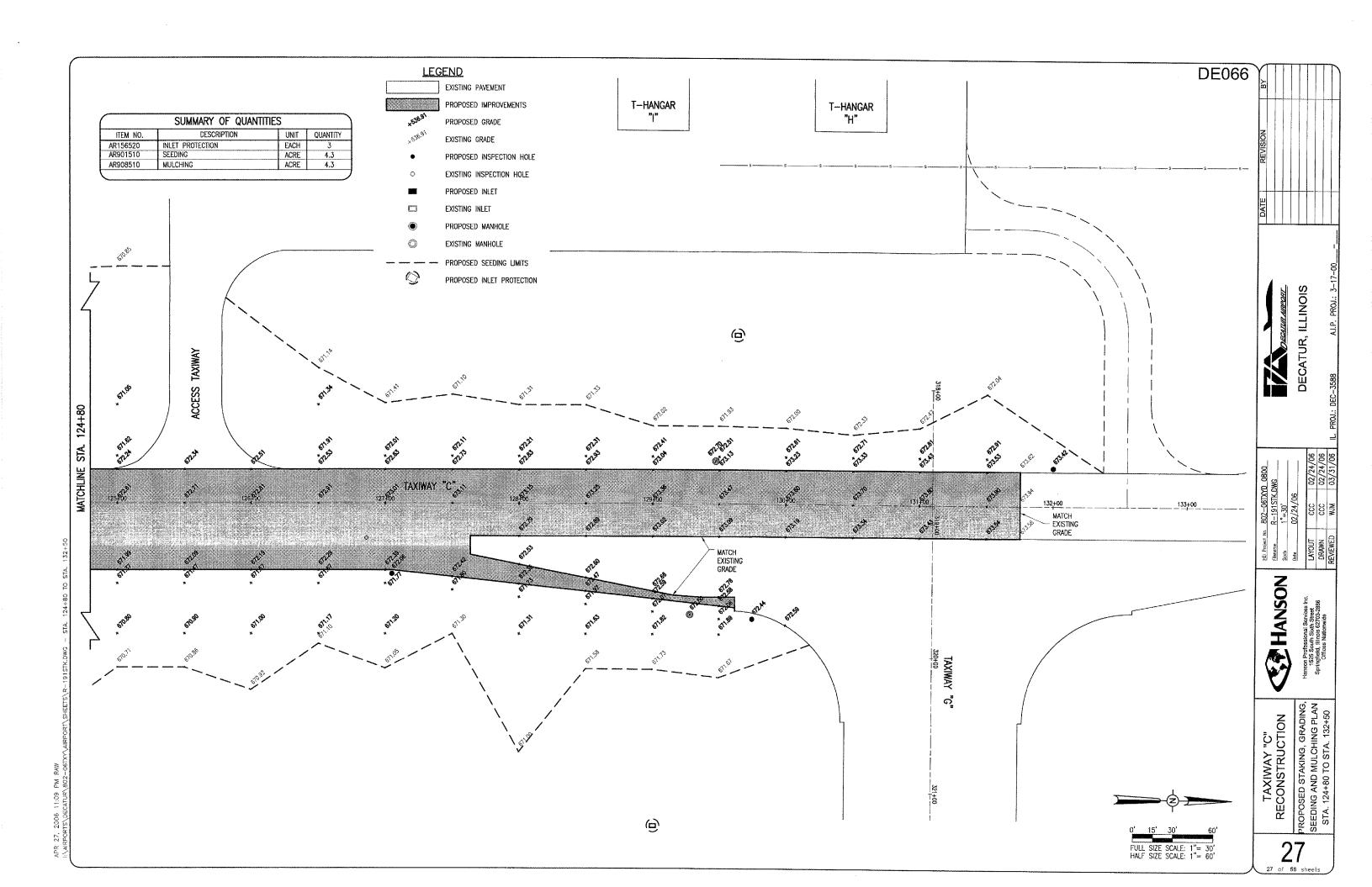
**HANSON** 

TAXIWAY "C"
RECONSTRUCTION
ELECTRICAL NOTES



10:54 PM KAW CATHR\802-06IXX\ARPORT\SHEFIS\R-151M





# LOW PROFILE BARRIER NOTES

THE BARRIERS WILL BE CONSTRUCTED OF NEW OR SALVAGED RAILROAD TIES (7"±H x 9"±W x 8.5'±L) CAPPED WITH 1" CONSTRUCTION GRADE LUMBER ON THREE SIDES, 4" WHITE AND 4" ORANGE REFLECTIVE TAPE ON THREE SIDES, (2) OBSTRUCTION LIGHTS, AND (1) 18"x18" FLAG.

BARRIERS THAT ARE IN PLACE AND CONFLICT WITH CONSTRUCTION OPERATIONS CAN BE TEMPORARILY RELOCATED AND REPLACED AS SOON AS THE CONSTRUCTION SEQUENCE IS COMPLETED, BUT NO LATER THAN THE END OF THE CONSTRUCTION DAY.

THE SEPARATION DISTANCE BETWEEN EACH BARRIER WILL BE A MAXIMUM OF

THE OBSERVATION LIGHTS WILL BE THE SAME FIXTURES AS USED ON A BARRICADE WITH A RED STEADY BURN LIGHT. THE FIXTURES WILL BE MOUNTED 2 FEET FROM EITHER END OF THE BARRIER AND CENTERED ON THE BARRIER.

ONE 18" SQUARE ORANGE FLAG, EXTENDED, WITH MOUNTING DOWEL AND BRACKET. MOUNT THE FLAG CENTERED WITH THE LENGTH AND WIDTH OF THE BARRIER. THE HEIGHT OF THE FLAG WILL BE  $30^\circ\pm$ .

11 BARREIRS WITH OBSTRUCTION LIGHTS AND FLAG ARE REQUIRED.

THE BARRIERS WILL BE LOCATED AS SHOWN ON SHEET 4.

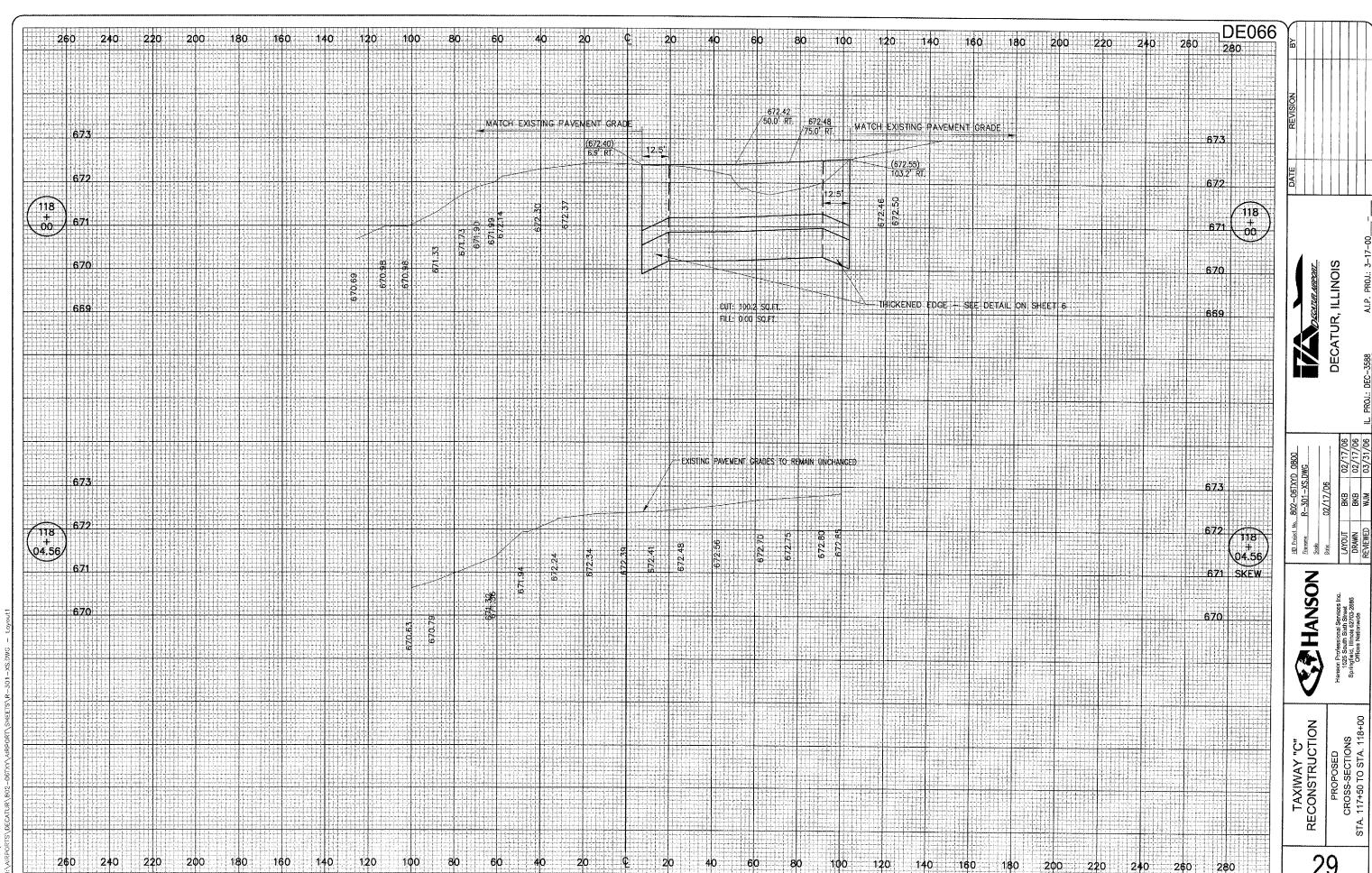
PAYMENT FOR PROVIDING AND MAINTAINING THE BARRIERS, INCLUDING THE LIGHTS, FLAGS, AND SIGN SHALL BE PAID FOR UNDER ITEM AR150530 — TRAFFIC MAINTENANCE, PER L.S.

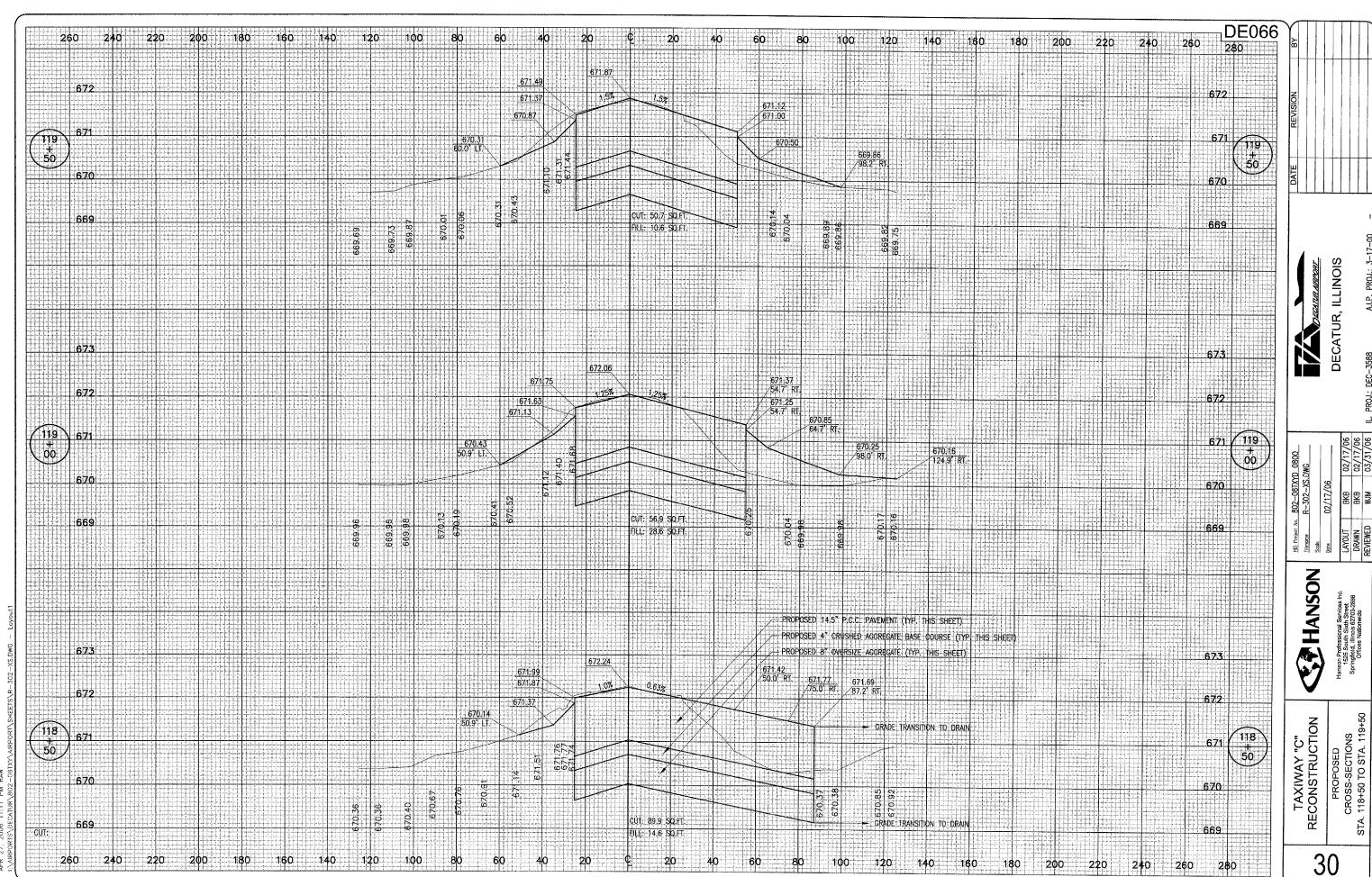
DECATUR, ILLINOIS

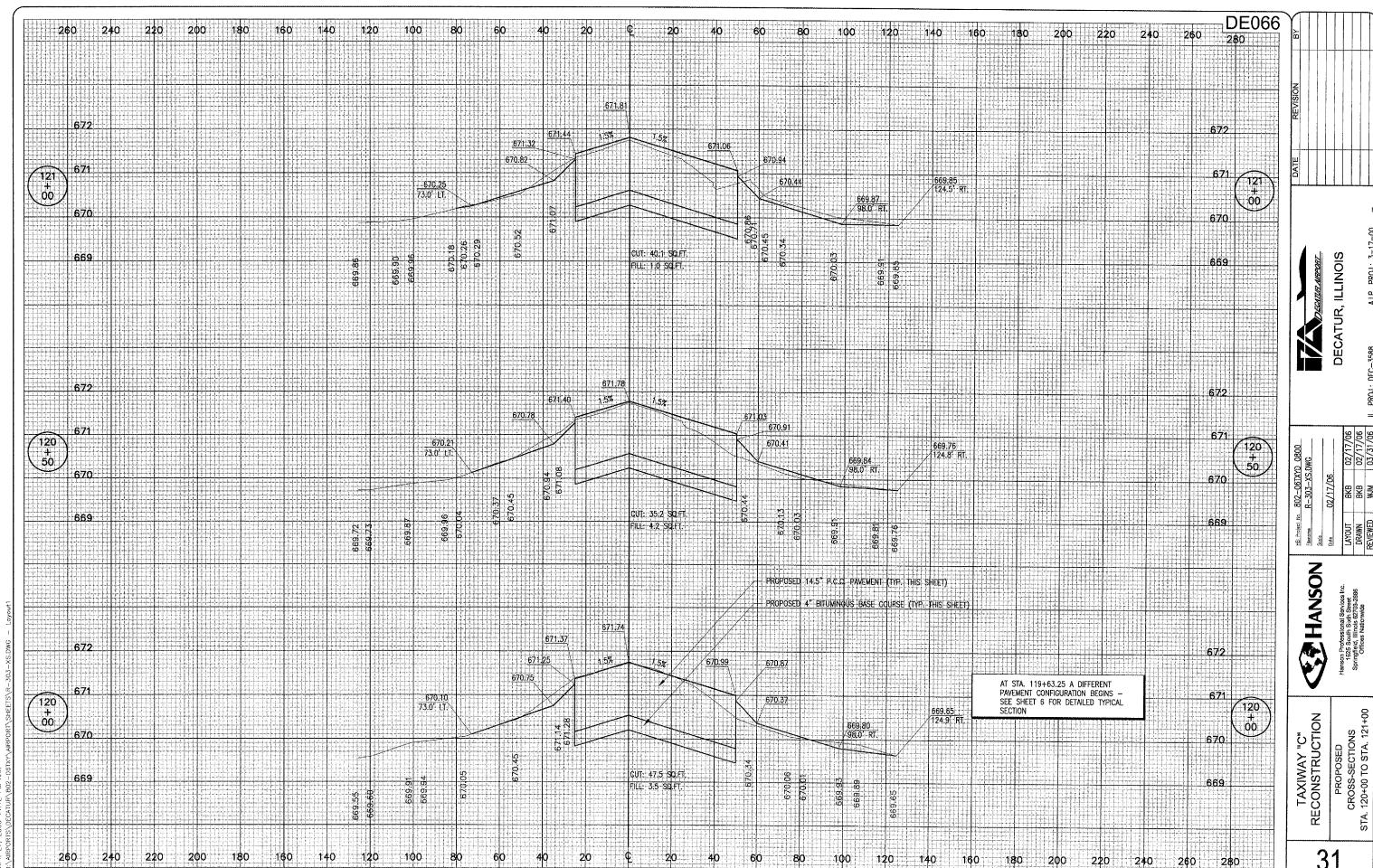
HANSON LOW PROFILE BARRIER DETAIL AND NOTES

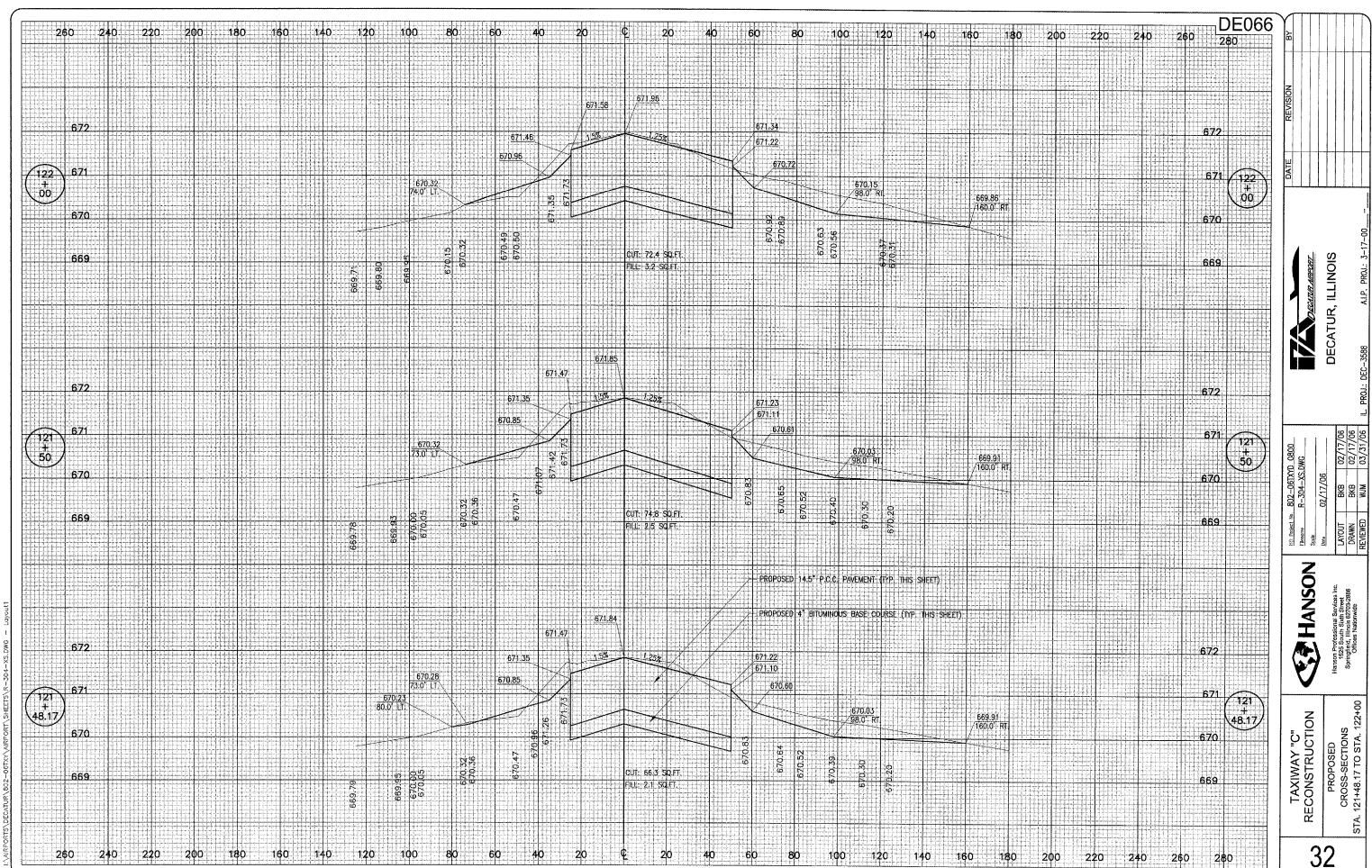
TAXIWAY "C" RECONSTRUCTION

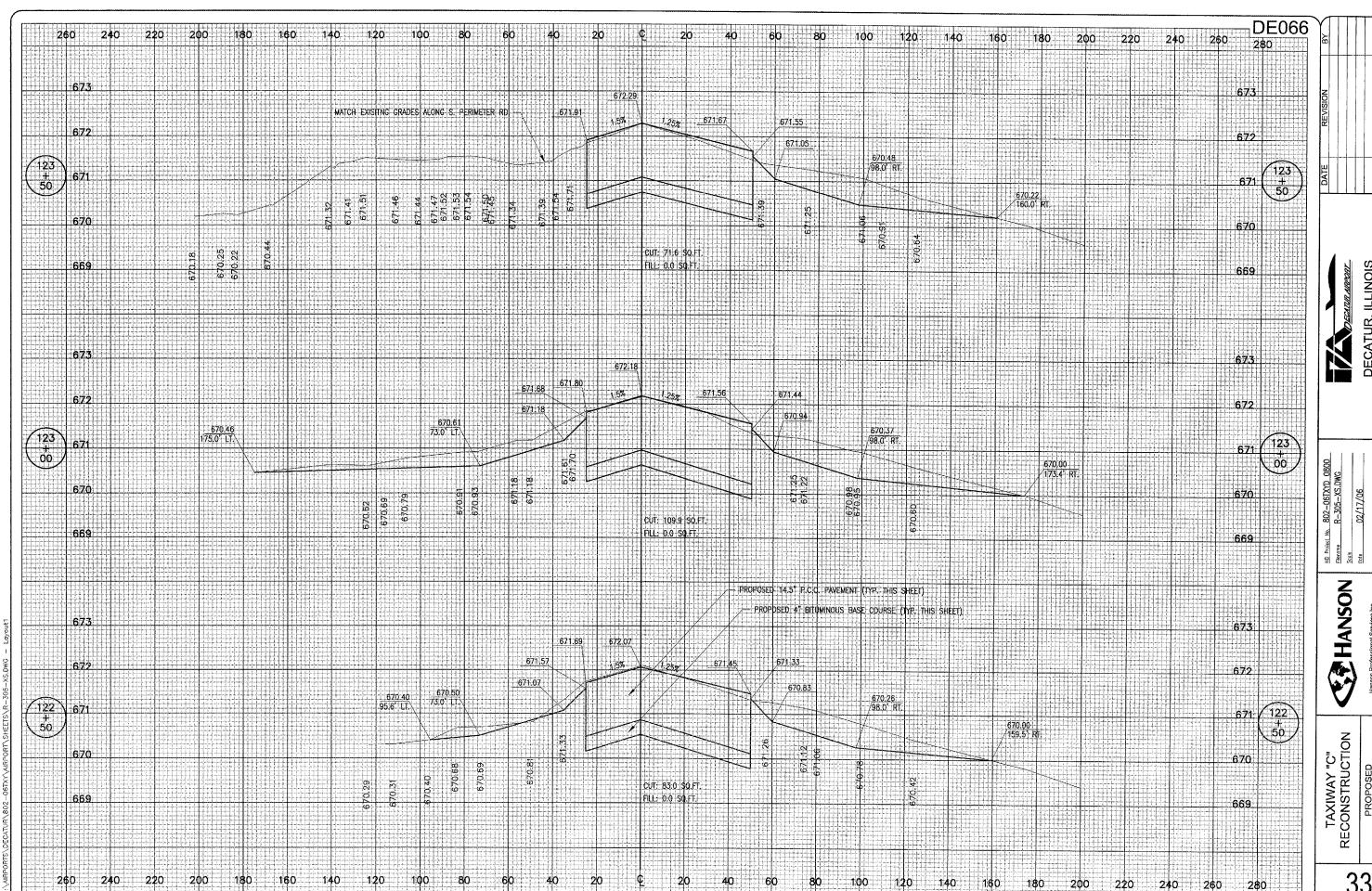
28









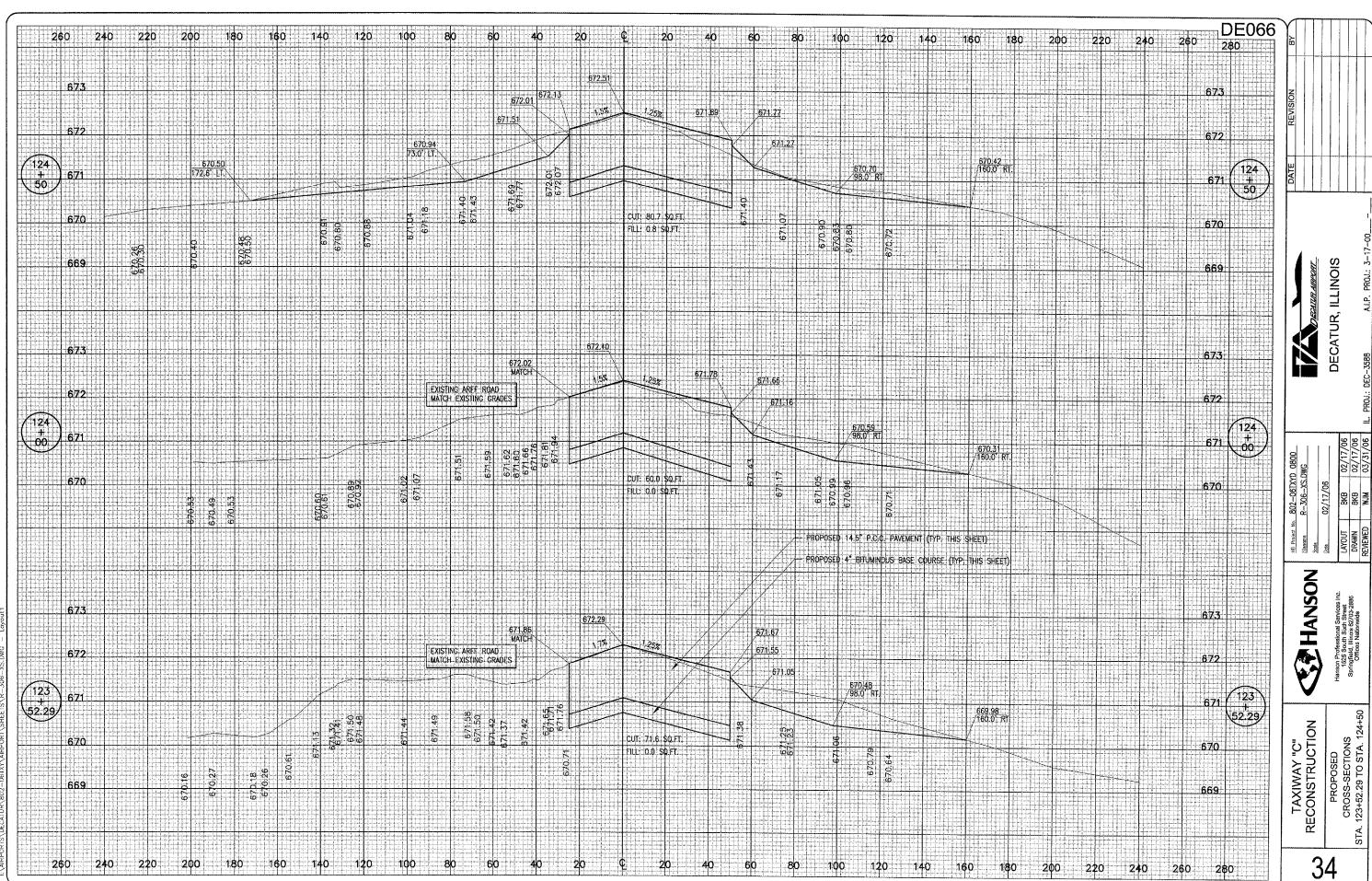


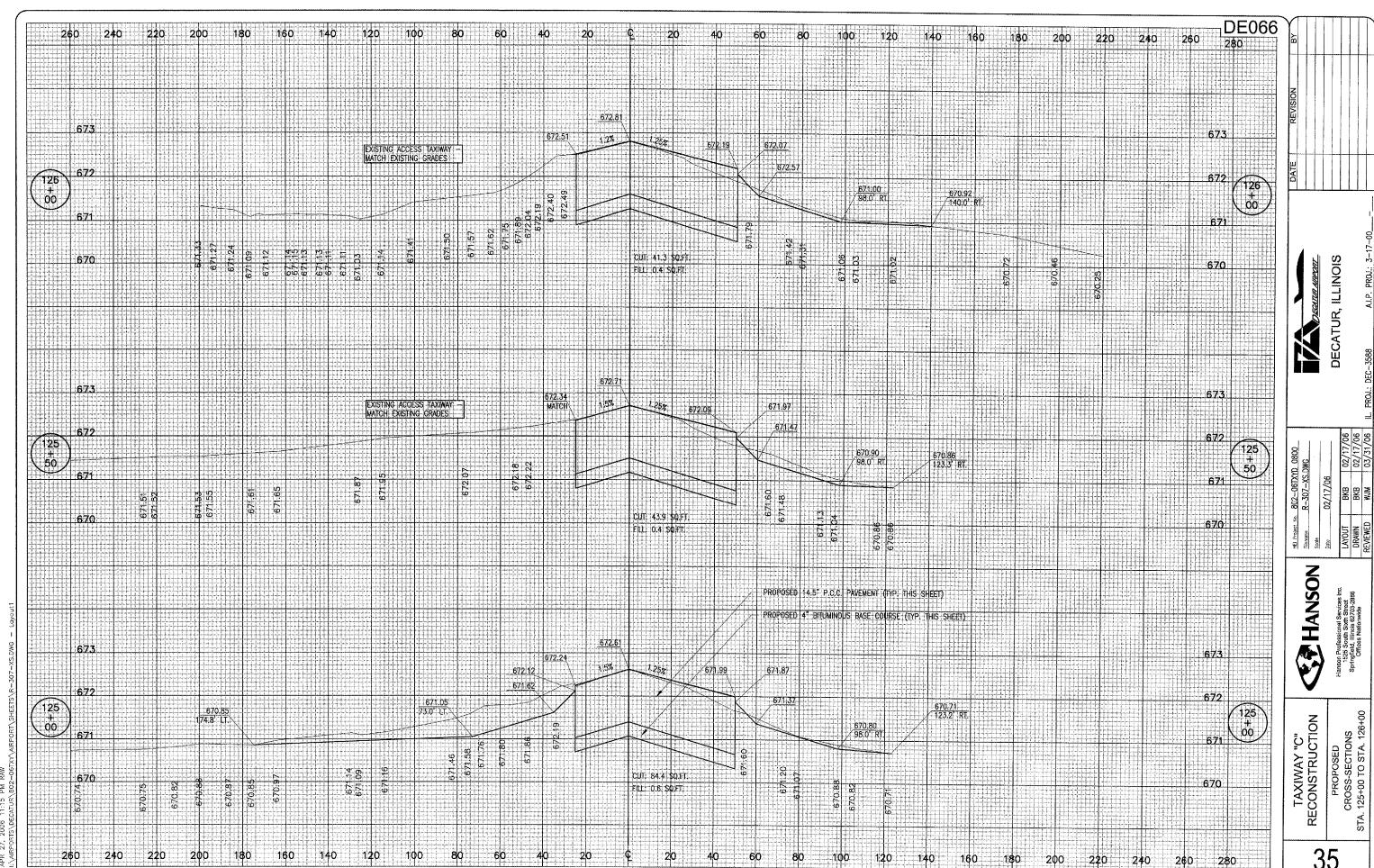
DECATUR, ILLINOIS

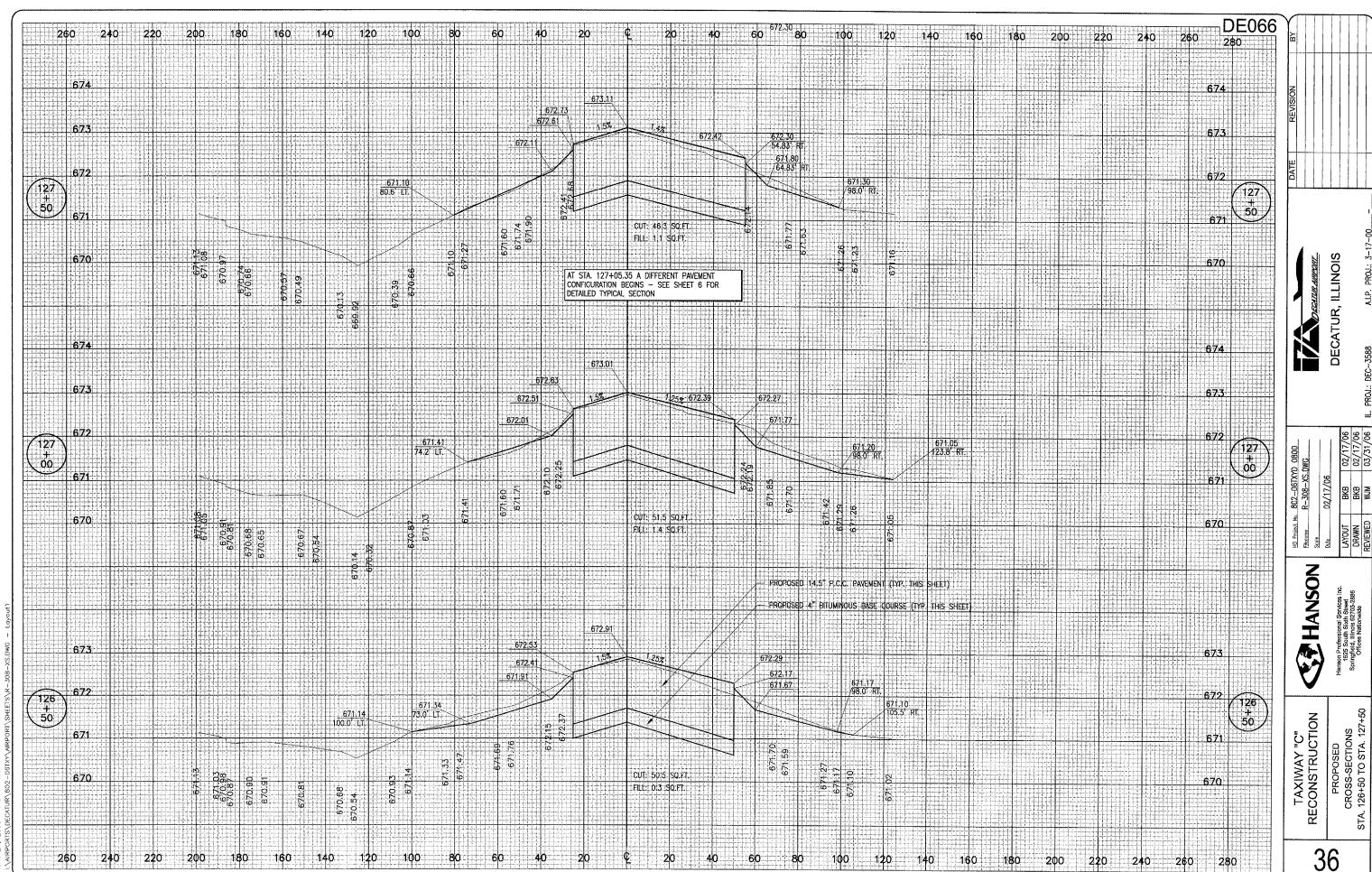
BKB W.W

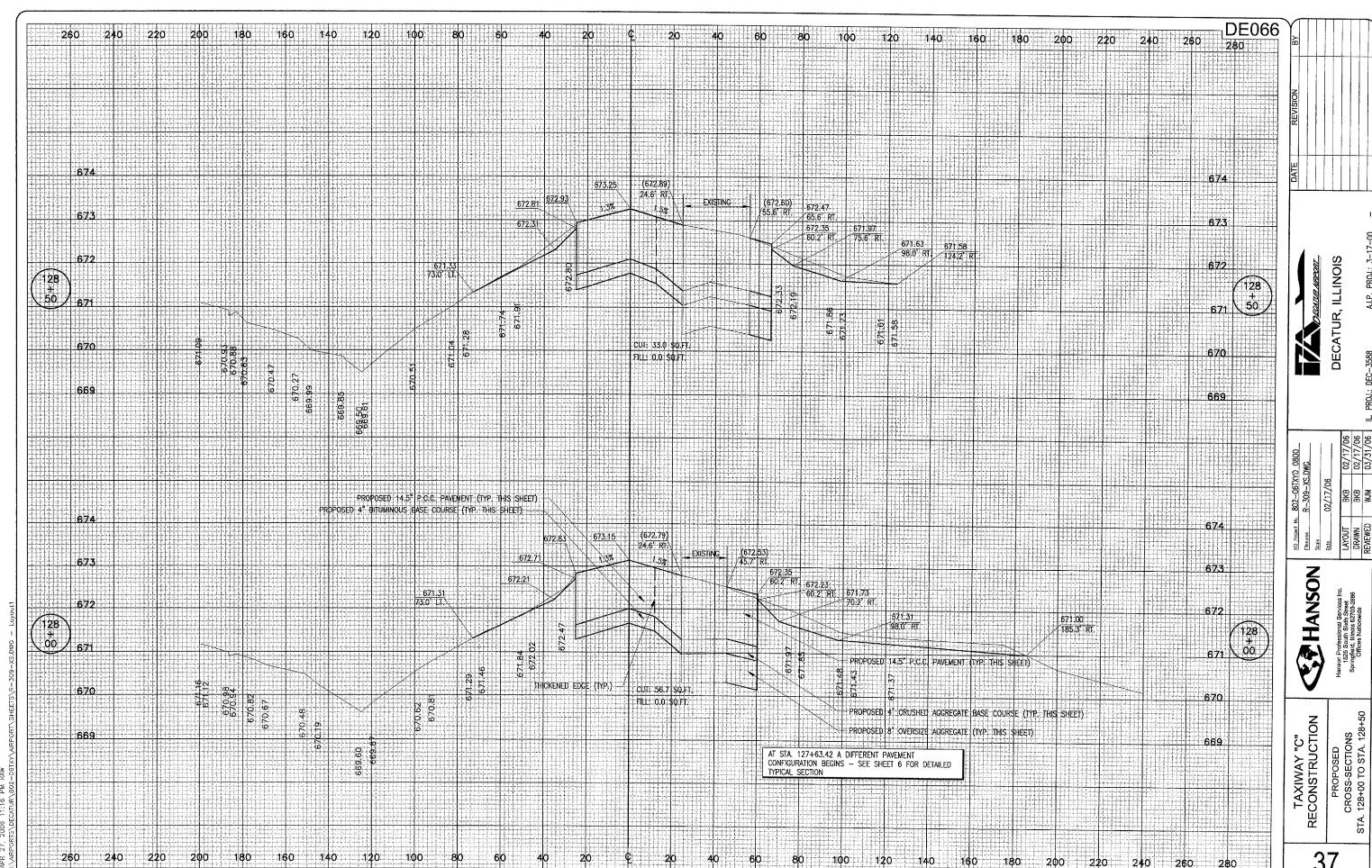
PROPOSED CROSS-SECTIONS A. 122+50 TO STA. 123+50

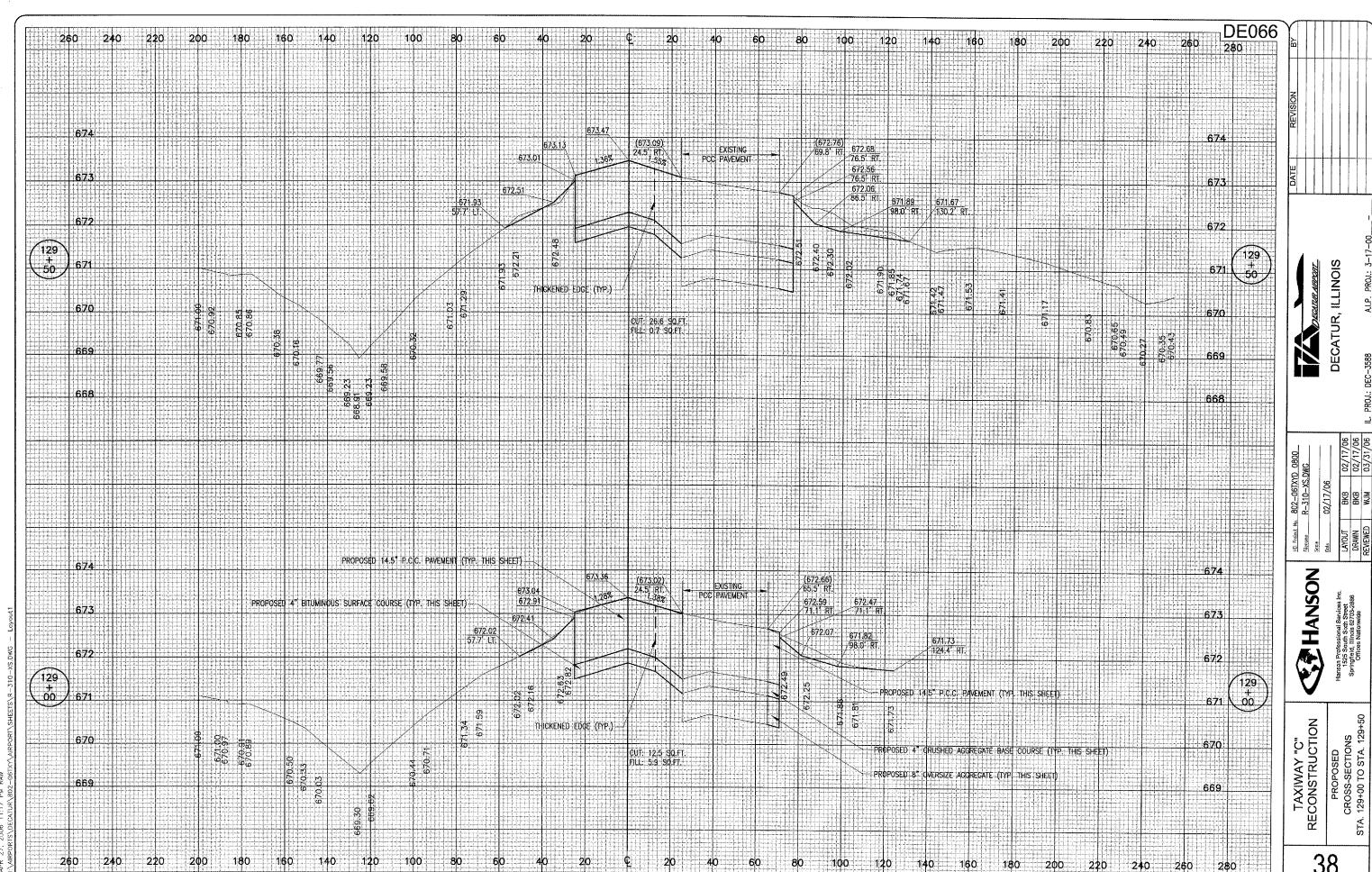
STA. 33

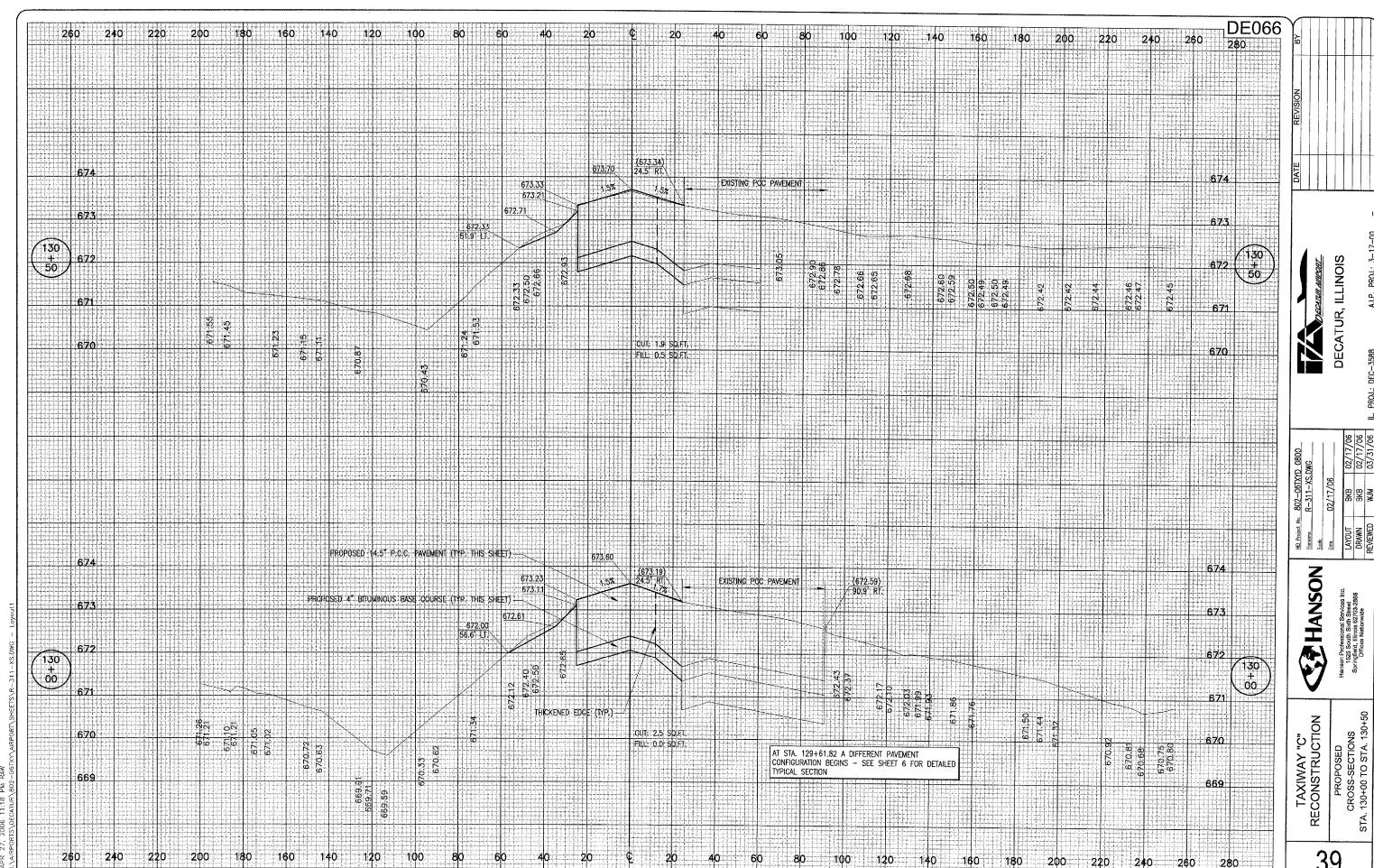


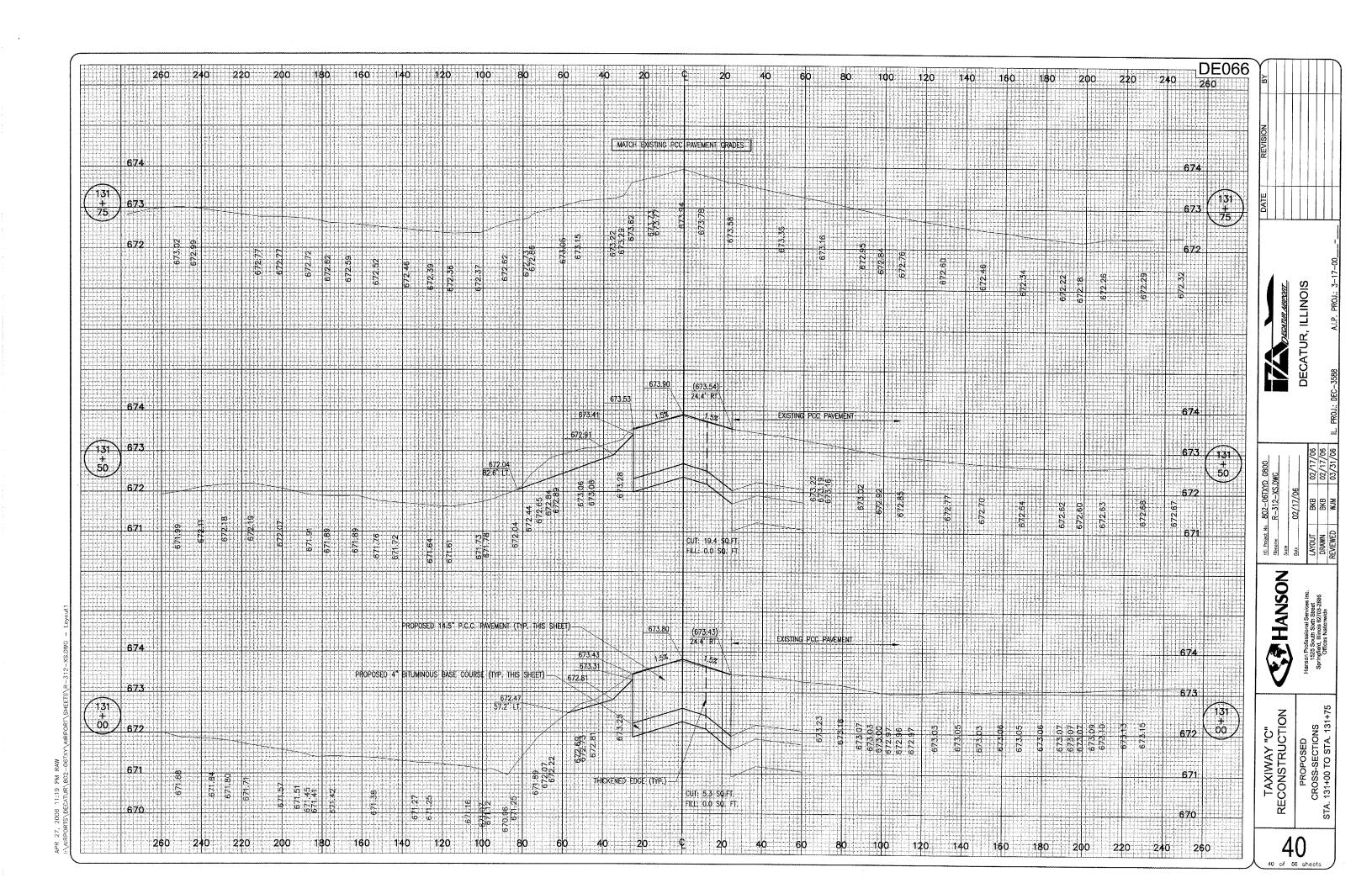












ELEC	trical legend — one—line diagram
	CABLE TERMINATOR/LUG
₩₩	TRANSFORMER
_\_	DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	CIRCUIT BREAKER
<b>-^-</b> ル	THERMAL MAGNETIC CIRCUIT BREAKER
	FUSE
<b>↓</b> ‡	TRANSIENT VOLTAGE SURGE SUPPRESSOR OR SURGE PROTECTOR DEVICE
<del>-</del>	GROUND — GROUND ROD, GROUNDING ELECTRODE, OR AT EARTH POTENTIAL
a	INDICATING LIGHT
W	MOTOR
(f)	LOAD, MOTOR, # = HORSEPOWER
0	ELECTRIC UTILITY METER BASE
[•]	JUNCTION BOX WITH SPLICE
xxx	EQUIPMENT, XXX = DEVICE DESCRIPTION
GND	GROUND BUS OR TERMINAL
S/N	NEUTRAL BUS
#	PANELBOARD WITH MAIN LUGS
#4-7-	Panelboard with Main Breaker
# <del> </del> ≪□≫-	fuse panel with main fuse pullout
<b>e</b>	DUPLEX RECEPTACLE 120V SINGLE PHASE GROUNDING TYPE
	CONTROL STATION
N EM	transfer swiich
	engine generator set
	<del></del>

	ELECTRICAL LEGEND - SCHEMATIC
	NORMALLY OPEN (N.O.) CONTACT
	NORMALLY CLOSED (N.C.) CONTACT
(3)	STARTER COIL, * = STARTER NUMBER
ol Hr	OVERLOAD RELAY CONTACT
(R*)	CONTROL RELAY, * = CONTROL RELAY NUMBER
®.	RELAY, * ≈ RELAY NUMBER
00	TOGGLE SWITCH / 2 POSITION SWITCH
OFF AUTO	2—Position selector switch
HAND TAUTO XOO	3-position selector switch (H-O-A Shown)
1	2 POLE DISCONNECT SWITCH
111	3 POLE DISCONNECT SWITCH
<u>~</u>	PHOTOCELL
-0-	TERMINAL BLOCK, * = TERMINAL NUMBER
-\$	DEVICE TERMINAL, * = DEVICE TERMINAL NUMBER
	INTERNAL PANEL WIRING
	FIELD WIRING
	FUSE
GND	ground bus or terminal.
S/N	NEUTRAL BUS
#	GROUND, GROUND ROD
	INDUSTRIAL CONTROL RELAY OR LIGHTING CONTACTOR
CCR	S1 CUTOUT HANDLE REMOVED
CCR HH LOAD	S1 CUTOUT HANDLE INSERTED
°Fu	N.O. THERMAL SWITCH
्र-	N.C. THERMAL SWITCH

	ELECTRICAL ABBREVIATIONS
A.F.F.	ABOVE FINSHED FLOOR
A, AMP	AMPERES
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BKR	Breaker
С	CONDUIT
C8	CIRCUIT BREAKER
CKT	CIRCUIT
CR	CONTROL RELAY
CU	COPPER
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EP	EXPLOSION PROOF
ES	EMERGENCY STOP
ETM	ELAPSE TIME METER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
GRSC	GALVANIZED RIGID STEEL CONDUIT
HID	HIGH INTENSITY DISCHARGE
HOA	HAND OFF AUTOMATIC
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
J	JUNCTION BOX
KVA	KILOVOLT AMPERE(S)
KW	KILOWATTS
rc	LIGHTING CONTACTOR
LTFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT (UL LISTED)
LP	LIGHTING PANEL
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCM	THOUSAND CIRCLUAR MIL
MDP	MAIN DISTRIBUTION PANEL
MH	METAL HALIDE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OHE	OVERHEAD ELECTRIC
OL	OVERLOAD
PB	PULL BOX
PC	PHOTO CELL
P08	POWER DISTRIBUTION BLOCK
	I

ELECTRICAL ARRESTANTIONS

EL	ECTRICAL ABBREVIATIONS (CONTINUED)
RCPT	RECEPTACLE
R	RELAY
S	STARTER
SPD	SURGE PROTECTION DEVICE
SPST	SINGLE POLE SINGLE THROW
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL,
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
٧	VOLTS
W/	₩ПН
<b>w/</b> 0	without
₩P	WEATHER PROOF
XFER	TRANSFER
XFMR	TRANSFORMER

	AIRPORT EQUIPMENT ABBREVIATIONS
CCR	CONSTANT CURRENT REGULATOR
MIRL	MEDIUM INTENSITY RUNWAY LIGHT
MITL	MEDIUM INTENSITY TAXIWAY LIGHT
NDB	NON-DIRECTIONAL BEACON
PAPI	PRECISION APPROACH PATH INDICATOR
PLASI	PULSE LIGHT APPROACH SLOPE INDICATOR
REIL	RUNWAY END IDENTIFIER LIGHT
VASI	VISUAL APPROACH SLOPE INDICATOR
₩c	WIND CONE

	ELECTRICAL LEGEND PLANS
	CONDUIT (EXPOSED)
	CONDUIT OR UNIT DUCT (CONCEALED OR BURIED)
	DUCT .
Е	BURIED/UNDERGROUND ELECTRIC
UGE	UNDERGROUND ELECTRIC
ОНЕ	OVERHEAD ELECTRIC
⊶¤	POLE MOUNTED HID FIXTURE
<b>e</b> =	DUPLEX CONVENIENCE RECEPTACLE, 120V, SINGLE PHASE, GROUNDING TYPE, 48" A.F.F. EXCEPT AS NOTED
ю0.	WALL OR CEILING MT <sup>*</sup> D. JUNCTION BOX. CONFIGURATION VARIES WITH USE
4🗆	SINGLE THROW DISCONNECT SWITCH
423	SINGLE THROW, FUSIBLE DISCONNECT SWITCH
<b>4038</b>	ENCLOSED CIRCUIT BREAKER
D20	CONTROL PANEL
<u> </u>	MOTOR. ESTIMATED H.P. AS INDICATED.
· ·	MOTOR
Ŧ	TRANSFORMER
ㅁ	ELECTRIC UTILITY METER
	ENCLOSURE
	CIRCUIT BREAKER PANEL-SEE SCHEOULES
•	GROUND ROD
<del></del>	long slashes indicate neutral. Short slashes indicate hot or switched leg. G = separate ground wire.
PNL A	HOMERUN TO PANEL PNL A INDICATES PANEL 1,3,5 INDICATES CIRCUIT NUMBERS
\$	SINGLE POLE SWITCH
\$ OR \$1	Fractional HP Starter
0	CONTACTOR
هـ	SURFACE MOUNTED OR CHAIN HUNG FLUORESCENT FIXTURE
юо	WALL OR CEILING MT'D. INCANDESCENT OR HID FIXTURE.

**DE066** 

#### NOTES:

- 1. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 (MOST CURRENT ISSUE IN FORCE), THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES, AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS WHICH VOID THE U.L. LISTING, ETL LISTING (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE SHALL NOT BE PERMITTED.
- 2. CONTRACTOR SHALL COORDINATE WORK AND ANY POWER OUTAGES WITH THE RESPECTIVE FACILITY OWNER PERSONNEL AND THE AIRPORT DIRECTOR.
- 3. COLOR CODE PHASE AND NEUTRAL CONDUCTOR INSULATION FOR NO. 6 AWG OR SMALLER. PROVIDE COLORED INSULATION OR COLORED MARKING TAPE FOR PHASE AND NEUTRAL CONDUCTORS FOR NO. 4 AWG AND LARGER. INSULATED GROUND CONDUCTORS SHALL HAVE GREEN COLORED INSULATION FOR ALL CONDUCTOR AWG AND/OR KCMIL. STANDARD COLORS FOR POWER WIRING AND BRANCH CIRCUITS SHALL BE AS FOLLOWS:

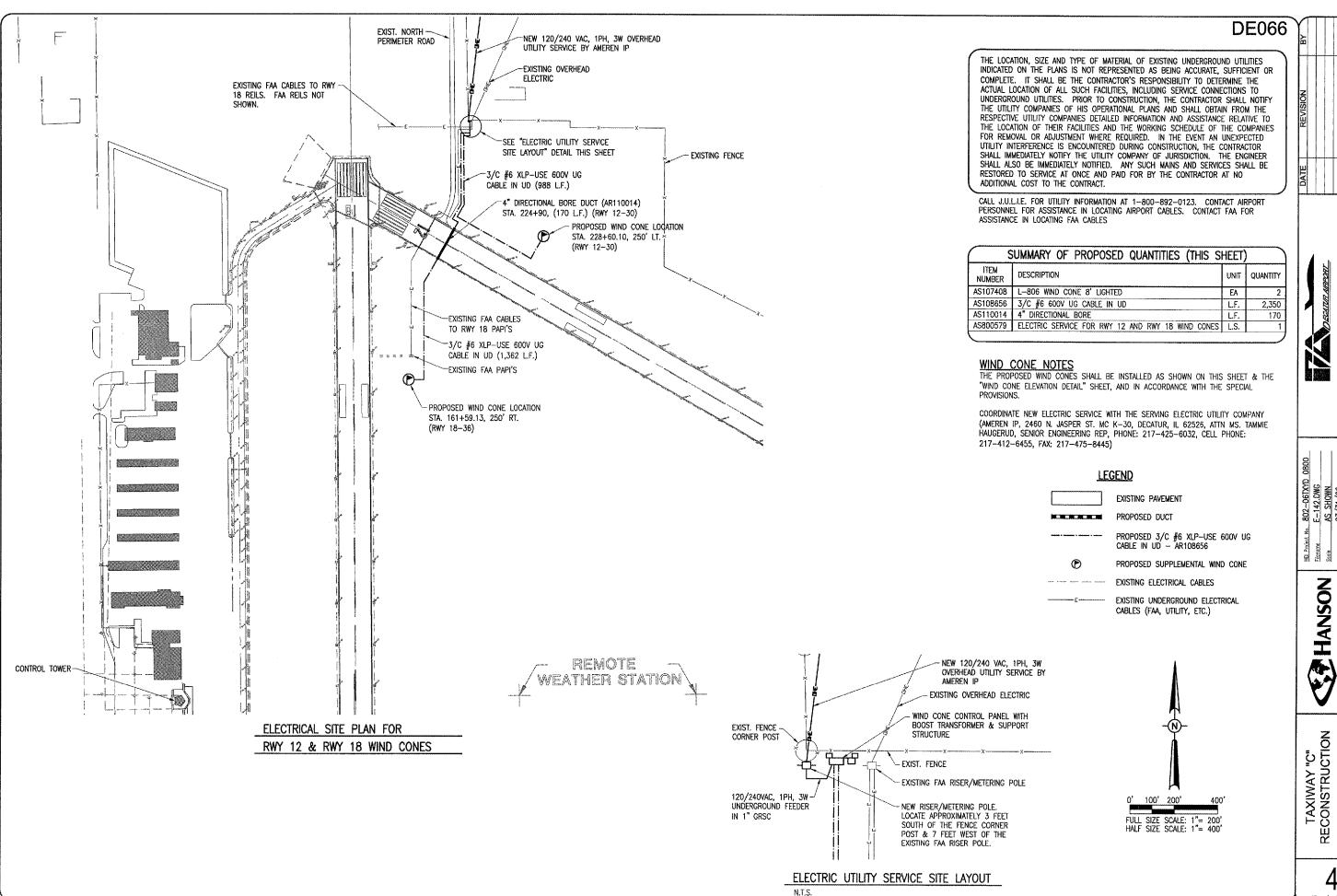
120/240 VAC. 1 PHASE, 3 WIRE
PHASE A BLACK
PHASE B RED
NEUTRAL WHITE
GROUND GREEN

HANSON Frotessional Services Inc. 1525 South Shark Sheet

DECATUR, ILLINOIS

TAXIWAY "C"
RECONSTRUCTION
ELECTRICAL LEGEND
AND ARREPLIATIONS

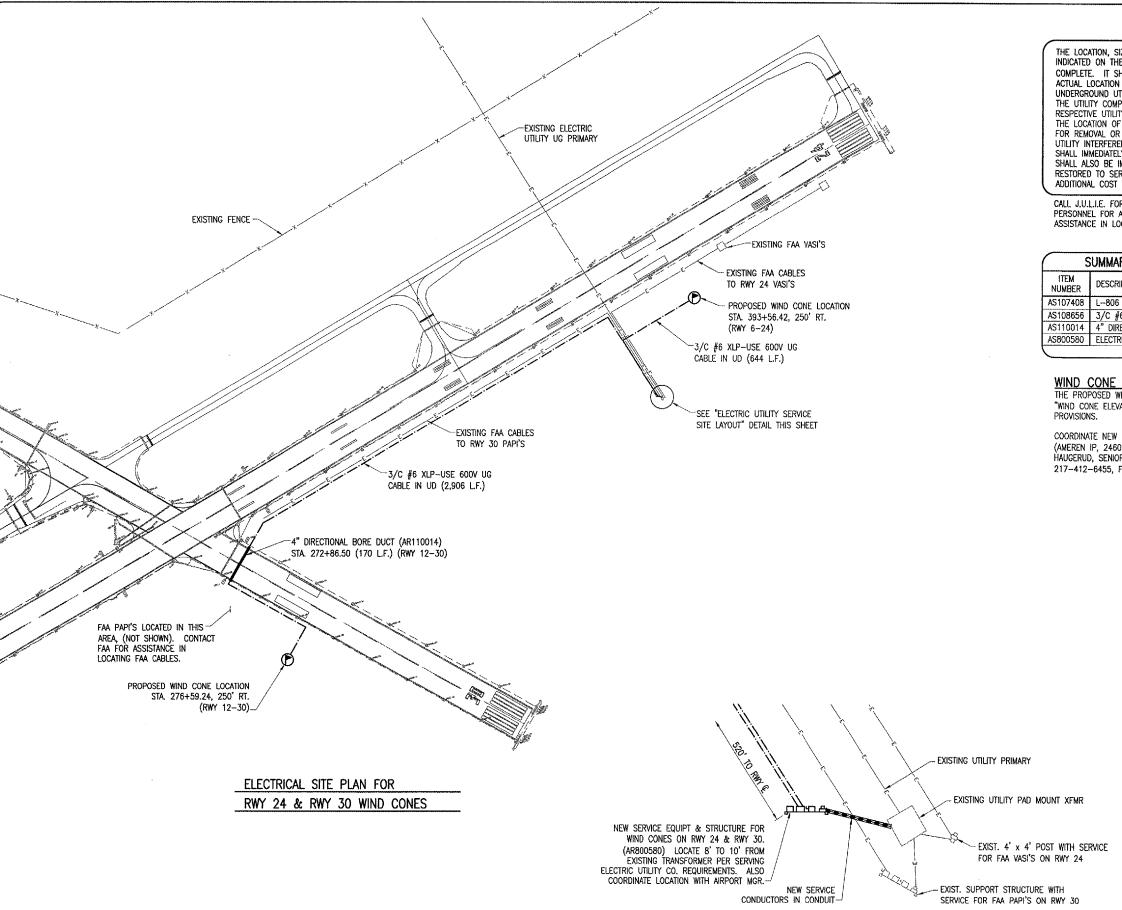
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ILLINOIS

TAXIWAY "C" RECONSTRUCTION

ELECTRICAL SITE PLAN RUNWAY 12 & RUNWAY 18 WIND CONES



THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

**DE066** 

CALL J.U.L.I.E. FOR UTILITY INFORMATION AT 1-800-892-0123. CONTACT AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING AIRPORT CABLES. CONTACT FAA FOR ASSISTANCE IN LOCATING FAA CABLES

S	UMMARY OF PROPOSED QUANTITIES (THIS S	HEET)	)
item Number	DESCRIPTION	UNIT	QUANTITY
AS107408	L806 WIND CONE 8' LIGHTED	EΑ	2
AS108656	3/C #6 600V UG CABLE IN UD	L.F.	3,550
AS110014	4" DIRECTIONAL BORE	L.F.	170
AS800580	ELECTRIC SERVICE FOR RWY 24 AND RWY 30 WIND CONES	L.S.	

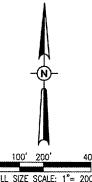
#### WIND CONE NOTES

THE PROPOSED WIND CONES SHALL BE INSTALLED AS SHOWN ON THIS SHEET & THE "WIND CONE ELEVATION DETAIL" SHEET, AND IN ACCORDANCE WITH THE SPECIAL

COORDINATE NEW ELECTRIC SERVICE WITH THE SERVING ELECTRIC UTILITY COMPANY (AMEREN IP, 2460 N. JASPER ST. MC K-30, DECATUR, IL 62526, ATTN MS. TAMMIE HAUGERUD, SENIOR ENGINEERING REP, PHONE: 217-425-6032, CELL PHONE: 217-412-6455, FAX: 217-475-8445)

#### **LEGEND**

EXISTING PAVEMENT PROPOSED DUCT PROPOSED 3/C #6 XLP-USE 600V UG CABLE IN UD - AR108656 PROPOSED SUPPLEMENTAL WIND CONE EXISTING ELECTRICAL CABLES EXISTING UNDERGROUND ELECTRICAL CABLES (FAA, UTILITY, ETC.) P EXISTING WIND CONE



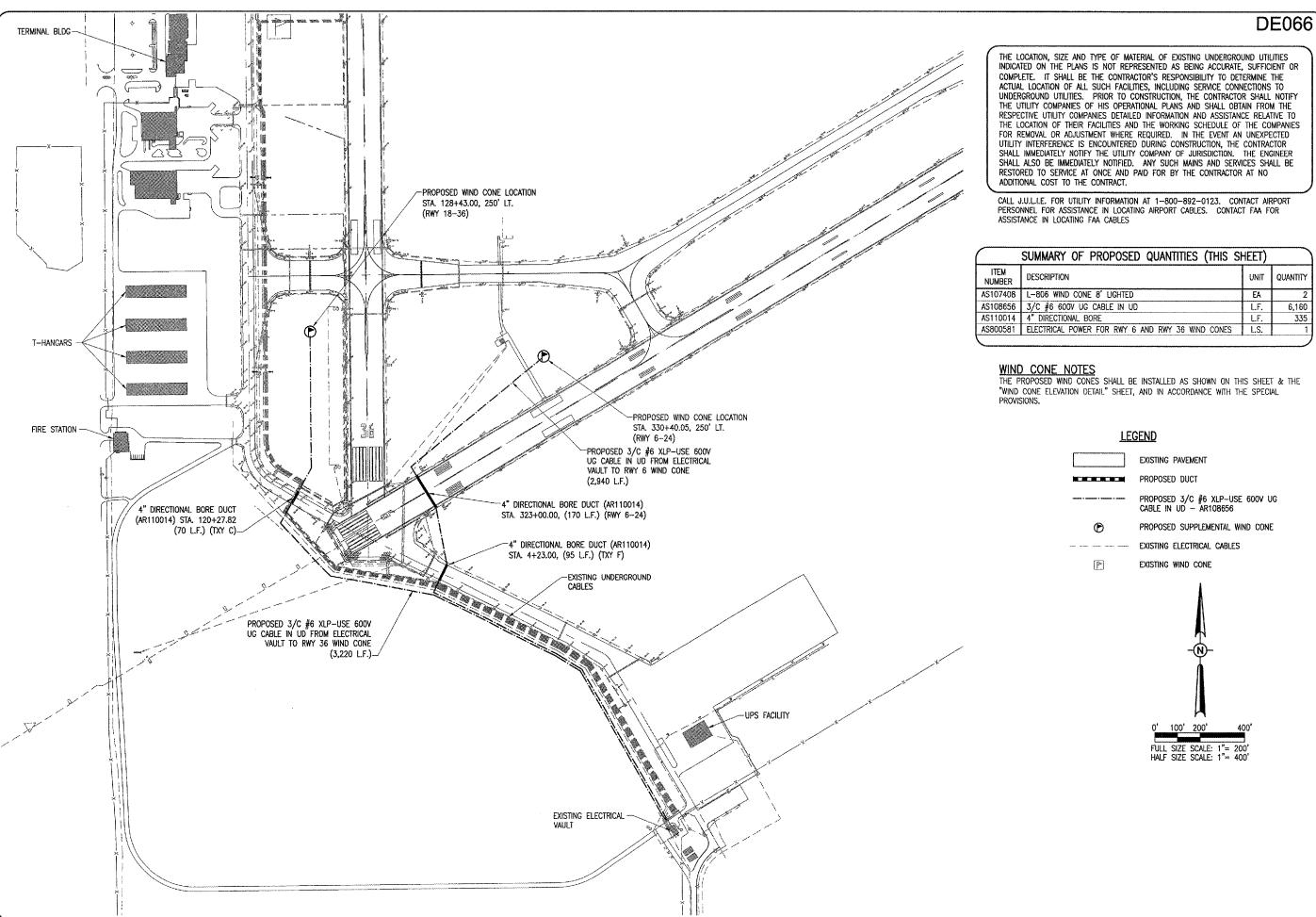
FULL SIZE SCALE: 1"= 200 HALF SIZE SCALE: 1"= 400"

ELECTRIC UTILITY SERVICE SITE LAYOUT

HANSON

TAXIWAY "C" RECONSTRUCTION

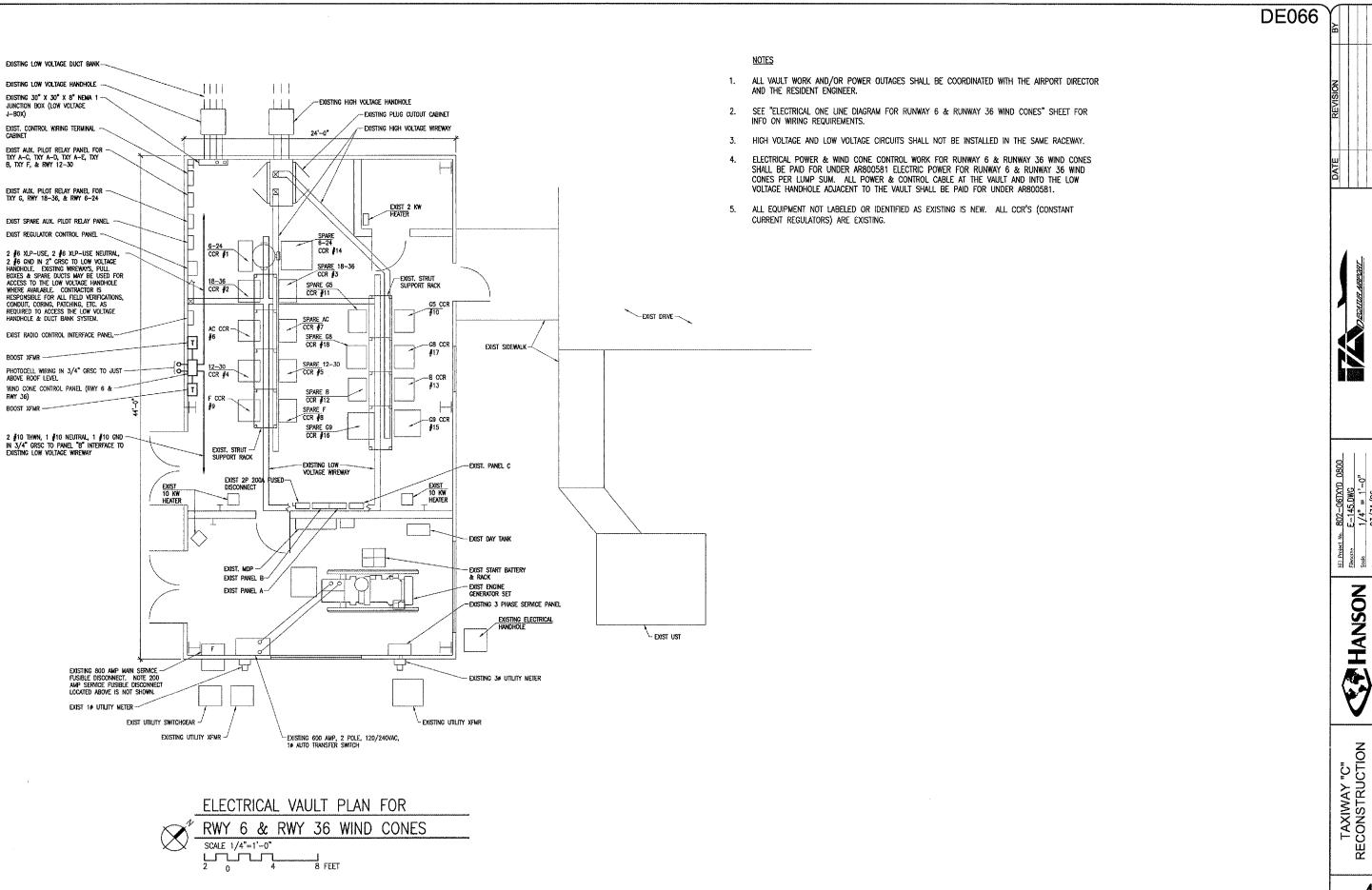
DECATUR, ILLINOIS



DECATUR, ILLINOIS

HANSON

TAXIWAY "C" RECONSTRUCTION



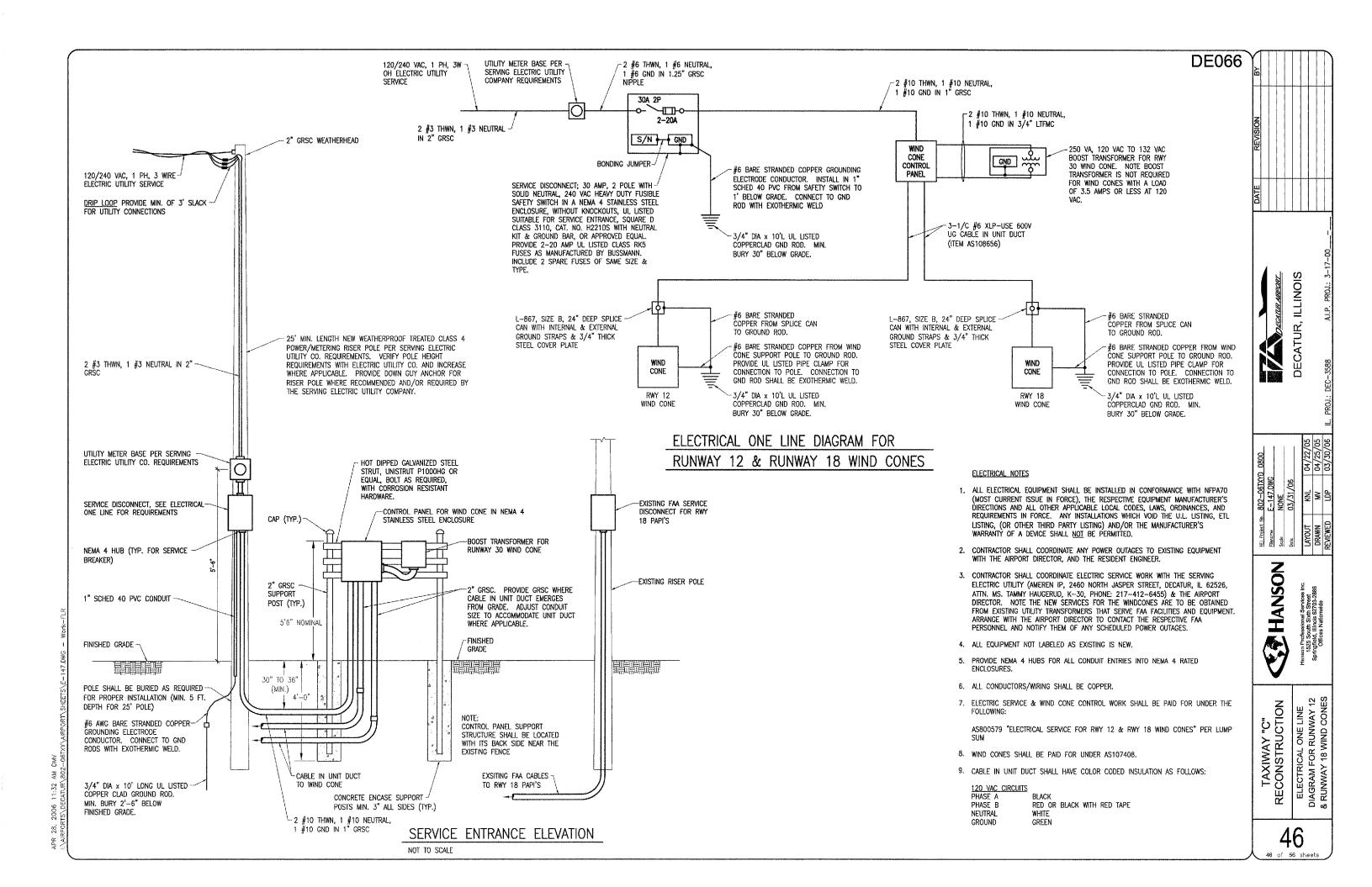
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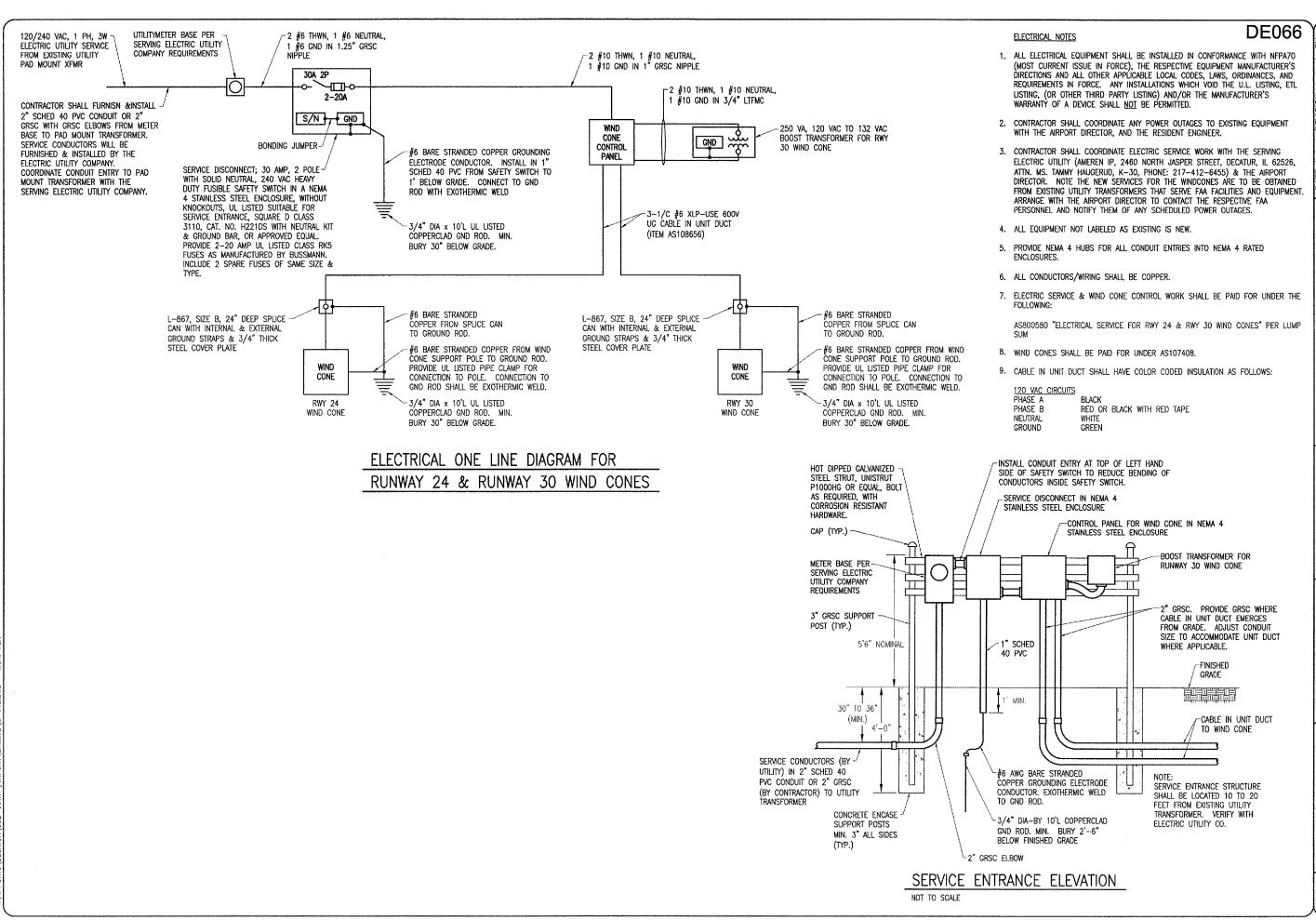
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ELECTRICAL VAULT PLAN RUNWAY 6 & RUNWAY 36 WIND CONES

DECATUR, ILLINOIS

45 of 56 sheet



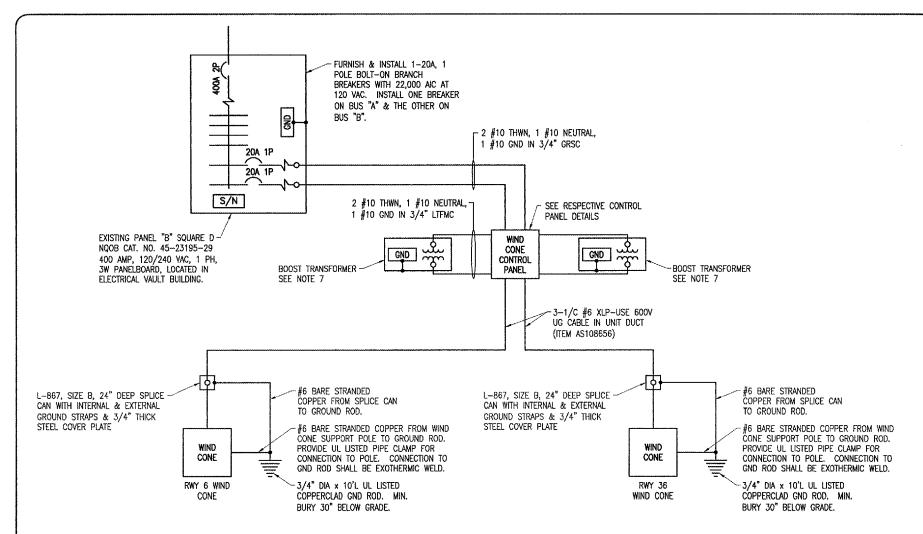


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ELECTRICAL ONE LINE DIAGRAM FOR RUNWAY 24 & RUNWAY 30 WIND CONES TAXIWAY "C" RECONSTRUCTION



ELECTRICAL ONE LINE DIAGRAM FOR RUNWAY 6 & RUNWAY 36 WIND CONES **ELECTRICAL NOTES** 

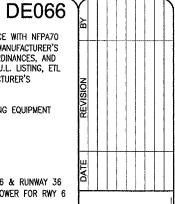
- 1. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA70 (MOST CURRENT ISSUE IN FORCE). THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES, AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS WHICH VOID THE U.L. LISTING, ETL LISTING, (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE SHALL NOT BE PERMITTED.
- 2. CONTRACTOR SHALL COORDINATE ANY POWER OUTAGES TO EXISTING EQUIPMENT WITH THE AIRPORT DIRECTOR, AND THE RESIDENT ENGINEER.
- 3. ALL EQUIPMENT NOT LABELED AS EXISTING IS NEW.
- 4. ALL CONDUCTORS/WIRING SHALL BE COPPER.
- 5. ELECTRICAL POWER & WIND CONE CONTROL WORK FOR RUNWAY 6 & RUNWAY 36 WIND CONES SHALL BE PAID FOR UNDER AS800581 "ELECTRIC POWER FOR RWY 6 & RWY 36 WIND CONES" PER LUMP SUM.
- 6. WIND CONES SHALL BE PAID FOR UNDER AS107408.
- BOOST TRANSFORMER FOR WIND CONE WITH A LOAD OF APPROXIMATELY 3.5 AMPS SHALL BE 250 VA 120 VAC TO 132 VAC UNIT, SQUARE D CAT. NO. 250S43B OR APPROVED EQUAL. BOOST TRANSFORMER FOR A WIND CONE WITH A LOAD OF APPROXIMATELY 7 AMPS SHALL BE 250 VA 120 VAC, 136 VAC UNIT, SQUARE D CAT. NO. 250S46B OR APPROVED UQUAL.
- 8. CABLE IN UNIT DUCT SHALL HAVE COLOR CODED INSULATION AS FOLLOWS:

120 VAC CIRCUITS PHASE A

BLACK

PHASE B RED OR BLACK WITH RED TAPE

NEUTRAL WHITE GROUND GREEN



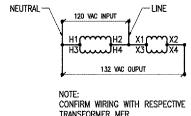
DECATUR, ILLINOIS

**HANSON** 

TAXIWAY "C" RECONSTRUCTION

48 48 of 56 sheets

## CONTROL PANEL FOR WIND CONES (TYPICAL FOR 3)



120 VAC TO 132 VAC BOOST TRANSFORMER CONNECTION DIAGRAM FOR SQUARE D

CAT. NO. 250SV43B OR CAT. NO. 500SV43B TRANSFORMER

KEYED NOTES

- CONTROL PANEL ENCLOSURE ADEQUATELY SIZED TO HOLD THE RESPECTIVE COMPONENTS AND EQUIPMENT. PANEL ENCLOSURE SHALL BE UL LISTED NEMA 4X STAINLESS STEEL WITH HINGED COVER FOR OUTDOOR APPLICATIONS. PANEL ENCLOSURE SHALL BE ULLISTED NEMA 12 PAINTED STEEL WITH HINGED COVER FOR THE UNIT LOCATED IN THE AIRPORT ELECTRICAL VAULT. PROVIDE INNER DOOR TO MOUNT PHOTOCELL BYPASS
- 2 20 AMP, 120 VAC, 1 POLE SPECIFICATION GRADE TOGGLE SWITCH. MOUNT ON PANEL INNER DOOR PROVIDE LEGEND PLATES LABELED "RUNWAY XX PHOTOCELL BYPASS SWITCH" WHERE "XX" IS THE RESPECTIVE RUNWAY NUMBER. PROVIDE ADDITIONAL LEGEND PLATES LABELED "ON" & "PHOTOCELL", TO INDICATE SWITCH FUNCTION
- POWER CONTROL WIRING SHALL BE SIZED AS REQUIRED PER NEC MINIMUM #10 AWG TYPE MTW. THW. OR THWN, COPPER. TERMINAL BLOCKS FOR POWER & CONTROL WIRING SHALL BE 600 VOLT, WITH AMPERAGE RATINGS IN CONFORMANCE WITH NEC TABLE 310-16 USING 75 DEGREE C WIRE FOR THE RESPECTIVE WIRE LUG RANGE, BOX LUG TYPE, SQUARE D CLASS 9080, TYPE GC6, OR APPROVED EQUAL. PROVIDE A MINIMUM OF 8 SPARE TERMINAL BLOCKS TO ACCOMODATE CONNECTIONS TO BOOST TRANSFORMERS.
- [4] EQUIPMENT GROUNDING BAR: PROVIDE A GROUNDING BAR MOUNTED AND BONDED INSIDE THE PANEL ENCLOSURE, ADEQUATELY SIZED TO ACCOMMODATE ALL GROUND CONDUCTORS TO OR FROM THE CONTROL PANEL. TERMINATE ONE GROUND WIRE PER LUG/TERMINAL.
- 5 U.L. LISTED PER UL1449, AC SURGE PROTECTOR SUITABLE FOR 120/240 VAC, 1 PH, 3W PLUS GROUND SYSTEM, WITH SURGE CURRENT RATING OF 40 KA (MIN.), 8x20 MICROSECOND WAVE, PER MODE, AND STATUS INDICATION LIGHTS, JOSLYN MODEL 1265–21, SQUARE D CAT. NO. TVS120XR40S OR APPROVED EQUAL. MAINTAIN LEADS AS SHORT & AS STRAIGHT AS POSSIBLE. INCLUDE MOUNTING BRACKET.
- PHOTOCELL RATED 2000 WATTS AT 120 VAC, WITH OFF DELAY, AND -40 DEGREE C TO 60 DEGREE C OPERATING TEMPERATURE RANGE, TORK MODEL NO. 2101, OR APPROVED EQUAL. WHERE CONTROL PANEL IS LOCATED INSIDE A BUILDING THE PHOTOCELL SHALL BE MOUNTED JUST ABOVE ROOF LEVEL OF RESPECTIVE BUILDING WHERE CONTROL PANEL IS INSTALLED. PHOTOCELL SHALL FACE NORTH.
- 7 30 AMP, 2 POLE, 240 VAC, U.L. LISTED, HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE, WITHOUT KNOCKOUTS, SQUARE D CLASS 3110, CAT. NO. H221DS OR APPROVED EQUAL. PROVIDE TWO 20 AMP, U.L. LISTED CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN. INCLUDE 2 SPARE FUSES OF THE SAME SIZE AND TYPE. INCLUDE LEGEND PLATE "LABELED SERVICE DISCONNECT 120/240 VAC, 1 PH, 3W MAX FUSE SIZE: 20 AMP." SEE "ELECTRICAL ONE LINE DIAGRAM FOR WIND CONES" FOR ADDITIONAL

- 1. FURNISH & INSTALL A WEATHERPROOF WARNING LABEL FOR EACH SERVICE DISCONNECT & CONTROL PANEL TO WARN PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS, PER THE REQUIREMENTS OF NEC 110.16 "FLASH PROTECTION"
- 2. ELECTRIC SERVICE/POWER & WIND CONE CONTROL WORK SHALL BE PAID FOR UNDER THE FOLLOWING: AS800579 ELECTRIC SERVICE FOR RUNWAY 12 AND RUNWAY 18 WIND CONES - PER LUMP SUM AS800580 ELECTRIC SERVICE FOR RUNWAY 24 AND RUNWAY 30 WIND CONES - PER LUMP SUM AS800581 ELECTRIC POWER FOR RUNWAY 6 AND RUNWAY 36 WIND CONES - PER LUMP SUM
- 3. PROVIDE LEGEND PLATES FOR THE RESPECTIVE WIND CONE CONTROL PANELS AS FOLLOWS:

"CONTROL PANEL RWY 6 WIND CONE & RWY 36 WIND CONE"

"CONTROL PANEL RWY 24 WIND CONE & RWY 30 WIND CONE"

"CONTROL PANEL RWY 12 WIND CONE & RWY 18 WIND CONE"

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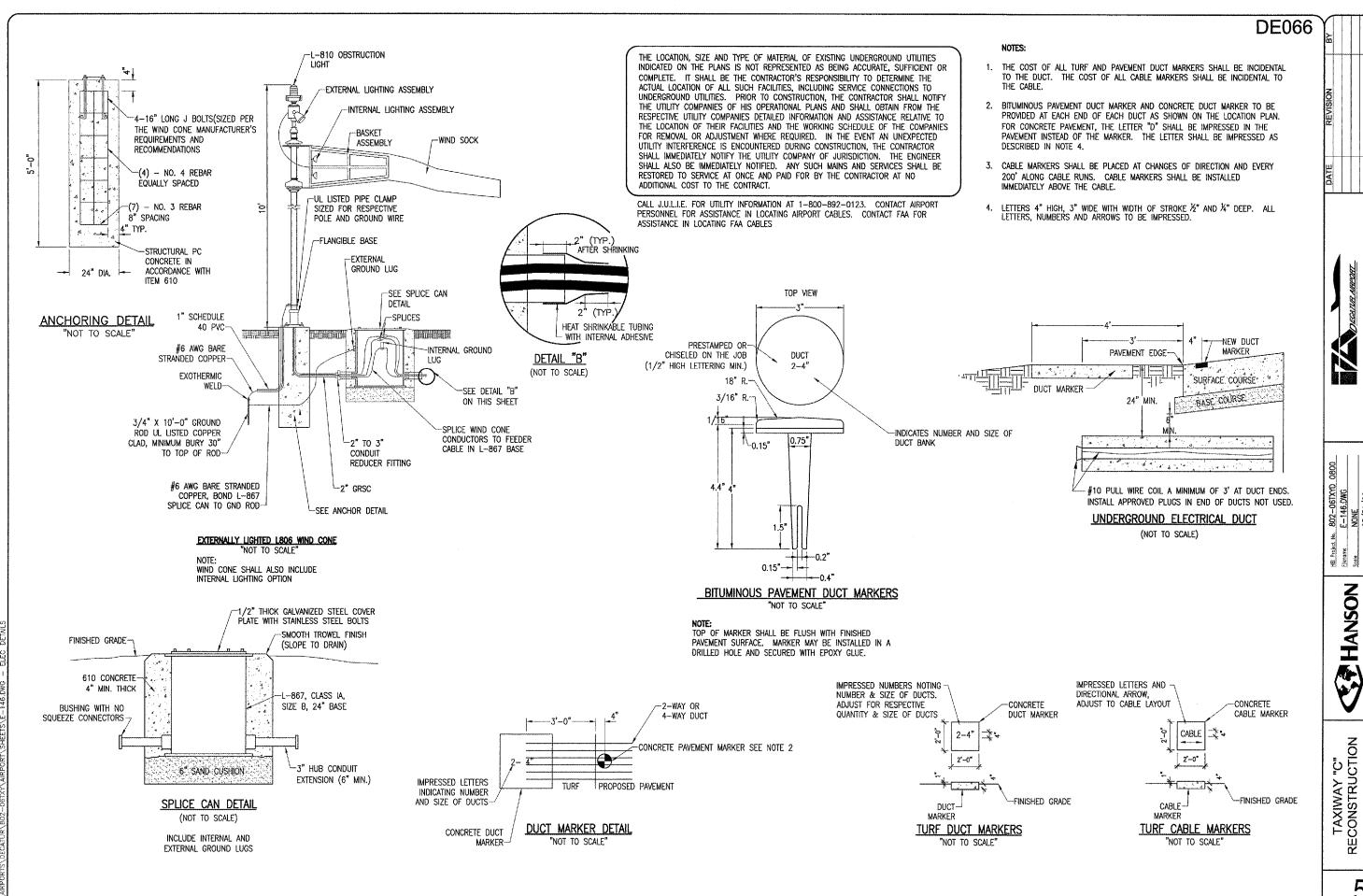
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TAXIWAY "C" RECONSTRUCTION PANEL CONES CONTROL F FOR WIND (

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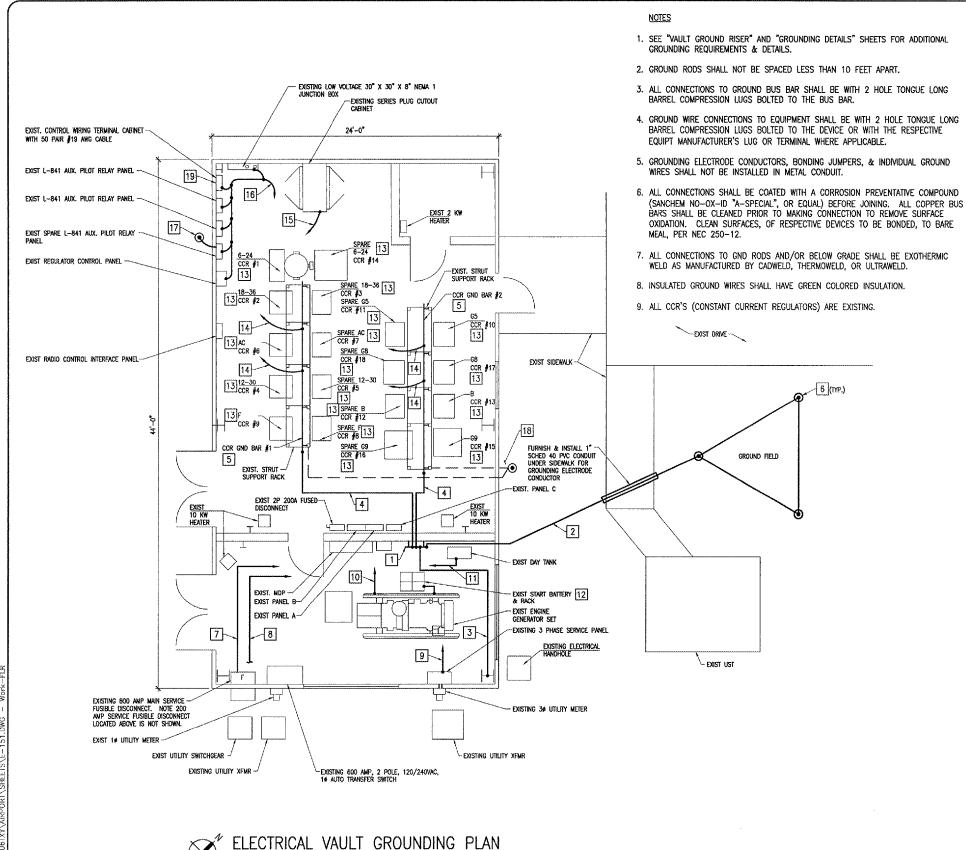
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KEYED NOTES

MAIN GROUND BAR; 1/4" THICK BY 4" WIDE BY 18" LONG COPPER BUS BAR WITH WALL MOUNTING BRACKETS & INSULATORS, HARGER LIGHTNING PROTECTION INC. CAT. NO. GBI14418N, OR APPROVED EQUAL. LOCATE 4' ABOVE FINISHED FLOOR.

#3/0 AWG BARE STRANDED COPPER GROUNDING ELECTRODE CONDUCTOR FROM MAIN GROUND BAR TO GROUND FIELD. PROVIDE 1" PVC SLEEVE AT BLDG EXIT. CONNECT TO GROUND BAR WITH 2-HOLE TONGUE LONG BARREL DOUBLE COMPRESSION CRIMP LUG & APPROPRIATE BOLTS, NUTS, & WASHERS. CONNECT TO GROUND FIELD WITH EXOTHERMIC WELD.

[3] #3/0 AWG COPPER GROUNDING ELECTRODE CONDUCTOR FROM MAIN GROUND BAR TO BUILDING STEEL COLUMN. CONNECTIONS SHALL BE WITH 2-HOLE TONGUE LONG BARREL DOUBLE COMPRESSION CRIMP LUG BOLTED TO RESPECTIVE DEVICE.

43/0 AWG COPPER IN 1" SCHED 40 PVC FROM MAIN GROUND BAR TO RESPECTIVE CCR GROUND

1/4" THICK BY 2" WIDE COPPER BUS BAR TO REPLACE EXISTING GROUND BUS, MOUNT TO EXISTING STRUT SUPPORT RACK. GROUND BUS BAR LENGTH SHALL SPAN SUPPORT RACK. INCLUDE MOUNTING

3/4" x 10 FT. LONG UL LISTED COPPERCLAD GROUND ROD. CONNECT GROUND RODS WITH #3/0 BARE STRANDED COPPER TO FORM A GROUND FIELD. GROUND RODS SHALL NOT BE SPACED LESS THAN 10 FEET APART. ADJUST LOCATION TO AVOID INTERFERENCE WITH EXISTING SIDEWALKS OR PAVEMENT. CONNECTIONS TO GND RODS SHALL BE EXOTHERMIC WELD.

7 #3/0 AWG COPPER IN 1" SCHED 40 PVC FROM 800 AMP SERVICE DISCONNECT GROUND BUS TO

8 #2 AWG COPPER IN 1" SCHED 40 PVC FROM 200 AMP SERVICE DISCONNECT GROUND BUS TO MAIN GROUND BAR.

#2 AWG COPPER IN 1" SCHED 40 PVC FROM 200 AMP, 3 PHASE SERVICE PANEL GROUND BUS TO MAIN GROUND BAR.

10 #1/0 AWG COPPER FROM ENGINE GENERATOR FRAME TO MAIN GROUND BAR.

[11] #6 AWG COPPER FROM DAY TANK FRAME/SUPPORT TO MAIN GROUND BAR.

[12] BOND BATTERY RACK FRAME TO ENGINE GENERATOR FRAME WITH #6 AWG COPPER BONDING JUMPER.

13 FOR EACH CONSTANT CURRENT REGULATOR DISCONNECT EXISTING #6 AWG COPPER BONDING JUMPER FROM EXISTING VAULT GROUND BUS AND RECONNECT TO NEW CCR GND BUS. SEE NOTE 3.

14 BOND HIGH VOLTAGE & LOW VOLTAGE WIREWAYS TO RESPECTIVE CCR GROUND BAR WITH #6 AWG COPPER BONDING JUMPER (WIREWAYS NOT SHOWN FOR CLARITY). SEE NOTES 3 & 4.

BOND CUTOUT ENCLOSURE TO RESPECTIVE CCR GROUND BAR WITH #6 AWG COPPER BONDING JUMPER. SEE NOTES 3 & 4.

[16] BOND L-841 PANELS, TERMINAL PANELS, PULL BOX & REGULATOR CONTROL PANEL TO CCR GND BAR #1 WITH #6 AWG COPPER BONDING JUMPER.

[17] EXISTING GROUND ROD CONNECTED TO L-841 PANELS, TERMINAL PANEL, & CONTROL PANELS SHALL

18 EXISTING GROUND RODS CONNECTED TO THE EXISTING CCR GROUND BARS SHALL BE DISCONNECTED &

[19] EXISTING CONTROL WIRING FOR RUNWAY, TAXIWAY, & OTHER AIRFIELD LIGHTING THAT RUNS FROM THE CONTROL TOWER TO THE BAGGAGE ROOM IN THE TERMINAL BUILDING AND ON TO THE VAULT SHALL BE DISCONNECTED & RECONNECTED TO AVAILABLE SPARE CONDUCTORS INSTALLED PREVIOUSLY IN 2005. SEE SPECIAL PROVISION SPEC SECTION AR109430 FOR DETAILS.

ALL GROUNDING WORK SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEM AR109200 INSTALL ELECTRICAL EQUIPMENT PER LUMP SUM **DE066** 

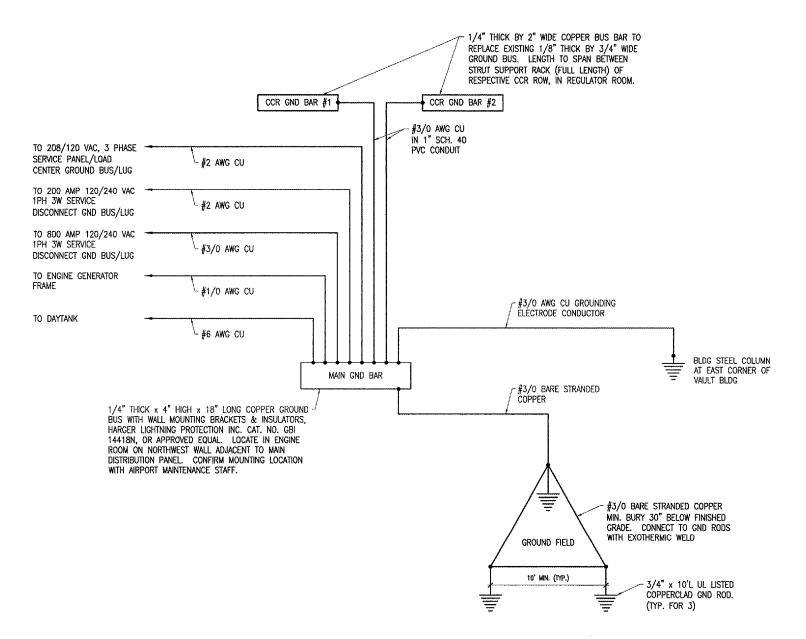
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TAXIWAY "C" RECONSTRUCTION

SCALE 1/4"=1'-0"



VAULT GROUND RISER

- CONNECTIONS TO GROUND BUS BARS SHALL BE WITH 2-HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE BUS BAR.
- INSULATED GROUND WIRES SHALL HAVE GREEN COLORED INSULATION FOR ALL CONDUCTOR AWG AND KCMIL.
- PROVIDE LEGEND PLATE TO IDENTIFY THE VAULT MAIN GROUND BUS. LETTERING SHALL BE 1/2" HIGH, WHITE ON A GREEN BACKGROUND.
  LEGEND PLATE SHALL BE LABELED "MAIN GROUND BUS".
- 4. FURNISH AND INSTALL TAGS IDENTIFYING THE ORIGIN AND/OR FAR END TERMINATION POINT FOR EACH GROUND WIRE LANDED ON THE MAIN GROUND BUS. TAGS FOR GROUND CONNECTIONS SHALL BE GREEN LAMINATED PLASTIC, WITH ENGRAVED WHITE CORES AND LACED TO CONDUCTOR WITH NYLON TIES. LETTERING SHALL BE 3/16" MINIMUM IN HEIGHT. INCLUDE IDENTIFICATION TAGS AS DETAILED ON THE GROUND WIRE IDENTIFICATION SCHEDULE.
- FURNISH AND INSTALL BRASS TAGS WITH THE WORDS "DO NOT DISCONNECT" EMBOSSED FOR ALL GROUND WIRES TERMINATED ON THE
- ALL WORK SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEM AR109200 "INSTALL ELECTRICAL EQUIPMENT" PER LUMP SUM,

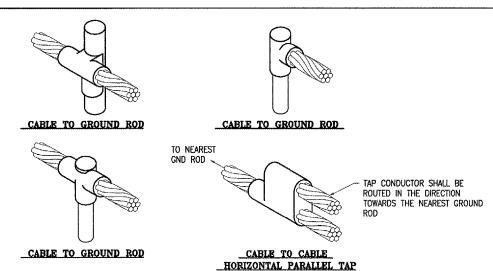
ground wire identificat	ION SCHEDULE
GROUND WIRE	IDENTIFICATION LABEL
GROUNDING ELECTRODE CONDUCTOR TO GROUND FIELD	GROUND FIELD
GROUNDING ELECTRODE CONDUCTOR TO BUILDING STEEL	BUILDING STEEL
GROUNDING ELECTRODE CONDUCTOR FROM 120/240 VAC, 800 AMP SERVICE DISCONNECT	800 AMP SERVICE DISCONNECT
GROUNDING ELECTRODE CONDUCTOR FROM 120/240 VAC, 200 AMP SERVICE DISCONNECT	200 AMP SERVICE DISCONNECT
GROUNDING ELECTRODE CONDUCTOR FROM 208/120 VAC, 3 PH, SERVICE PANEL/LOAD CENTER	208/120 V SERVICE PANEL
ENGINE GENERATOR FRAME	ENGINE GENERATOR
DAY TANK	DAY TANK
CONSTANT CURRENT REGULATOR RACK #1 GROUND BAR	CCR GND BAR #1
CONSTANT CURRENT REGULATOR RACK #2 GROUND BAR	CCR GND BAR #2

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TAXIWAY "C" RECONSTRUCTION VAULT GROUND RISER

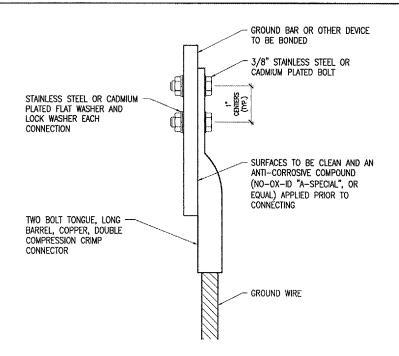
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#### DETAIL NOTES

- 1. EXOTHERMIC WELDS SHALL BE CADWELD AS MANUFACTURED BY ERICO PRODUCTS, SOLON, OHIO, ULTRAWELD AS MANUFACTURED BY HARGER LIGHTNING PROTECTION & GROUNDING EQUIPMENT, GRAYSLAKE, IL, OR THERMOWELD AS MANUFACTURED BY CONTINENTAL INDUSTRIES, TULSA, OKLAHOMA. VERIFY PROPER SIZES, MOLDS, TYPES, AND REQUIREMENTS FOR THE RESPECTIVE APPLICATION WITH THE MANUFACTURER, AND INSTALL PER THEIR DIRECTIONS.
- 2. FOR APPLICATIONS TO GALVANIZED STEEL OR PAINTED STEEL, REMOVE GALVANIZING AND/OR PAINT & CLEAN THE SURFACE TO EXPOSE BARE STEEL BEFORE MAKING EXOTHERMIC WELD CONNECTION.
- 3, INDIVIDUAL GROUNDING ELECTRODE CONDUCTORS SHALL NOT BE INSTALLED IN METAL CONDUIT. INSTALL GROUNDING ELECTRODE CONDUCTORS IN SCHED 40 PVC CONDUIT AS REQUIRED IN FOUNDATIONS, FOR PROTECTION, WHERE ENTERING ENCLOSURES, ETC.

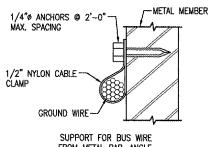
## EXOTHERMIC WELD DETAILS



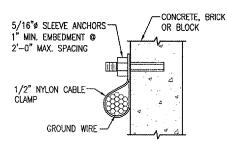
2 HOLE LONG BARREL COMPRESSION LUG TABLE			
WIRE SIZE	BURNDY CAT, NO.	THOMAS & BETTS CAT. NO.	
#6 AWG STRANDED	YA6C-2TC38	256-30695-1158	
#4 AWG STRANDED	YA4C-2TC38	256-30695-1159	
#2 AWG STRANDED	YA2C~2TC38	256-30695-1160	
#2 AWG SOLID	YA3C-2TC38	256306951160	
#1/0 AWG STRANDED	YA25-2TC38	256-30695-1162	
#2/0 AWG STRANDED	YA26-2TC38	256306951116	
#3/0 AWG STRANDED	YA27-2TC38	54816BE	

- ALL CONNECTIONS TO GROUND BUS BAR SHALL BE WITH 2 HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE BUS BAR.
- 2. GROUND WIRE CONNECTIONS TO EQUIPMENT SHALL BE WITH 2 HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE DEVICE OR WITH THE RESPECTIVE EQUIPT MANUFACTURER'S LUG OR TERMINAL WHERE APPLICABLE.
- 3. GROUNDING ELECTRODE CONDUCTORS, BONDING JUMPERS, & INDIVIDUAL GROUND WIRES SHALL NOT BE INSTALLED IN METAL CONDUIT.
- 4. ALL CONNECTIONS SHALL BE COATED WITH A CORROSION PREVENTATIVE COMPOUND (SANCHEM INC. NO-OX-ID "A-SPECIAL", BURNDY PENETROX E, OR EQUAL) BEFORE JOINING. ALL COPPER BUS BARS SHALL BE CLEANED PRIOR TO MAKING CONNECTIONS TO REMOVE SURFACE OXIDATION. CLEAN SURFACES, OF RESPECTIVE DEVICES TO BE BONDED, TO BARE METAL, PER NEC 250-12.

### GROUNDING LUG CONNECTION DETAIL



FROM METAL BAR, ANGLE, OR SIMILAR METAL MEMBER



SUPPORT FOR BUS WIRE FROM CONCRETE WALL, BRICK, OR BLOCK

NOTE: WHERE NOTED ON THE PLANS GROUND WIRES SHALL BE RUN IN SCHED 40 PVC CONDUIT (SIZE AS DETAILED). PVC CONDUIT CONTAINING GROUND CONDUCTORS SHALL NOT HAVE METAL SUPPORTS THAT COMPLETELY ENCIRCLE THE CONDUIT, USE NYLON BOLTS, NUTS, WASHERS, AND/OR REINFORCED FIBERGLASS STRUT SUPPORT. DO NOT USE CABLE TIES OR TIE WRAPS.

# TYPICAL GROUND WIRE SUPPORT DETAIL



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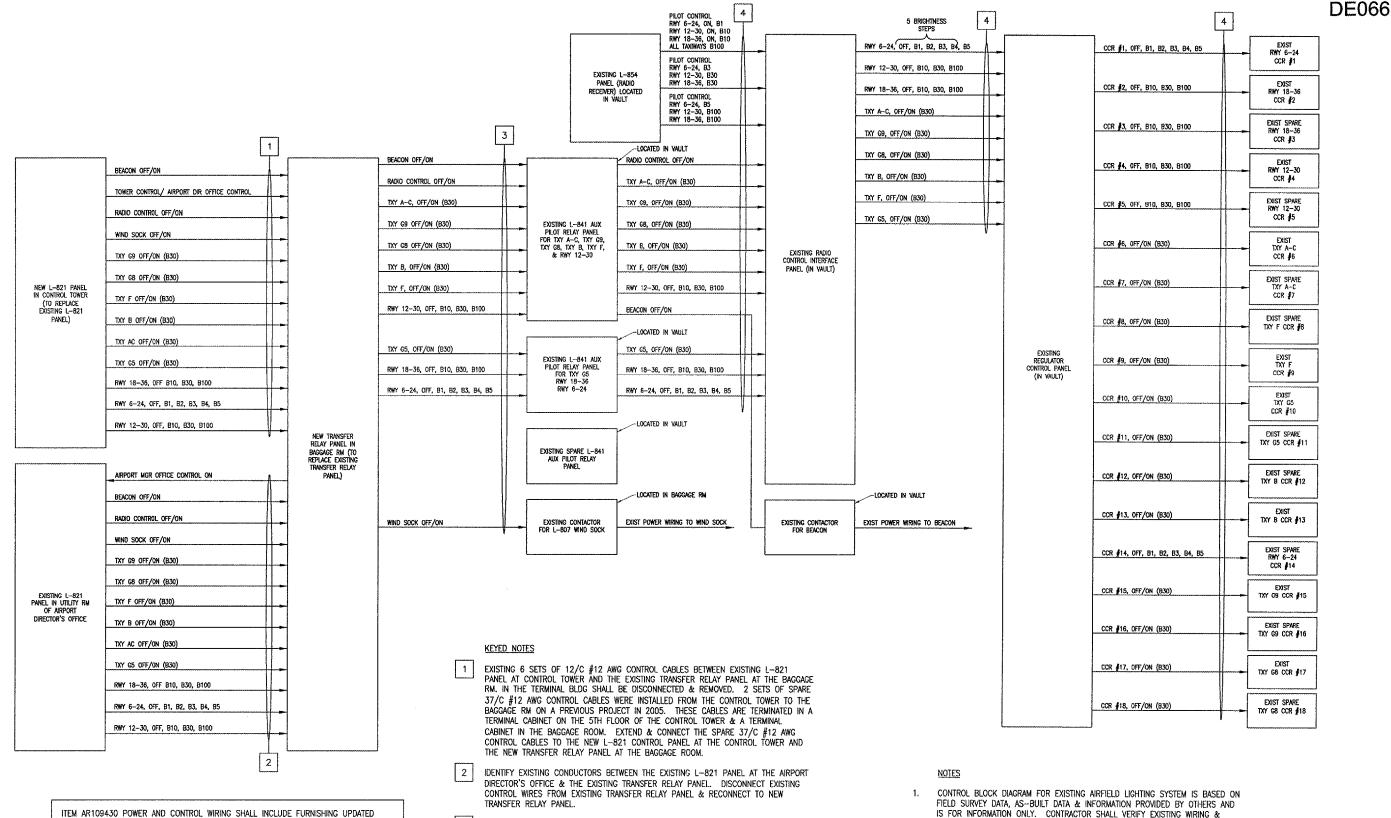
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GROUNDING DETAILS

TAXIWAY "C" RECONSTRUCTION

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EXISTING 50 PAIR #19 AWG CONTROL CABLE BETWEEN THE EXISTING RELAY TRANSFER

PANEL & THE VAULT SHALL BE DISCONNECTED & REMOVED. A SPARE 50 PAIR #19

BUILDING TO THE VAULT ON A PREVIOUS PROJECT IN 2005, THIS CABLE IS TERMINATED IN A TERMINAL CABINET IN THE BAGGAGE ROOM & A TERMINAL CABINET IN

THE VAULT. EXTEND & CONNECT THE SPARE 50 PAIR #19 AWG CONTROL CABLES TO THE NEW TRANSFER RELAY PANEL AT THE BAGGAGE ROOM & THE RESPECTIVE L-841

AWG CONTROL CABLE WAS INSTALLED FROM THE BAGGAGE RM IN THE TERMINAL

AUX, PILOT RELAY PANELS IN THE VAULT.

EXISTING CONTROL WIRING.

WIRING SCHEMATIC DRAWINGS FOR EACH AIRFIELD LIGHTING CONTROL PANEL ASSOCIATED WITH THE RUNWAY AND TAXIWAY LIGHTING (NEW AND EXISTING) THAT ACCURATELY REPRESENTS THE EXISTING CIRCUITRY WITH THE RESPECTIVE MODIFICATIONS AND UPDATES. THE PANEL MANUFACTURER OF THE EXISTING AIRFIELD LIGHTING CONTROL PANELS IS UNIVERSE INC., 1833 WEST HOVEY AVENUE, NORMAL, ILLINOIS 61761, ATTN. MR. JOHN HOUSOUR, PHONE: 309-454-5665, FAX: 309-452-2521. CONTRACTOR IS RESPONSIBLE TO PROVIDE UPDATED DRAWINGS FOR THE AIRFIELD LIGHTING CONTROL SYSTEM AND INCLUDE THIS WORK WITH HIS BID. DRAWINGS SHALL BE IN AUTOCAD OR COMPATIBLE COMPUTER AIDED DESIGN SYSTEM FORMAT. HAND SKETCHES WILL NOT MEET THIS REQUIREMENT.

- IS FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY EXISTING WIRING & CONDITIONS BEFORE COMMENCING WORK.
- ALL WORK SHALL BE COORDINATED WITH THE AIRPORT DIRECTOR, AIRPORT
- MODIFICATIONS SHALL BE PAID FOR UNDER ITEM AR109430 POWER AND CONTROL WIRING PER LUMP SUM.

MAINTENANCE STAFF, THE CONTROL TOWER PERSONNEL, & THE RESIDENT

NEW L-821 PANEL & NEW TRANSFER RELAY PANEL SHALL BE PAID FOR UNDER ITEM AR109600 L-821 CONTROL PANEL PER EACH. CONTROL WIRING

TAXIWAY "C" RECONSTRUCTION

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BLOCK DIAGRAM

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TRANSFER RELAY PANEL SCHEMATIC

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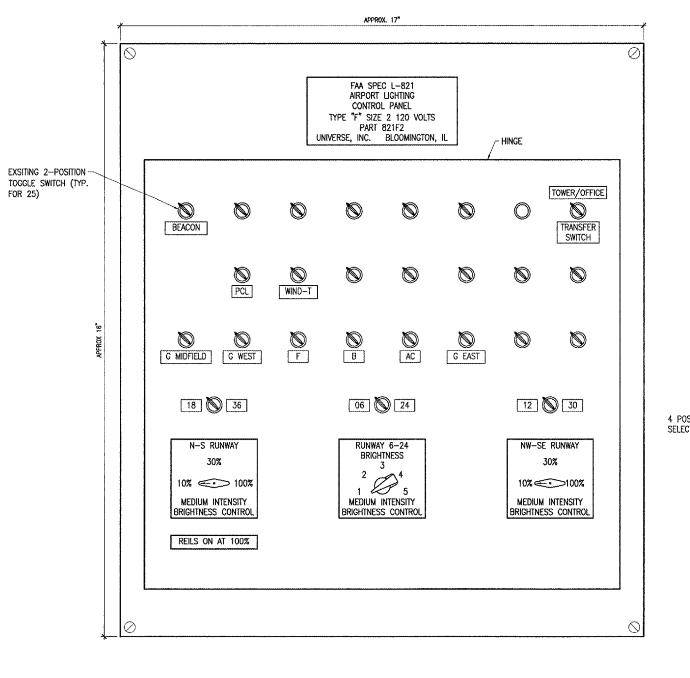
- NEW TRANSFER RELAY PANEL SHALL REPLACE EXISTING TRANSFER RELAY PANEL LOCATED IN THE BAGGAGE ROOM OF THE TERMINAL BUILDING. NEW TRANSFER RELAY PANEL SHALL BE MANUFACTURED BY UNIVERSE INC., 1833 WEST HOVEY AVE., NORMAL, ILLINOIS 61761, ATTN. MR. JOHN HOUSOUR, PHONE: 309-454-5665, FAX: 309-452-2521, OR EQUIVALENT FAA APPROVED L-821 PANEL MFR.
- NORMAL CONTROL INPUT SHALL BE FROM THE L-821 PANEL LOCATED AT THE CONTROL TOWER. CONTRACTOR SHALL COORDINATE TERMINAL & WIRING NUMBERING BETWEEN THE NEW L-821 PANEL AT THE CONTROL TOWER & THE NEW TRANSFER RELAY PANEL.
- ALTERNATE CONTROL INPUT SHALL BE FROM THE EXISTING L-821 PANEL LOCATED AT THE AIRPORT DIRECTOR'S OFFICE. CONTRACTOR SHALL FIELD VERIFY EXISTING WIRING, AND COORDINATE TERMINAL & WIRING NUMBERING BETWEEN THE EXISTING L-821 PANEL AT THE AIRPORT DIRECTOR'S OFFICE & THE NEW TRANSFER RELAY PANEL
- OUTPUT CONTROL FOR RUNWAY LIGHTING, TAXIWAY LIGHTING, BEACON, & L-854 RADIO CONTROL SHALL INTERFACE TO THE EXISTING L-841 AUX. PILOT RELAY PANELS LOCATED AT THE VAULT. OUTPUT CONTROL WIRING FOR THE WIND SOCK SHALL INTERFACE TO THE WIND SOCK CONTACTOR IN THE BAGGAGE ROOM. CONTRACTOR SHALL FIELD VERIFY EXISTING WIRING AND COORDINATE TERMINAL & WIRING NUMBERING BETWEEN THE NEW TRANSFER RELAY PANEL & THE L-841 PANELS OR OTHER RESPECTIVE DEVICES.
- EACH CONTROL WIRE SHALL HAVE A UNIQUE NUMBER DEDICATED TO THAT RESPECTIVE WIRE & SHALL BE LABELED AT EVERY SPLICE AND TERMINATION.
- INPUT CONTROL WIRING FROM THE NEW L-821 PANEL AT THE CONTROL TOWER TO THE NEW TRANSFER RELAY PANEL SHALL BE NUMBERED 101 THROUGH 137 AND 201 THROUGH 237 TO CORRESPOND TO THE TWO 37/C #12 AWG CONTROL CABLES THAT RUN BETWEEN THE CONTROL TOWER & THE BAGGAGE ROOM AT THE TERMINAL BLDG. RENUMBER EXISTING TERMINAL PANELS AT
- INPUT CONTROL WIRING FROM THE EXISTING L-821 PANEL AT THE AIRPORT DIRECTOR'S OFFICE TO THE NEW TRANSFER RELAY PANEL SHALL BE RENUMBERED STARTING AT 301 THROUGH 3XX.
- OUTPUT CONTROL WIRING FROM THE NEW RELAY TRANSFER PANEL TO THE VAULT SHALL BE NUMBERED 1 THROUGH 100 TO MATCH THE EXISTING 50 PAIR #19 AWG CONTROL CABLE TERMINAL PANELS AT
- CONTROL RELAYS SHALL BE 10 AMP, 4PDT WITH 120 VAC COIL, IDEC RH4BU, OR APPROVED EQUAL FOR RELAYS RY1 THROUGH RY7 & RY9. CONTROL RELAY FOR RY8 SHALL BE 10 AMP DPDT WITH 120 VAC COIL, IDEC RH2BU, OR APPROVED EQUAL. INCLUDE SOCKET FOR EACH RELAY. INCLUDE 1
- TERMINAL BLOCKS SHALL BE SUITABLE FOR #18 AWG THROUGH #12 AWG CONDUCTORS. PANEL INTERNAL CONTROL WIRING SHALL NOT BE SMALLER THAN #16 AWG COPPER, 105°C. MIL SPEC
- TRANSFER RELAY PANEL SHALL BE INCIDENTAL TO (INCLUDED WITH) PAY ITEM AR109600 L-821 CONTROL PANEL PER EACH.

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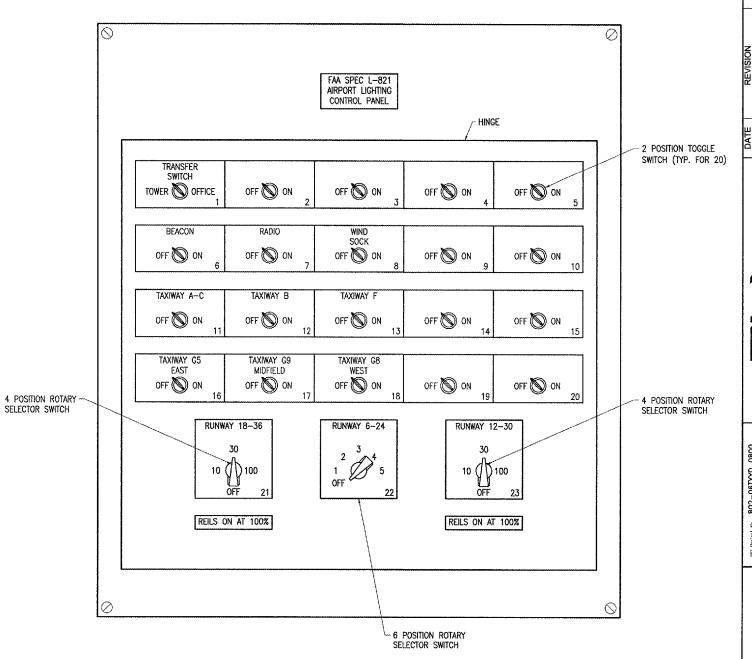
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TAXIWAY "C" RECONSTRUCTION RANSFER RELAY PANEL DETAILS



EXISTING L-821 CONTROL PANEL



# NEW L-821 CONTROL PANEL

NOTES

- NEW L-821 CONTROL PANEL SHALL REPLACE THE EXISTING L-821 CONTROL PANEL LOCATED IN THE CONTROL TOWER. THE EXISTING L-821 PANEL IS AN FAA SPEC TYPE I (CONVENTIONAL PANEL), CLASS F (FLUSH MOUNT IN A CONSOLE), STYLE 1 (UNLIGHTED), MODE 1. THE TOP PLATE DIMENSIONS ARE APPROXIMATELY 17" WIDE BY 16" HIGH. THE TUB/ENCLOSURE DIMENSIONS ARE APPROXIMATELY 15" WIDE BY 13.75" HIGH BY 12.5" DEEP. CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS TO CONFIRM,
- THE NEW L-821 CONTROL PANEL SHALL BE COMPATIBLE WITH THE EXISTING CONSOLE AT THE CONTROL TOWER. THE NEW L-821 CONTROL TOWER. THE NEW L-821 CONTROL PANEL SHALL BE TYPE I, CLASS F, STYLE 1, MODE 1 CONFORMING TO FAA A/C 150/5345-3E, AS DETAILED ON THIS SHEET, AND PER THE SPECIAL PROVISION SPECIFICATION. THE NEW L-821 CONTROL PANEL SHALL BE MANUFACTURED BY UNIVERSE INC., 1833 WEST HOVEY AVE., NORMAL, ILLINOIS 61761, PHONE 309-454-5665, FAX: 309-452-2521, ATTN. MR. JOHN HOUSOUR, OR AN EQUIVALENT FAA-APPROVED L-821 CONTROL PANEL MANUFACTURER.
- NEW L-821 PANEL SHALL INCLUDE TERMINALS NUMBERED 101 THROUGH 137 AND 201 THROUGH 237 (WHERE APPLICABLE) TO BE COMPATIBLE WITH TERMINAL PANEL FOR THE TWO 37 CONDUCTOR CABLES LOCATED ON THE 5TH FLOOR CABLE JUNCTION ROOM OF THE CONTROL TOWER. COORDINATE TERMINAL NUMBERING WITH THE REPLACEMENT RELAY TRANSFER PANEL AT THE BAGGAGE ROOM OF THE TERMINAL BUILDING. SHOP DRAWINGS FOR L-821 PANEL SHALL INCLUDE PANEL LAYOUT AND WIRING DIAGRAM WITH TERMINAL BLOCK NUMBER DESIGNATIONS.
- 4. L-821 CONTROL PANEL SHALL BE PAID FOR UNDER ITEM AR109600 L-821 CONTROL PANEL PER EACH.

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TAXIWAY "C" RECONSTRUCTION

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