

CONSTRUCTION PLANS

FOR

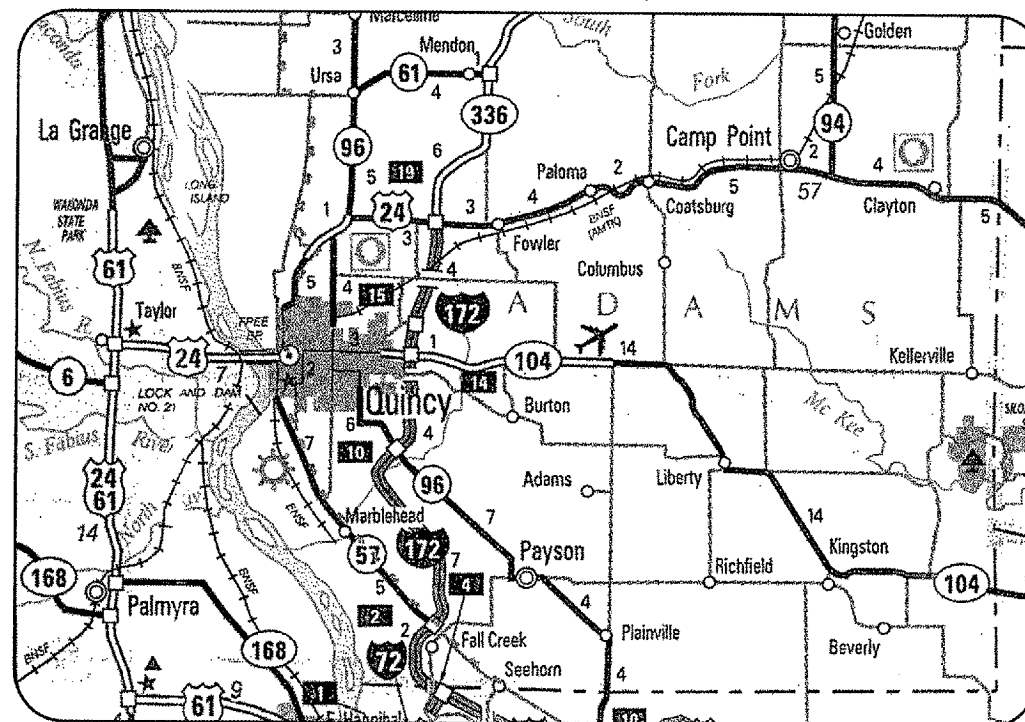
QUINCY REGIONAL AIRPORT - BALDWIN FIELD

QUINCY, ADAMS COUNTY, ILLINOIS

RUNWAY 13-31 SAFETY AREA IMPROVEMENTS

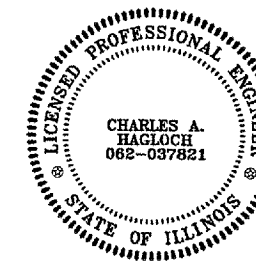
SCOPE OF WORK

THIS PROJECT CONSISTS OF MOVING THE DISPLACED THRESHOLD ON RUNWAY END 31 BACK TO THE END OF RUNWAY. ASSOCIATED WORK INCLUDES PAVEMENT MARKING REMOVAL, PAVEMENT MARKING, RUNWAY LIGHT REMOVAL AND RUNWAY LIGHT INSTALLATION.



LOCATION

ILL. PROJ.: UIN-3619
 A.I.P. PROJ.: 3-17-0085-xx
 LATITUDE: 39° 56' 33"
 LONGITUDE: 91° 11' 40"
 ELEVATION: 769.0' M.S.L.
 DATE: JUNE 19, 2006



HANSON
Hanson Professional Services Inc.

Submitted by: *Charles A. Hagloch* ENG'R
 Date Submitted: *June 30, 2006*
 Lics. Exp. Date: *Nov. 30, 2007*

CITY OF QUINCY

Approved: *Philip A. Gray* MAYOR
 Date: *6/26/06*
 Approved: *H. Steinberg* CITY ENGINEER
 Date: *6/26/06*
 Approved: *Maryanna* AIRPORT DIRECTOR
 Date: *6/26/06*



JUN 29, 2006 3:42 PM BAK
 I:\AIRPORTS\QUINCY\82406RWY\AIRPORT\ SHEETS\R-001CVR.DWG - COVER

DATE	REVISION	BY					
QUINCY REGIONAL AIRPORT BALDWIN FIELD ADAMS COUNTY, ILLINOIS							
ILL. PROJ.: UIN-3619 A.I.P. PROJ.: 3-17-0085-XX							
ILL. Project No. 824-06RWYD.0240 Filename: R-001CVR.DWG Scale: NOT TO SCALE Date: 06/06/06	LAYOUT: BAK 06/06/06 DRAWN: BAK 06/06/06 REVIEWED: CAH 06/15/06						
<p>HANSON Hanson Professional Services Inc. 1525 South State Street Springfield, Illinois 62703-2885 Offices Nationwide</p>							
RUNWAY 13-31 SAFETY AREA IMPROVEMENTS				COVER SHEET			
1							
1 of 11 sheets							

QI057

SUMMARY OF QUANTITIES


ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITIES	AS BUILT QUANTITIES
AR108158	1/C #8 5 KV UG CABLE IN UD	L.F.	1,171	
AR125510	MIRL, BASE MOUNTED	EACH	2	
AR125545	MI THRESHOLD LIGHT BASE MTD	EACH	8	
AR125902	REMOVE BASE MOUNTED LIGHT	EACH	20	
AR125931	REPLACE LIGHT LENSE	EACH	2	
AR620520	PAVEMENT MARKING-WATERBORNE	S.F.	82,868	
AR620525	PAVEMENT MARKING-BLACK BORDER	S.F.	15,132	
AR620900	PAVEMENT MARKING REMOVAL	S.F.	82,838	
AR800449	WEED CONTROL LIGHT RING	EACH	10	

INDEX TO SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	SUMMARY OF QUANTITIES AND INDEX TO SHEETS
3	PROPOSED SAFETY PLAN
4	EXISTING MARKING REMOVAL PLAN STA. 100+00 TO STA. 153+98
5	PROPOSED MARKING PLAN STA. 100+00 TO STA. 153+98
6	PROPOSED MARKING DETAILS
7	PROPOSED ELECTRICAL PLAN
8	PROPOSED ELECTRICAL DETAILS
9	PROPOSED ELECTRICAL DETAILS
10	PROPOSED ELECTRICAL NOTES
11	PROPOSED ELECTRICAL NOTES

DATE	REVISION	BY

QUINCY REGIONAL AIRPORT
 BALDWIN FIELD
 ADAMS COUNTY, ILLINOIS



IL PROJ.: UIN-3619 A.I.P. PROJ.: 3-17-0085-XX

I.D. Project No. 824-06RWYD_0240 Name R-002FLP.DWG Title NOT TO SCALE Date 06/06/06	LAYOUT BAK 06/06/06 DRAWN BAK 06/06/06 REVIEWED CAH 06/15/06
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HANSON
 Hanson Professional Services Inc.
 4245 South State Street
 Springfield, Illinois 62708-2886
 Offices Nationwide

RUNWAY 13-31 SAFETY
 AREA IMPROVEMENTS
 SUMMARY OF QUANTITIES
 AND
 INDEX TO SHEETS

SCOPE OF WORK

THIS PROJECT CONSISTS OF MOVING THE DISPLACED THRESHOLD ON RUNWAY END 31 BACK TO THE END OF RUNWAY. ASSOCIATED WORK INCLUDES PAVEMENT MARKING REMOVAL, PAVEMENT MARKING, RUNWAY LIGHT REMOVAL AND RUNWAY LIGHT INSTALLATION.

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.

THE CONTRACTOR WILL CONTACT THE AIRPORT MANAGEMENT FOR ADDITIONAL GUIDANCE AND TRAINING FOR AIRPORT SECURITY PROCEDURES.

ALL ACCESS GATES WILL BE LOCKED WHEN NOT IN USE. DURING PERIODS OF CONTINUOUS HAULING OPERATIONS, THE CONTRACTOR WILL FURNISH AN EMPLOYEE AT ALL ACCESS GATES TO MONITOR TRAFFIC THROUGH THE ACCESS GATES.

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 ACTIVITIES.

HEIGHT OF CONSTRUCTION EQUIPMENT

THE MAXIMUM ANTICIPATED HEIGHT OF THE CONSTRUCTION EQUIPMENT WILL BE 25 FEET. THE TALLEST EQUIPMENT IS EXPECTED TO BE A CONCRETE TRUCK.

HAUL ROUTE AND VEHICLE PARKING

THE CONTRACTOR WILL USE THE DESIGNATED HAUL ROUTE AND PARKING AREA AS SHOWN ON THIS SHEET. THE PROPOSED PARKING AREA WILL BE 200' X 200'. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THE PROPOSED HAUL ROUTE AND PARKING AREA THROUGHOUT THE COURSE OF THE PROJECT. ANY AREAS DAMAGED 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 AREA WILL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

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.






NO TRENCHES OR HOLES WILL REMAIN OPEN OVERNIGHT.

ONCE THE CONTRACTOR BEGINS REMOVING THE MARKING FROM RUNWAY 13-31, RUNWAY 13-31 WILL BE CLOSED AND WILL REMAIN CLOSED UNTIL THE MARKING HAS BEEN REPLACED.

BARRICADES AND TRAFFIC CONES

IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PLACE AND MAINTAIN BARRICADES AND TRAFFIC CONES AS DIRECTED BY THE AIRPORT MANAGER. THE BARRICADES WILL BE EQUIPPED WITH RED STEADY BURN OR RED FLASHING LIGHTS AND 20" SQUARE ORANGE FLAGS. THE BARRICADES, THEIR MAINTENANCE, PLACEMENT AND REMOVAL WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

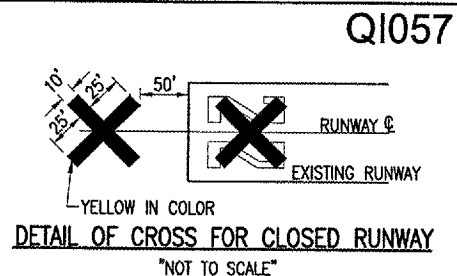
LEGEND

-  EXISTING IMPROVEMENTS
-  PROPOSED IMPROVEMENTS
-  EXISTING BUILDINGS
-  PROPOSED HAUL ROUTE AND EQUIPMENT PARKING AREA
-  PROPOSED BARRICADES OR TRAFFIC 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.

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

CRITICAL POINT DATA				
POINT NO.	DESCRIPTION	LATITUDE	LONGITUDE	ELEVATION
1	CENTERLINE RUNWAY 13-31 STA. 127+00	39°56'26.06"	91°11'37.52"	761.48
2	CENTERLINE RUNWAY 13-31 STA. 123+02.85	39°56'28.87"	91°11'41.15"	761.12
3	CENTERLINE RUNWAY 13-31 STA. 108+06.68	39°56'39.39"	91°11'54.62"	766.66



NOTE:

COST OF CONSTRUCTING, PLACING, MAINTAINING AND REMOVING CROSSES WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. THE CROSSES WILL BE YELLOW IN COLOR AND SHALL BE MADE OF A SUITABLE MATERIAL AS APPROVED BY THE RESIDENT ENGINEER AND REVIEWED BY THE AIRPORT DIRECTOR. THE CROSSES WILL BE PLACED OVER THE NUMERALS AND SECURED 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 RESPONSIBLE FOR THE PLACEMENT AND REMOVAL OF THE CROSSES. NO ADDITIONAL COMPENSATION WILL BE ALLOWED. ALL RUNWAY CLOSURES WILL BE DONE IN ACCORDANCE WITH ALL PERTINENT FAA ADVISORY CIRCULARS. ALL RUNWAY CLOSURE PROCEDURES WILL BE REVIEWED BY THE AIRPORT DIRECTOR AND COORDINATED WITH THE RESIDENT ENGINEER.

J.U.L.I.E. INFORMATION

COUNTY: ADAMS
 CITY: QUINCY
 TOWNSHIP: GLIMER
 SECTION NO.: 34
 ADDRESS: QUINCY REGIONAL AIRPORT - BALDWIN FIELD
 1645 HIGHWAY 104
 QUINCY, ILLINOIS 62305
 AIRPORT DIRECTOR: (217) 535-3285

PROPOSED SAFETY PLAN

GENERAL - THE QUINCY REGIONAL AIRPORT IS COMPRISED OF THREE RUNWAYS. THE PROPOSED CONSTRUCTION WILL NECESSITATE CLOSING ALL THE RUNWAYS. ANY TIME THE CONTRACTOR IS WORKING WITHIN 200' OF THE RUNWAY CENTERLINE THE RUNWAY WILL BE CLOSED. THE RUNWAY WILL BE CLOSED ONLY DURING THE CONSTRUCTION DAY. AT THE END OF EACH CONSTRUCTION DAY THE CONTRACTOR WILL SMOOTH GRADE ALL AREAS WITHIN THE SAFETY AREA TO THE SATISFACTION OF THE RESIDENT ENGINEER AND RE-OPEN THE RUNWAY. ALL WORK INCLUDED IN OPENING AND CLOSING THE RUNWAY WILL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ALL CONTRACTOR PERSONNEL, WHO WILL BE OPERATING VEHICLES ON THE AIR SIDE OF THE SECURITY FENCE, WILL BE REQUIRED TO COMPLETE TRAINING AND CERTIFICATION TESTING IN ACCORDANCE WITH 14CFR PART 139. ALL TRAINING AND TESTING WILL BE DONE BY AIRPORT PERSONNEL. ALL FEES ASSOCIATED WITH THIS TRAINING AND TESTING WILL BE PAID BY THE CONTRACTOR AND WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

THE CONTRACTOR WILL BE ALLOWED TO ONLY CLOSE TWO RUNWAYS AT THE SAME TIME. THERE WILL ALWAYS BE ONE RUNWAY OPEN DURING THE CONSTRUCTION DAY AND TWO RUNWAYS WILL BE OPEN AFTER THE CONSTRUCTION HAS CEASED FOR THE DAY.

RUNWAY 4-22 CLOSURE - BEFORE THIS RUNWAY CAN BE CLOSED THE CONTRACTOR MUST CONTACT THE AIRPORT DIRECTOR TO DETERMINE IF IFR CONDITIONS PREVAIL (CEILING HT. < 1,000 FT. AND VISIBILITY < 3 MILES). IF IFR CONDITIONS PREVAIL, THEN RUNWAY 4-22 WILL NOT BE CLOSED. WHEN THE AIRPORT DIRECTOR DETERMINES THAT IFR CONDITIONS ARE NO LONGER PREVAILING, THE RUNWAY CAN BE CLOSED FOR CONSTRUCTION.

WHENEVER THERE ARE STRONG CROSSWINDS, THE CONTRACTOR WILL CONTACT THE AIRPORT DIRECTOR TO DETERMINE IF A GIVEN RUNWAY CAN BE CLOSED. THE AIRPORT DIRECTOR WILL MAKE THE FINAL DECISION AS TO WHEN THE CROSSWIND COMPONENT HAS DECREASED SUFFICIENTLY TO ALLOW CLOSURE.

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.

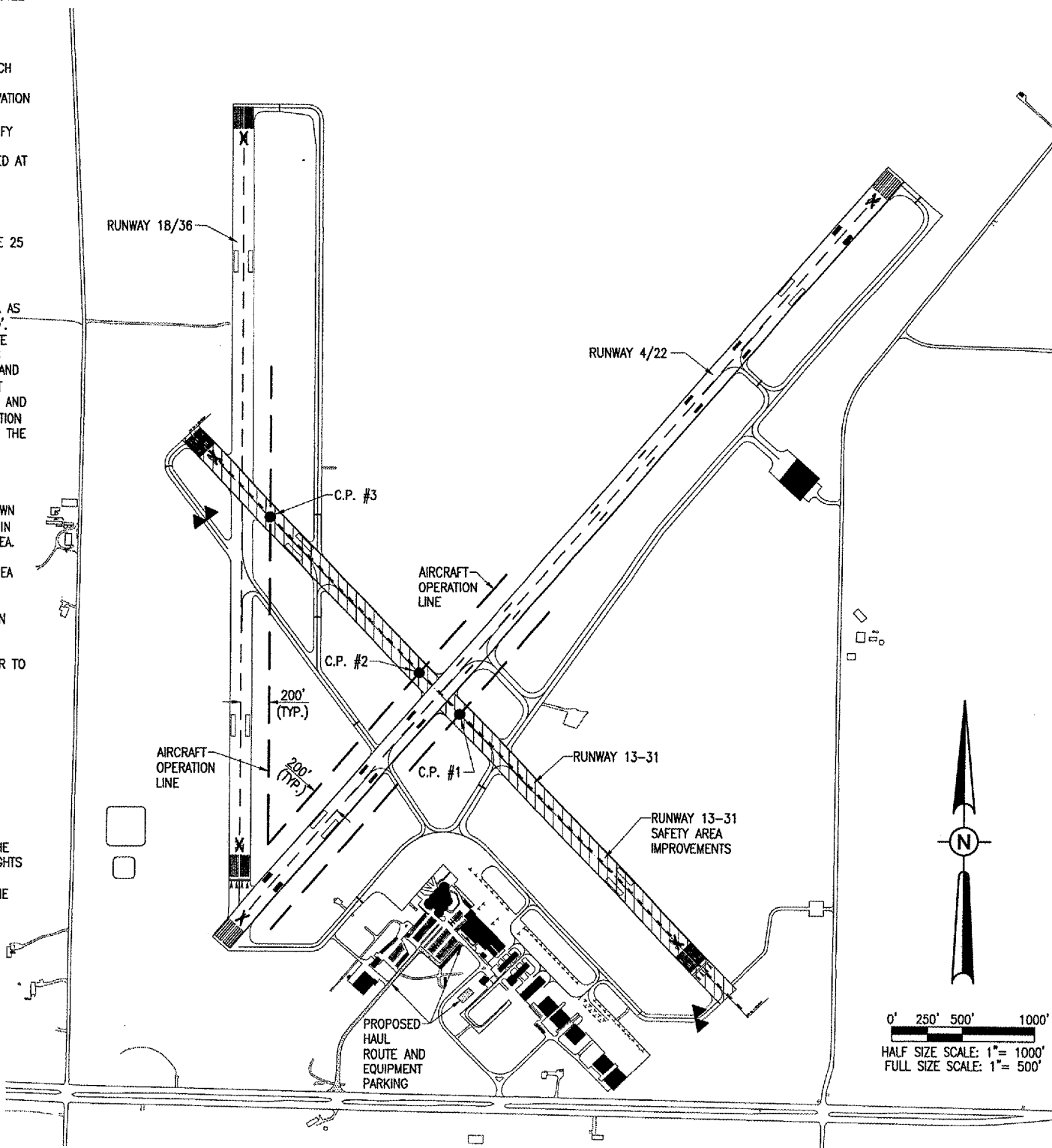
RADIO CONTROL - THE CONTRACTOR WILL BE REQUIRED TO BE IN TWO-WAY RADIO CONTACT (123.00 MHz.) WITH THE AIRPORT UNICOM. THIS WILL KEEP THE CONTRACTOR IN CONSTANT CONTACT WITH THE QUINCY REGIONAL AIRPORT AND ENABLE THE AIRPORT TO IMMEDIATELY CONTACT THE CONTRACTOR IN CASE OF AN AERONAUTIC EMERGENCY THAT WOULD REQUIRE ACTION BY THE CONTRACTOR AND/OR HIS PERSONNEL.

EROSION CONTROL



THIS PROJECT WILL DISTURB LESS THAN 1 ACRE OF LAND, THEREFORE NO N.P.D.E.S. PERMIT WILL BE REQUIRED.

AIRCRAFT OPERATION LINE

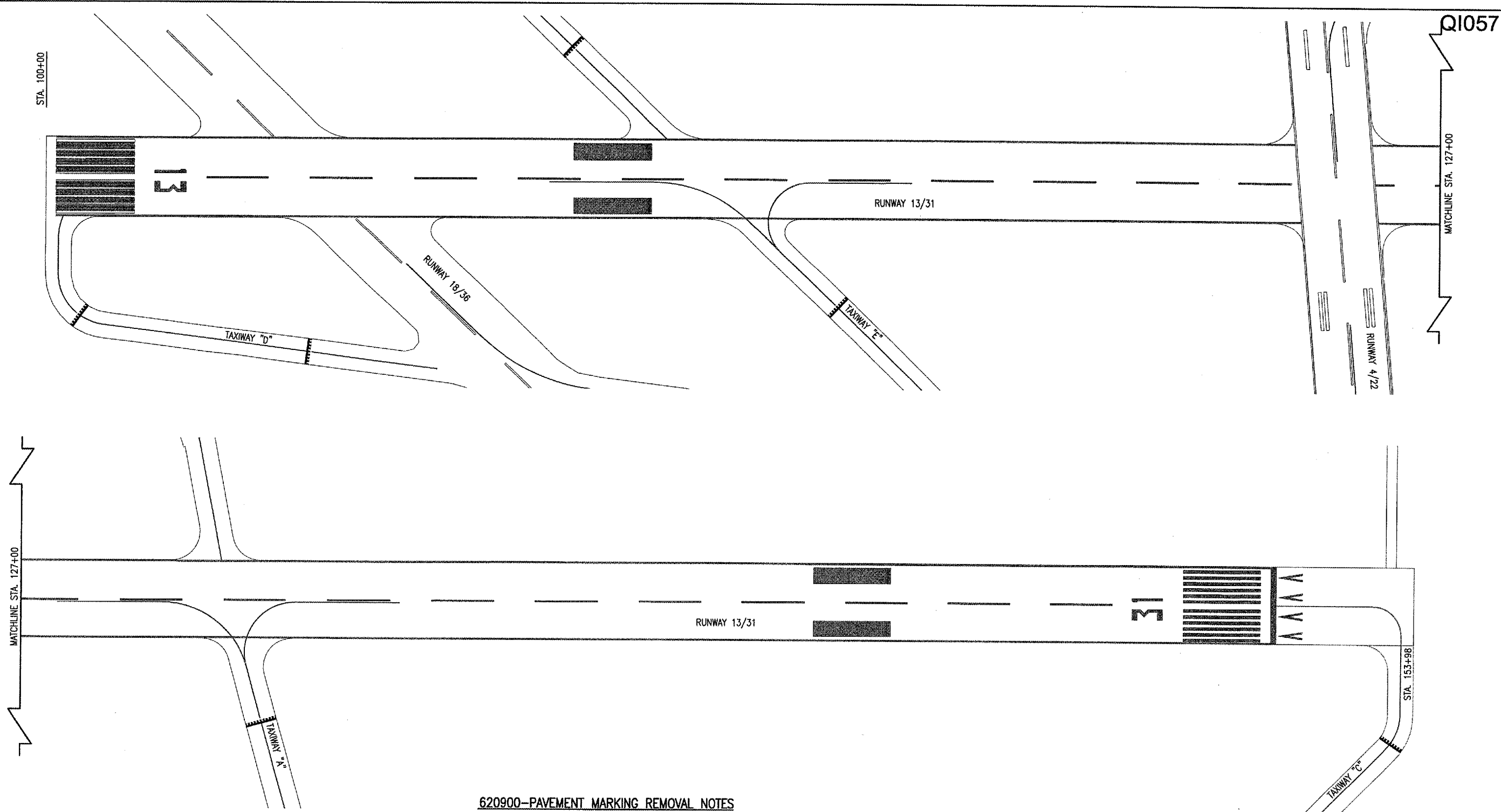
THE CONTRACTOR WILL LOCATE THIS LINE AT THE START OF CONSTRUCTION AND WILL PLACE FLAGGED LATH EVERY 150' ALONG IT. THIS LINE WILL BE THE LIMITS THAT ALL CONTRACTOR PERSONNEL MAY VENTURE WHEN A RUNWAY IS NOT CLOSED. THE CONTRACTOR WILL MAINTAIN THE LATH LINE FOR RUNWAYS.



Q1057

BY	
REVISION	
DATE	
	
QUINCY REGIONAL AIRPORT BALDWIN FIELD ADAMS COUNTY, ILLINOIS	
A.I.P. PROJ.: 3-17-0085-XX I.L. PROJ.: UIN-3619	
I.E. Project No.: 824-06RWD-0240 Elevation: R-003SFY.DWG Scale: 1" = 500' Date: 06/06/06	06/06/06 06/06/06 06/15/06 BAK BAK CAH
	
Hanson Professional Services Inc. 1424 S. Springfield, Illinois 62703-2888 Offices Nationwide	
RUNWAY 13-31 SAFETY AREA IMPROVEMENTS	PROPOSED SAFETY PLAN
3 3 of 11 sheets	

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620900-PAVEMENT MARKING REMOVAL NOTES

THE EXISTING PAVEMENT MARKING SHALL BE REMOVED IN ACCORDANCE WITH ITEM 620 "PAVEMENT MARKING" AS STATED ON PAGE 77 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1, 2004.

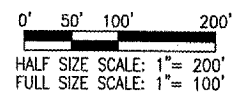
THE AREAS THAT ARE DESIGNATED FOR REMOVAL ARE SHOWN ON THIS SHEET.

ALL AREAS TO BE REMOVED ARE CALCULATED AREAS. ANY ADDITIONAL AREAS, DUE TO OVER SPRAY, SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PICK UP ALL WASTE MATERIAL (SAND, REMOVED PAINT, ETC.) THAT IS DERIVED FROM THE REMOVAL PROCESS AND DISPOSE OF THIS WASTE MATERIAL OFF THE AIRPORT SITE AT THE CONTRACTOR'S OWN EXPENSE. NO MATERIAL WILL BE BROOMED, FLUSHED OR BLOWN ONTO THE PAVEMENT SHOULDER AREA.

THE PROPOSED MARKING REMOVAL WILL BE PAID FOR UNDER ITEM:
 AR620900 PAVEMENT MARKING REMOVAL 82,838 S.F.

- LEGEND**
- EXISTING PAVEMENT
 - EXISTING TAXIWAY MARKING
 - EXISTING RUNWAY MARKING
 - EXISTING MARKING (TO BE REMOVED)



DATE	REVISION	BY

QUINCY REGIONAL AIRPORT
 BALDWIN FIELD
 ADAMS COUNTY, ILLINOIS

IL PROJ.: UN-3619 A.I.P. PROJ.: 3-17-0085-XX

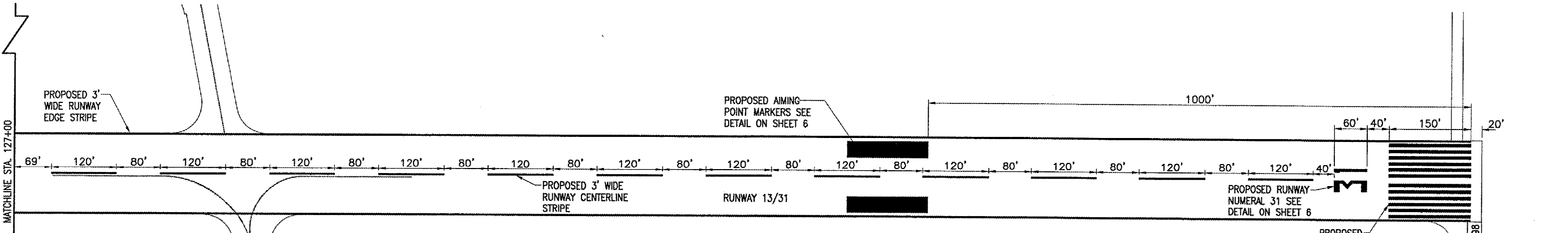
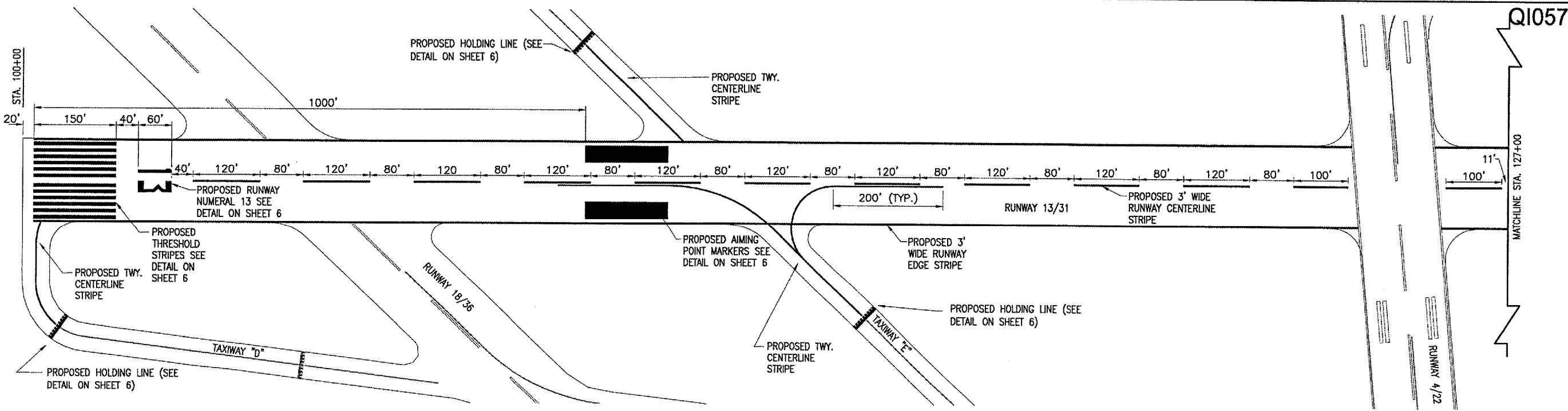
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Filename: R-151MRK.DWG		
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Date: 06/07/06		
LAYOUT	BAK	06/07/06
DRAWN	BAK	06/07/06
REVIEWED	CAH	06/15/06

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 Hanson Professional Services Inc.
 655 South Main Street
 Springfield, Illinois 62703-2886
 Offices Nationwide

RUNWAY 13-31 SAFETY AREA IMPROVEMENTS

EXISTING MARKING
 REMOVAL PLAN
 STA. 100+00 TO STA. 153+98

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NUMERAL 4 NOTES

ONCE THE CONTRACTOR HAS REMOVED ALL OF THE MARKING ON RUNWAY 13-31 HE WILL CLOSE RUNWAY 4-22 IN ORDER TO REMOVE THE NUMERAL 4 AND THE BLACK PAINT THAT WAS USED TO BLOCK OUT THE NUMERAL DURING A PAST PROJECT.

SINCE RUNWAY 4-22 CAN NOT BE CLOSED OVERNIGHT, IMMEDIATELY UPON REMOVING THE NUMERAL 4 AND THE BLACK PAINT AROUND THE NUMERAL THE CONTRACTOR WILL RE-PAINT THE NUMERAL 4.

THE EXISTING NUMERAL 4 AND THE BLACK PAINT AROUND IT IS DETAILED ON SHEET NO. 6.

MARKING QUANTITIES			
DESCRIPTION	UNIT AREA	NO. REQUIRED	TOTAL AREA
RUNWAY CENTERLINE STRIPE	360	22	7,920
RUNWAY CENTERLINE STRIPE	300	2	600
RUNWAY NUMBER 1	318	2	636
RUNWAY NUMBER 3	634	2	1,268
RUNWAY NUMBER 4	602	1	602
RUNWAY THRESHOLD STRIPES	862.50	24	20,700
RUNWAY EDGE STRIPE	15,624	2	31,248
RUNWAY AIMING POINT MARKERS	4,500	4	18,000
TOTAL WHITE			80,974
HOLDING LINE	150	3	450
TAXIWAY CENTERLINE STRIPE	1,444	1	1,444
TOTAL YELLOW			1,894
RUNWAY CENTERLINE STRIPE	124	22	2,728
RUNWAY CENTERLINE STRIPE	104	2	208
RUNWAY NUMBER 1	67	2	134
RUNWAY NUMBER 3	102	2	204
RUNWAY NUMBER 4	106	1	106
RUNWAY THRESHOLD STRIPES	156.75	24	3,762
RUNWAY EDGE STRIPE	2,607.50	2	5,215
RUNWAY AIMING POINT MARKERS	181	4	724
HOLDING LINE	200	3	600
TAXIWAY CENTERLINE STRIPE	1,451	1	1,451
TOTAL BLACK			15,132
TOTAL MARKING			98,000

620-PAVEMENT MARKING-WATERBORNE NOTES

THE PAVEMENT MARKING-WATERBORNE (620) SHALL BE PLACED IN ACCORDANCE WITH ITEM 620 "PAVEMENT MARKING" AS STATED ON PAGE 77 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1, 2004.

THIS ITEM WORK SHALL CONSIST OF RUNWAY MARKING IN ACCORDANCE WITH THESE SPECIFICATIONS AND AT THE LOCATIONS SHOWN ON THE CONSTRUCTION PLANS. ALL RUNWAY MARKING WILL BE SOLID AND WHITE IN COLOR WITH A SIX INCH (6") BLACK OUTLINE. THE PROPOSED PAVEMENT MARKING WILL BE APPLIED IN TWO APPLICATIONS.

ALL TAXIWAY MARKING WILL BE SOLID AND YELLOW IN COLOR WITH A SIX INCH (6") BLACK OUTLINE. ALL TAXIWAY MARKING WILL BE ONE FOOT (1') IN WIDTH.

ANY MATERIAL DELIVERED THAT FAILS TO MEET THE SPECIFICATIONS SHALL BE DISPOSED OF BY THE VENDOR AND IMMEDIATELY REPLACED WITH ACCEPTABLE MATERIAL ENTIRELY AT THE VENDOR'S EXPENSE, INCLUDING HANDLING AND TRANSPORTATION CHARGES.

ALL PROPOSED MARKING WILL BE COMPLETED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION PLANS.

GLASS BEADS SHALL BE REQUIRED ONLY ON THE SECOND APPLICATION.

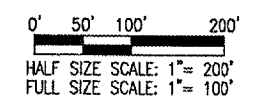
THE BLACK BORDER WILL NOT RECEIVE ANY REFLECTIVE MEDIA.

CUT-OFF SHEETS WILL BE REQUIRED TO INSURE STRAIGHT EDGES.

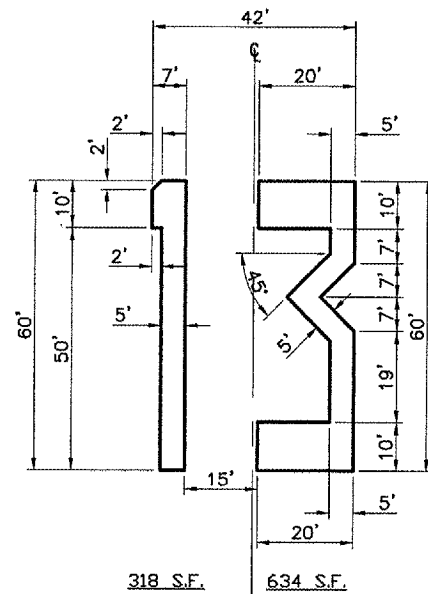
THE PROPOSED MARKING WILL BE PAID FOR UNDER ITEM:
 AR620520 PAVEMENT MARKING-WATERBORNE 82,868 S.F.
 AR620525 PAVEMENT MARKING-BLACK BORDER 15,132 S.F.

LEGEND

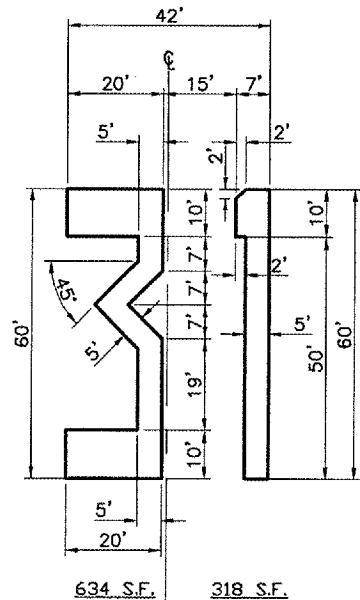
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	EXISTING TAXIWAY MARKING
	EXISTING RUNWAY MARKING
	PROPOSED MARKING



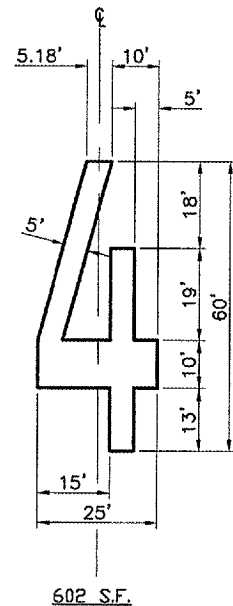
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REVISION	
DATE	
QUINCY REGIONAL AIRPORT BALDWIN FIELD ADAMS COUNTY, ILLINOIS	
ILL. PROJ.: JIN-3619 A.I.P. PROJ.: J-17-0085-XX	
H.E. Project No. 824-06RWYD.0240 Drawing R-151MRK.DWG Scale 1" = 100' Date 06/07/06	LAYOUT BAK 06/07/06 DRAWN BAK 06/07/06 REVIEWED CAH 06/15/06
Hanson Professional Services Inc. 1025 South Shiloh Road, Suite 200 Springfield, IL 62768 Offices Nationwide	
RUNWAY 13-31 SAFETY AREA IMPROVEMENTS PROPOSED MARKING PLAN STA. 100+00 TO STA. 153+98	
5 5 of 11 sheets	



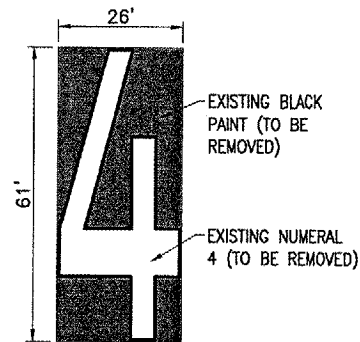
318 S.F.
634 S.F.
RUNWAY NUMERAL 13
"NOT TO SCALE"



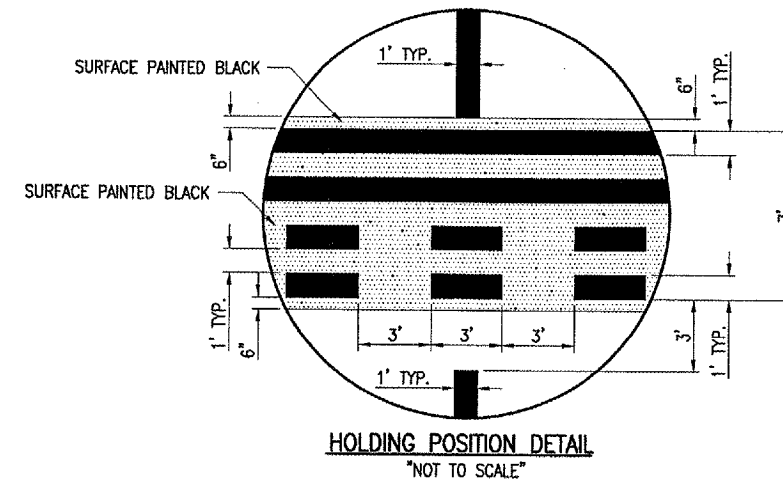
634 S.F.
318 S.F.
RUNWAY NUMERAL 31
"NOT TO SCALE"



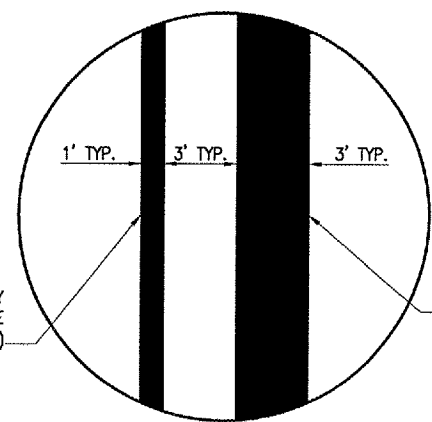
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RUNWAY NUMERAL 4
"NOT TO SCALE"



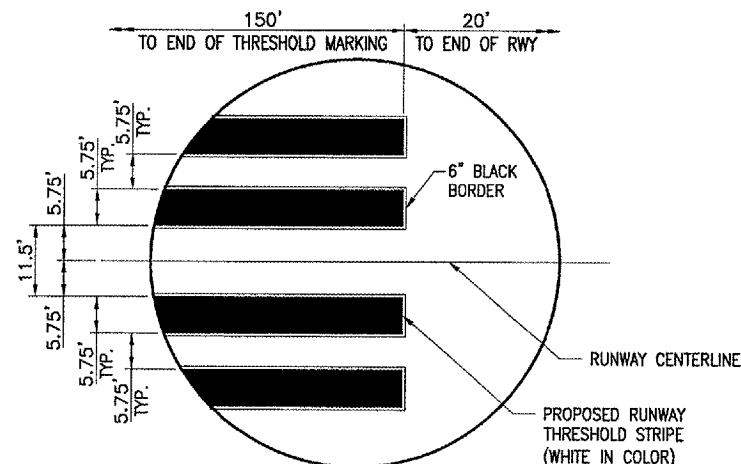
RUNWAY NUMERAL 4 REMOVAL DETAIL
"NOT TO SCALE"



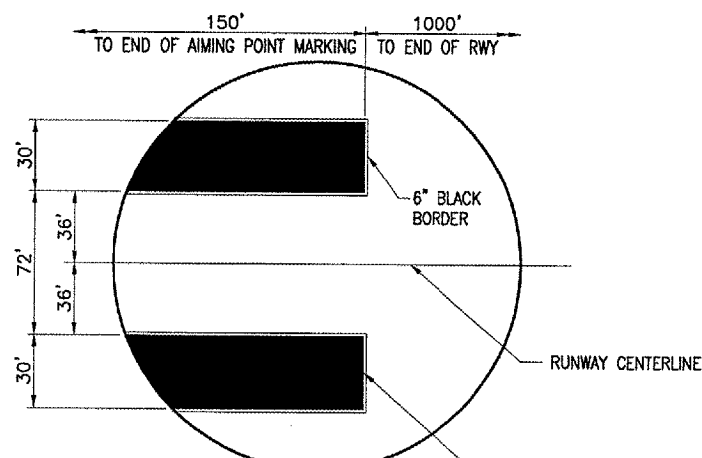
HOLDING POSITION DETAIL
"NOT TO SCALE"



TAXIWAY CENTERLINE LEAD-IN DETAIL
"NOT TO SCALE"



THRESHOLD STRIPE DETAIL
"NOT TO SCALE"



AIMING POINT DETAIL
"NOT TO SCALE"

NUMERAL 4 NOTES

ONCE THE CONTRACTOR HAS REMOVED ALL OF THE MARKING ON RUNWAY 13-31 HE WILL CLOSE RUNWAY 4-22 IN ORDER TO REMOVE THE NUMERAL 4 AND THE BLACK PAINT THAT WAS USED TO BLOCK OUT THE NUMERAL DURING A PAST PROJECT.

SINCE RUNWAY 4-22 CAN NOT BE CLOSED OVERNIGHT, IMMEDIATELY UPON REMOVING THE NUMERAL 4 AND THE BLACK PAINT AROUND THE NUMERAL THE CONTRACTOR WILL RE-PAINT THE NUMERAL 4.

THE EXISTING NUMERAL 4 AND THE BLACK PAINT AROUND IT IS DETAILED ON THIS SHEET.

JUL 11, 2006 10:37 AM BAK
I:\AIRPORTS\QUINCY\82406RWY\AIRPORT\SHEETS\R-151MRK.DWG - MARKING DETAILS

DATE	REVISION	BY

QUINCY REGIONAL AIRPORT
BALDWIN FIELD
ADAMS COUNTY, ILLINOIS

QUINCY Regional Airport
Baldwin Field
Adams County, Illinois

IL PROJ.: UIN-3619 A.I.P. PROJ.: 3-17-0085-XX

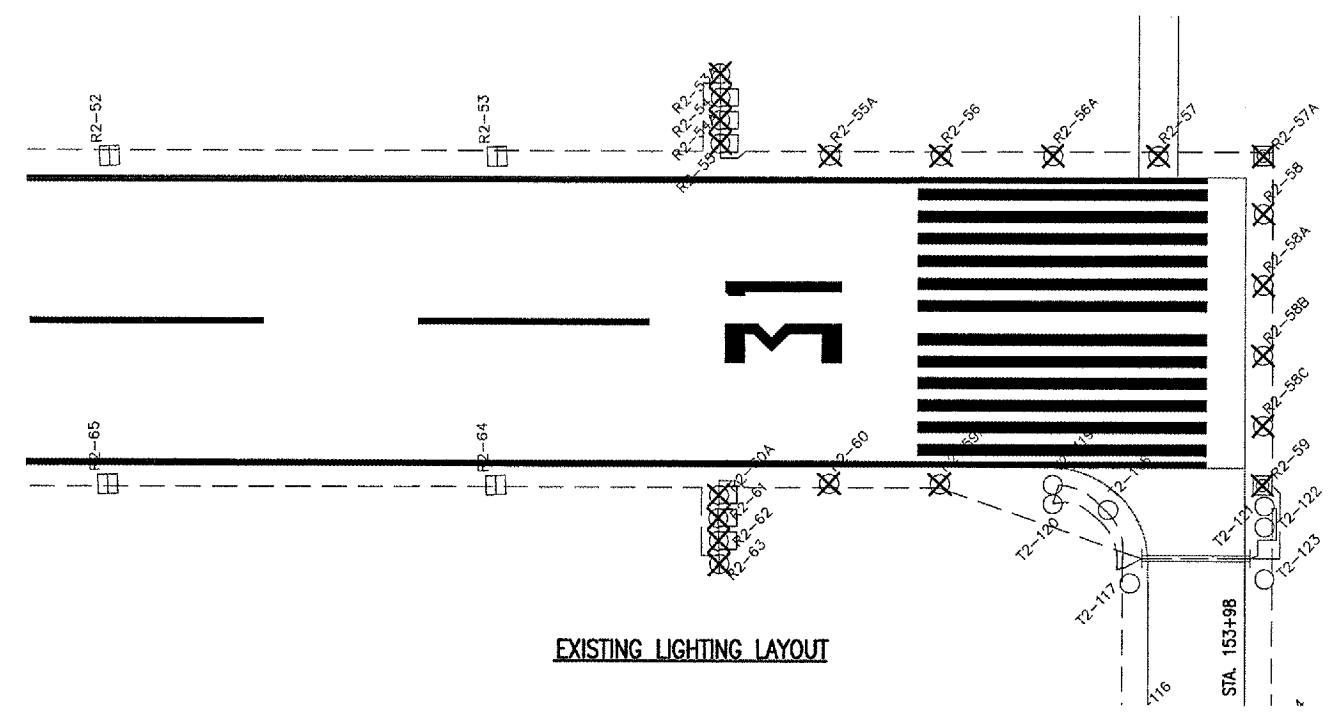
NE Project No. 824-06RWYD_0240			
Drawings R-151MRK.DWG			
Scale NOT TO SCALE			
Date 06/07/06			
LAYOUT	BAK	06/07/06	
DRAWN	BAK	06/07/06	
REVIEWED	CAH	06/15/06	

HANSON

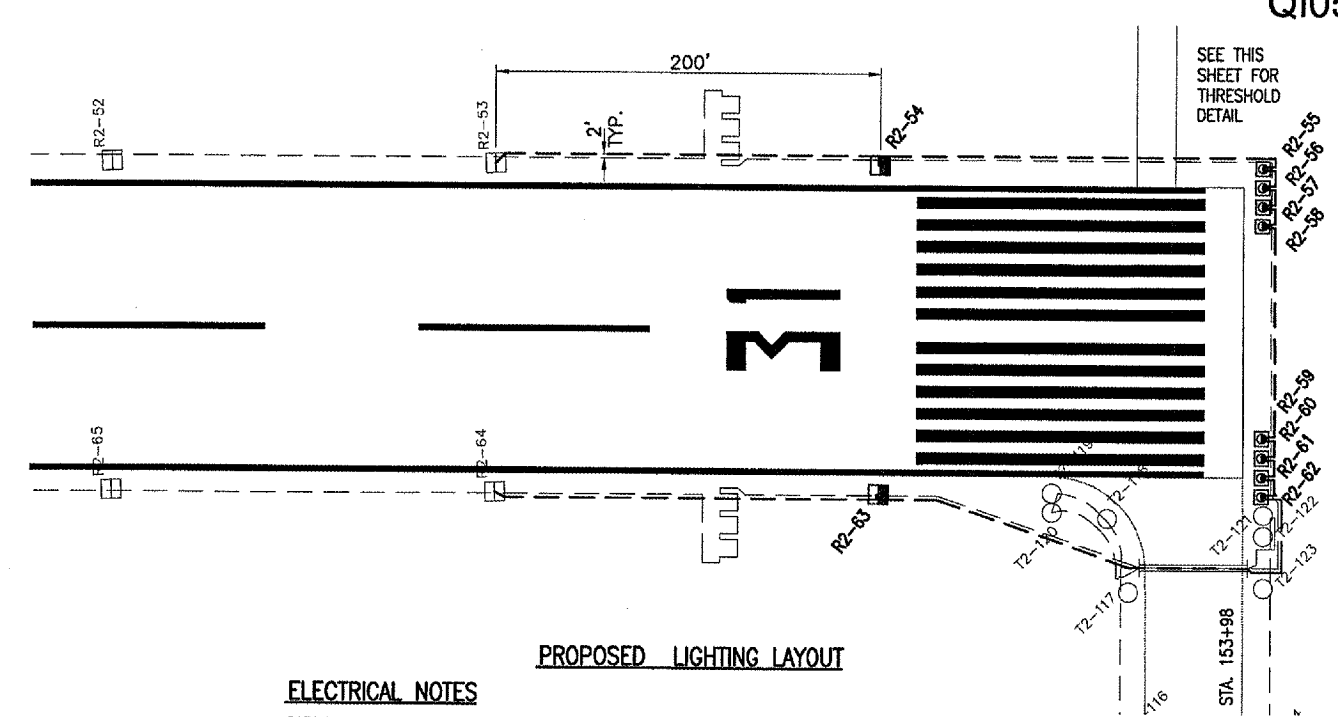
Hanson Professional Services Inc.
1525 South Sixth Street
Springfield, Illinois 62703-2886
Offices Nationwide

RUNWAY 13-31 SAFETY AREA IMPROVEMENTS

PROPOSED MARKING DETAILS



EXISTING LIGHTING LAYOUT



PROPOSED LIGHTING LAYOUT

LIGHT REMOVAL NOTES

ALL EXISTING RUNWAY AND TAXIWAY LIGHTS THAT ARE DESIGNATED FOR REMOVAL WILL BE REMOVED. THE LIGHTS AND THEIR ISOLATING TRANSFORMER WILL BE TURNED OVER TO THE AIRPORT MANAGER. THE LIGHT BASES WILL BE REMOVED AND DISPOSED OF OFF THE AIRPORT SITE.

THE HOLE LEFT FROM THE LIGHT REMOVAL WILL BE FILLED IN WITH EARTH AND COMPACTED TO PREVENT FUTURE SETTLEMENT. THE DISTURBED AREAS WILL BE FERTILIZED AND SEEDED IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

THE EXISTING RUNWAY CABLES WILL BE ABANDONED IN PLACE UNLESS IT CONFLICTS WITH THE INSTALLATION OF A PROPOSED LIGHT OR CABLE, THEN IT WILL BE REMOVED AT NO ADDITIONAL COST TO THE CONTRACT.

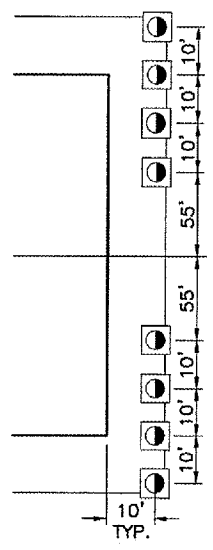
IF RUNWAY 13-31 MARKING HAS BEEN REMOVED AND THE RUNWAY HAS NOT BEEN RE-MARKED, THEN RUNWAY 13-31 WILL BE CLOSED UNTIL IT IS RE-MARKED. OTHERWISE THE RUNWAY WILL BE CLOSED DURING THE CONSTRUCTION DAY AND OPENED AT THE END OF DAILY CONSTRUCTION. ALL OPEN HOLES AND TRENCHES WILL BE FILLED AT THE END OF THE CONSTRUCTION DAY BEFORE THE RUNWAY IS RE-OPENED. THE EXISTING LIGHTS WILL BE REMOVED AS NEW CABLE AND LIGHTS ARE INSTALLED. AT THE END OF THE CONSTRUCTION DAY THE NEW LIGHTS AND CABLE WILL BE CONNECTED TO THE REMAINING EXISTING LIGHTING CIRCUIT IN ORDER THAT THE LIGHTING CIRCUIT REMAIN OPERATIONAL EACH NIGHT OR DURING NON-CONSTRUCTION PERIODS. THE CONTRACTOR WILL FURNISH JUMPER CABLES OR ADDITIONAL CONNECTOR KITS AS REQUIRED TO PLACE THE LIGHTING CIRCUIT BACK INTO OPERATION. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THIS WORK.

REMOVAL OF THE EXISTING LIGHTS AND ISOLATING TRANSFORMERS WILL BE PAID FOR UNDER ITEM:

AR125902 "REMOVE BASE MOUNTED LIGHT" PER EACH.
THERE ARE 20 BASE MOUNTED LIGHTS TO BE REMOVED.

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.



PROPOSED THRESHOLD DETAIL RUNWAY END 31
NOT TO SCALE

- LEGEND**
- ▭ EXISTING PAVEMENT
 - - - EXISTING ELECTRICAL CABLES
 - ▬ EXISTING ELECTRICAL DUCT
 - ⊗ EXISTING STAKE MOUNTED THRESHOLD LIGHT (TO BE REMOVED)
 - ⊗ EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED)
 - ▭ EXISTING BASE MOUNTED RUNWAY LIGHT (TO REMAIN IN PLACE)
 - EXISTING STAKE MOUNTED TAXIWAY LIGHT (TO REMAIN IN PLACE)
 - - - PROPOSED 1/C #8, 5KV, CABLE IN UNIT DUCT
 - ▭ PROPOSED BASE MOUNTED RUNWAY LIGHT
 - ⊗ PROPOSED BASE MOUNTED THRESHOLD LIGHT

ELECTRICAL NOTES

CABLES:
ALL PROPOSED CABLE WILL BE LOCATED 2' FROM THE EXISTING RUNWAY CABLE UNLESS OTHERWISE STATED BY THE RESIDENT ENGINEER.

ALL PROPOSED CABLE WILL BE PLACED 18" BELOW THE EXISTING GRADE.

THE PROPOSED ELECTRICAL CABLE WILL BE NO. 8, 5000 V., 1/C, TYPE C UNDERGROUND CABLE IN UNIT DUCT.

IN AREAS WHERE THERE IS A CONGESTION OF CABLES OR WHERE THE PROPOSED CABLE CROSSES AN EXISTING CABLE, THE PROPOSED CABLE WILL BE HAND DUG INTO PLACE. AT ALL OTHER LOCATIONS, THE PROPOSED CABLE IN UNIT DUCT MAY BE EITHER TRENCHED OR PLOWED INTO PLACE. THE TRENCHING AND/OR PLOWING WILL BE CONSIDERED INCIDENTAL TO THE PROPOSED CABLE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ALL CABLE SHOWN BY A (---) DASHED LINE ARE EXISTING CIRCUITS THAT ARE NOT PART OF THIS CONTRACT. THE LOCATION OF THESE CABLES ARE APPROXIMATE AND FOR INFORMATIONAL PURPOSES ONLY. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND IDENTIFY THESE EXISTING CIRCUITS PRIOR TO THE INSTALLATION OF THE PROPOSED CABLE. ANY DAMAGE TO THE EXISTING CIRCUITS SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE RESIDENT ENGINEER AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

LIGHTS:
ALL PROPOSED LIGHTS WILL BE PLACED 10' FROM THE PAVEMENT EDGE UNLESS SHOWN OTHERWISE.

ALL PROPOSED LIGHTS WILL BE CONSTRUCTED AT THE LOCATION SHOWN ON THIS SHEET AND IN ACCORDANCE WITH THE DETAILS SHOWN ON SHEETS 8 AND 9 AND THE SPECIFICATIONS.

ALL PROPOSED STAKE MOUNTED RUNWAY LIGHTS WILL BE EQUIPPED WITH 180° AMBER/180° CLEAR LENSES. THE AMBER LENSE WILL FACE TOWARD RUNWAY END 13.

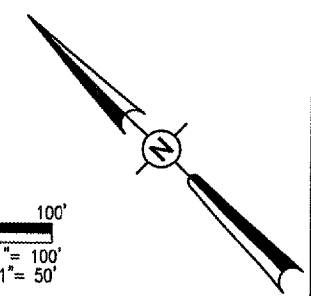
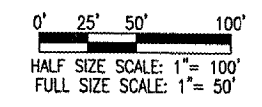
ALL PROPOSED THRESHOLD LIGHTS WILL BE EQUIPPED WITH 180° RED/180° GREEN LENSES. THE RED LENSE WILL FACE TOWARD THE PAVEMENT.

ALL PROPOSED RUNWAY EDGE LIGHTS AND THRESHOLD LIGHTS WILL BE INSTALLED WITH A WEED CONTROL RING. THE WEED CONTROL RING WILL BE PAID FOR UNDER ITEM: AR800449 "WEED CONTROL LIGHT RING" --- PER EACH.

LIGHTS R2-3 AND R2-44 WILL HAVE THEIR EXISTING 180° AMBER/180° CLEAR LENSES CHANGED OUT WITH 360° CLEAR LENSES.

ELECTRICAL QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
AR108158	1/C #8 5 KV UG CABLE IN UD	L.F.	1,171
AR125510	MIRL, BASE MOUNTED	EACH	2
AR125545	MI THRESHOLD LIGHT BASE MTD	EACH	8
AR125902	REMOVE BASE MOUNTED LIGHT	EACH	20
AR125931	REPLACE LIGHT LENSE	EACH	2
AR800449	WEED CONTROL LIGHT RING	EACH	10



DATE	REVISION	BY

QUINCY REGIONAL AIRPORT
BALDWIN FIELD
ADAMS COUNTY, ILLINOIS

IL. PROJ.: UN-3619 A.I.P. PROJ.: 3-17-0085-XX

DATE	REVIEWED	CAH	DATE	REVIEWED	CAH
06/07/06	BAK		06/07/06	BAK	
06/07/06	BAK		06/07/06	BAK	

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1525 South Sixth Street
Springfield, Illinois 62703-2868
Offices Nationwide

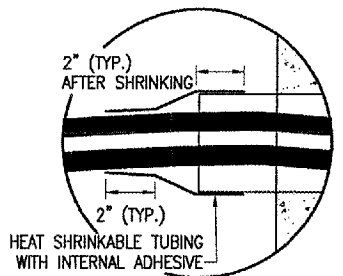
RUNWAY 13-31 SAFETY
AREA IMPROVEMENTS

PROPOSED
ELECTRICAL
PLAN

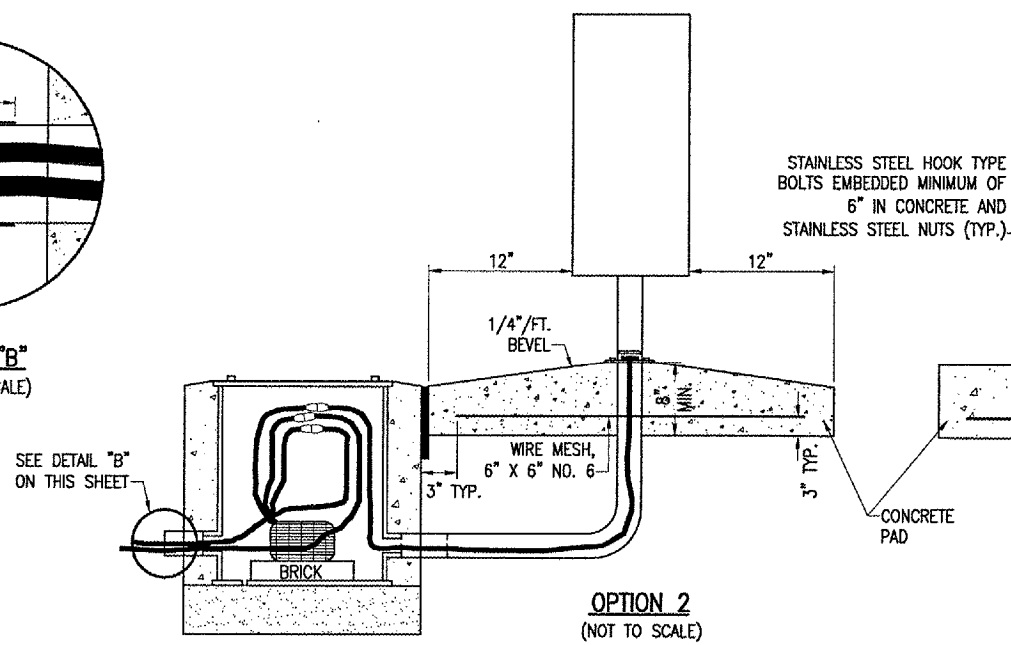
THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON THE PLANS HAS BEEN OBTAINED FROM EXISTING RECORDS. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER, IN RESPECT TO THE ACCURACY OR SUFFICIENCY OF THE INFORMATION AND THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE CONDITIONS ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION.

L-858 SIGN

NOTES:
SEE LIGHTING LAYOUT SHEET(S) FOR SIGN LEGEND, LOCATION, TYPE, SIZE, STYLE, AND CLASS.
NUMBER AND SPACING OF LEGS AS PER MANUFACTURER'S REQUIREMENTS.

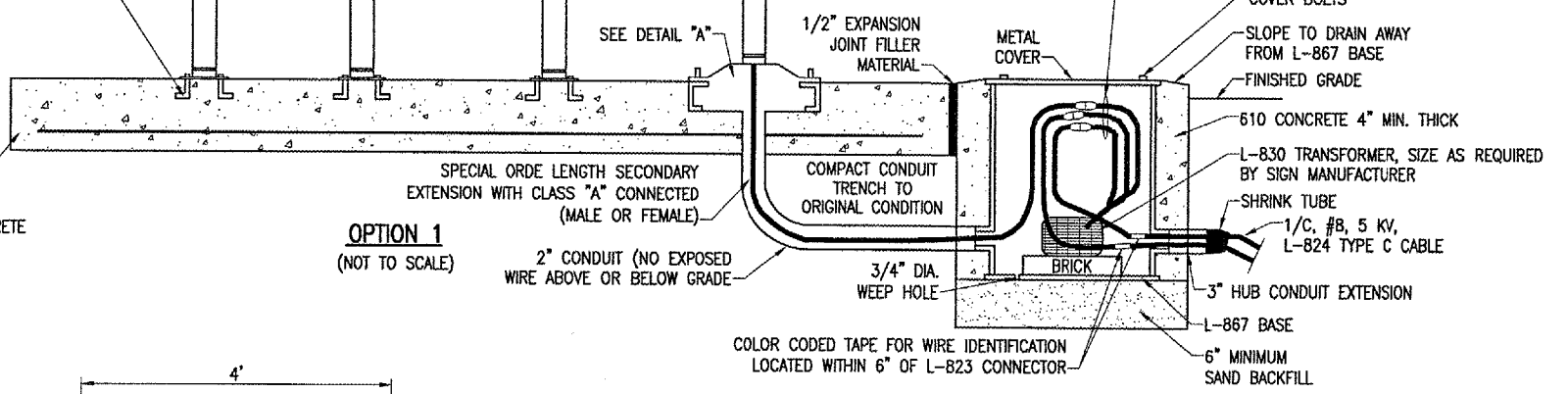


DETAIL "B"
(NOT TO SCALE)

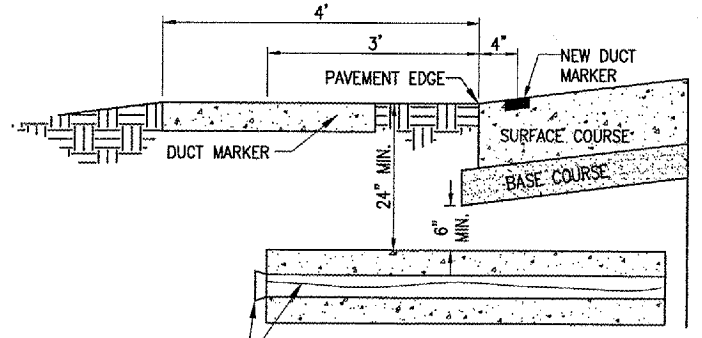


OPTION 1
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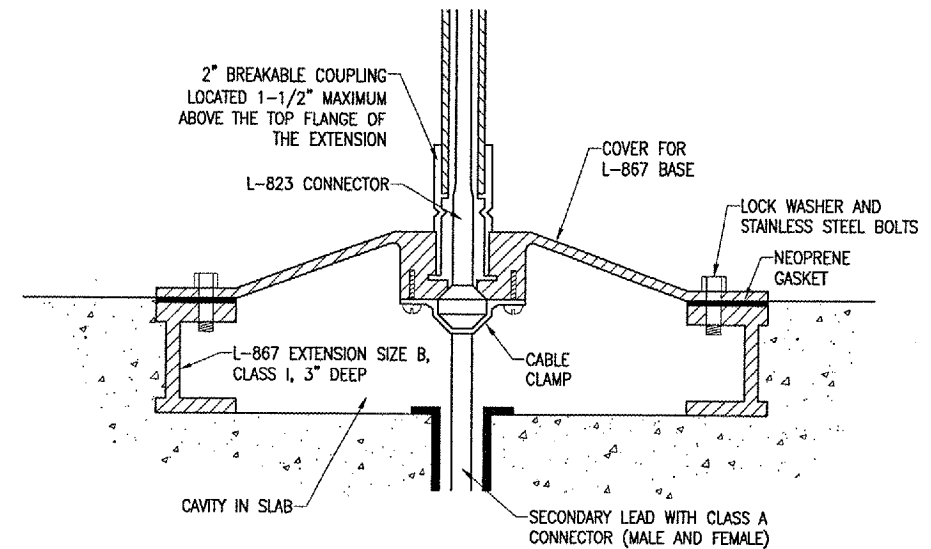
OPTION 2
(NOT TO SCALE)



DETAIL "A"
(NOT TO SCALE)

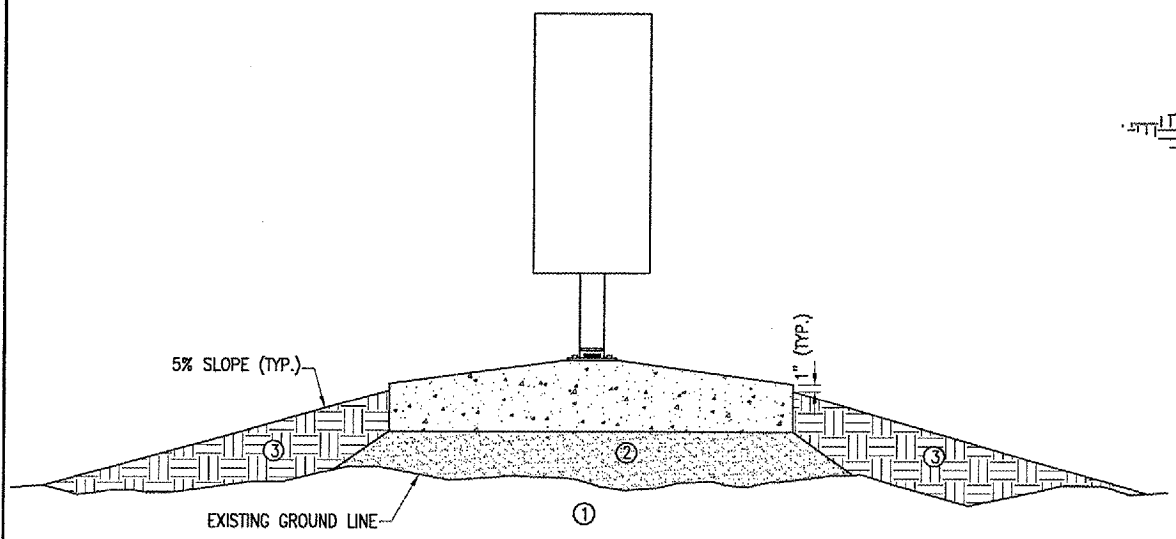


UNDERGROUND ELECTRICAL DUCT
(NOT TO SCALE)



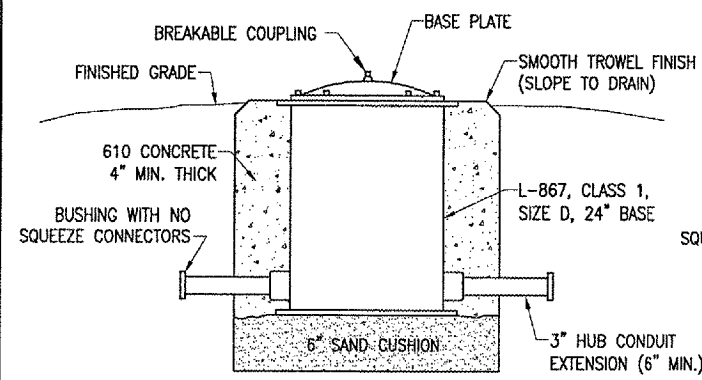
GENERAL NOTES

SEE LIGHTING LAYOUT SHEET FOR SIGN LEGEND, LOCATION, TYPE, SIZE, STYLE, AND CLASS.
SEE SHEETS 10 THROUGH 11 FOR ELECTRICAL NOTES.

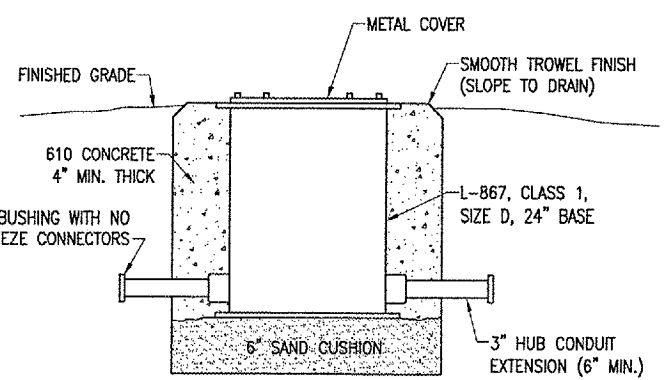


SIGN DETAIL
(NOT TO SCALE)

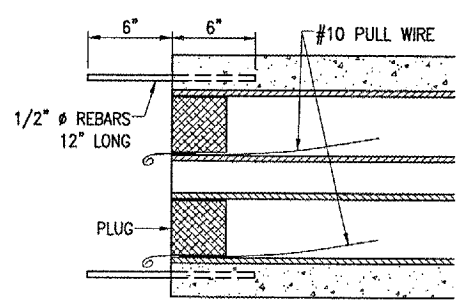
- ① EXISTING SOD TO BE STRIPPED AND REMOVED
- ② SAND BACKFILL, VARIABLE DEPTH
- ③ PROPOSED TOPSOIL BACKFILL MATERIAL



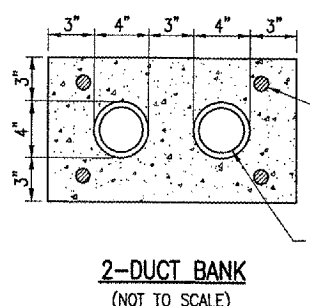
REIL BASE DETAIL
(NOT TO SCALE)



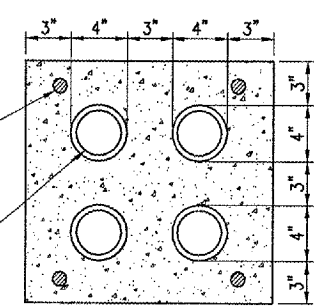
SPLICE CAN DETAIL
(NOT TO SCALE)



TYPICAL SECTION
(NOT TO SCALE)



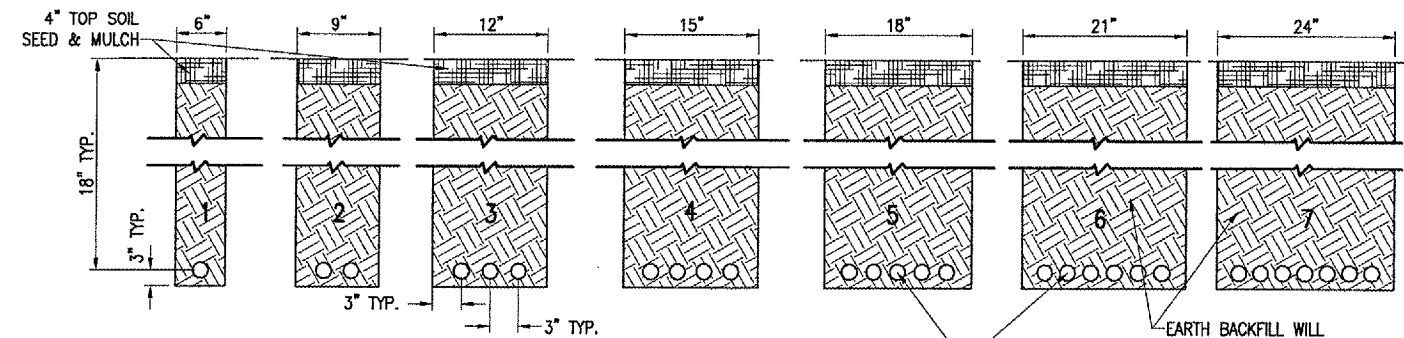
2-DUCT BANK
(NOT TO SCALE)



4-DUCT BANK
(NOT TO SCALE)

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BY	
REVISION	
DATE	
<p>QUINCY REGIONAL AIRPORT BALDWIN FIELD ADAMS COUNTY, ILLINOIS</p> <p>QUINCY Regional Airport BALDWIN FIELD</p>	
PROJECT	QUIN-3619
PROJ. NO.	3-17-0085-XX
REL. PROJECT NO.	B24-06RWYD-0240
DATE	09/06/06
SCALE	NOT TO SCALE
LAYOUT	BAK 06/06/06
DRAWN	BAK 06/06/06
REVIEWED	CAH 06/15/06
<p>HANSON</p> <p>Hanson Professional Services Inc. 1625 South Sixth Street Springfield, Illinois 62703-2886 Chicago Nationwide</p>	
<p>RUNWAY 13-31 SAFETY AREA IMPROVEMENTS</p> <p>PROPOSED ELECTRICAL DETAILS</p>	
<p>8</p> <p>8 of 11 sheets</p>	



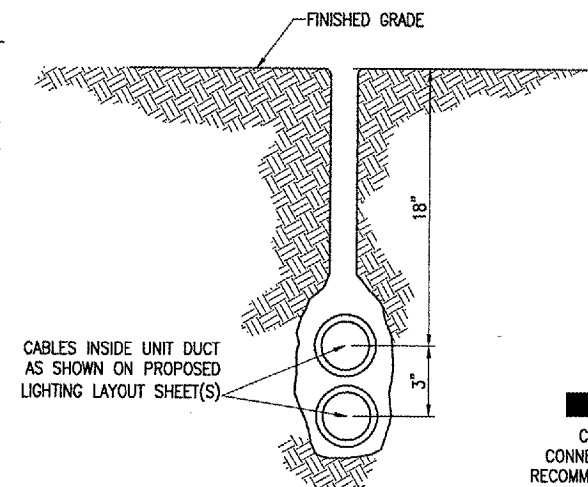
NOTES:
DETAIL NUMBERS INDICATE NO. OF CABLES.

TRENCHES WITH MORE THAN SEVEN CABLES SHALL BE INCREASED 3" IN WIDTH FOR EACH ADDITIONAL CABLE; IF SPECIFIED ON PLANS TWO PARALLEL TRENCHES MAY BE CONSTRUCTED.

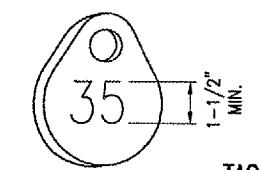
DEPTH OF TRENCHES SHALL BE AS SHOWN ABOVE UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ALL DISTURBED SURFACES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION. COST IS INCIDENTAL TO TRENCH.

EARTH BACKFILL WILL HAVE MAXIMUM 1" SIZE PARTICLES AND WILL BE PLACED IN TWO LIFTS AS APPROXIMATELY SHOWN (TYPICAL FOR ALL TRENCHES)

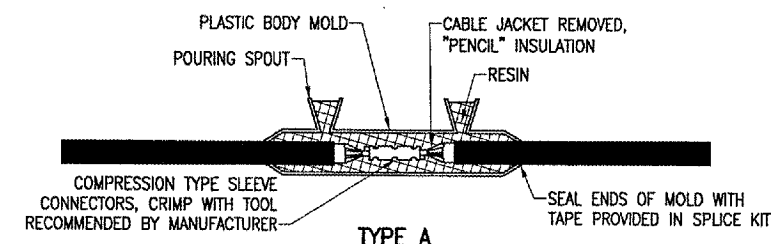


PLOWED CABLE
(NOT TO SCALE)



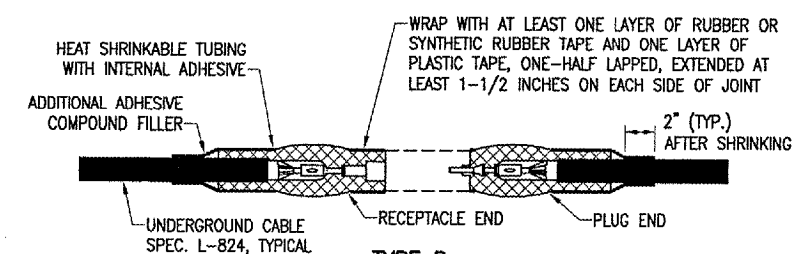
TAG DETAIL
(NOT TO SCALE)

NOTE:
AFFIX NON-CORROSIVE TAG TO FIXTURE FACING RUNWAY WITH SET SCREW, WIRE TIE, OR METAL BAND. NUMERALS SHALL BE ENGRAVED FOR PERMANENT READABILITY.



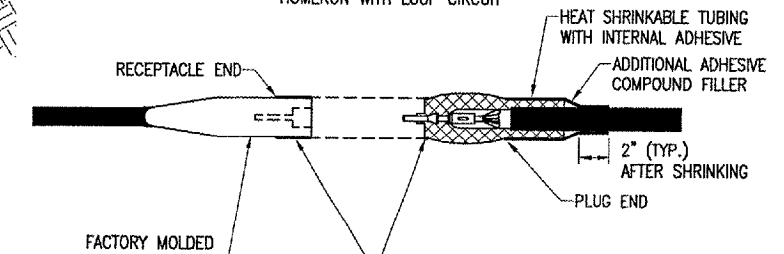
TYPE A

FOR SPLICES IN HOMERUNS FOR EXTENSIONS TO EXISTING CABLES ONLY



TYPE B

FOR SPLICES AT JUNCTION OF HOMERUN WITH LOOP CIRCUIT



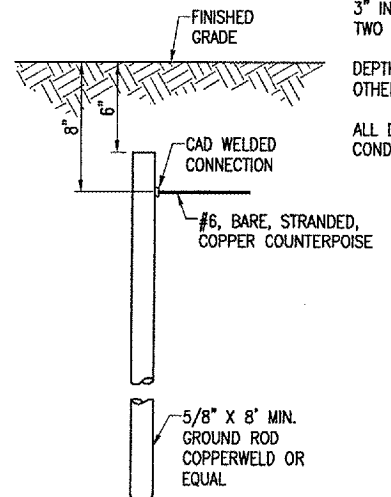
TYPE C

FOR SPLICES AT RUNWAY LIGHTS

NOTES:
SEE PROPOSED LIGHTING LAYOUT SHEET(S) FOR SPLICE TYPE.

INSIDE DIAMETER OF CONNECTOR SHALL PROPERLY MATCH THE OUTSIDE DIAMETER OF CABLE.

CABLE SPLICES
(NOT TO SCALE)



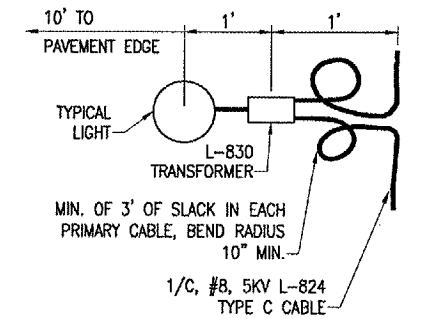
NOTES:
TYPE AND MINIMUM NUMBER OF GROUND RODS SHALL BE AS SPECIFIED ON THE PLAN.

THE RESISTANCE TO GROUND OF THE COUNTERPOISE GROUNDING SYSTEM SHALL NOT EXCEED 25 OHMS.

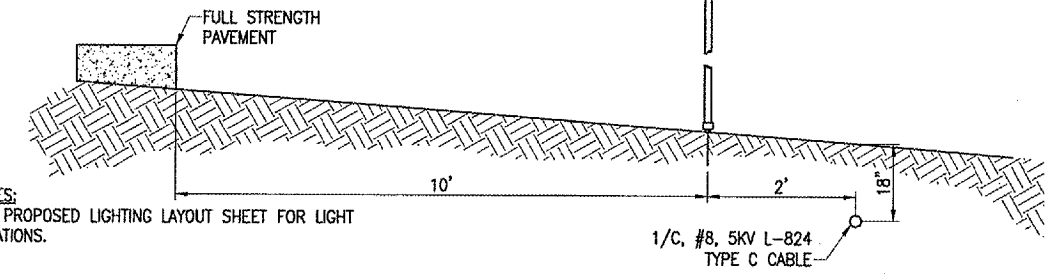
COST OF GROUND RODS IS INCIDENTAL TO THE ASSOCIATED ITEMS REQUIRING GROUNDING UNLESS OTHERWISE SPECIFIED.

GROUND ROD
(NOT TO SCALE)

CABLE TRENCHES
(NOT TO SCALE)



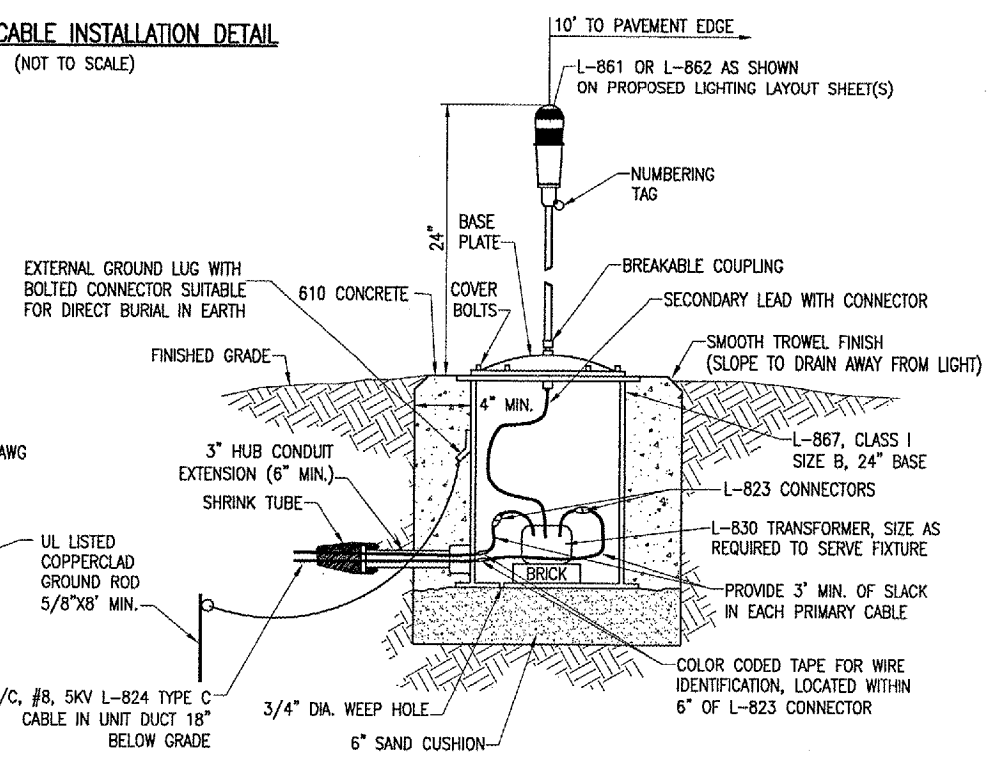
PLAN VIEW



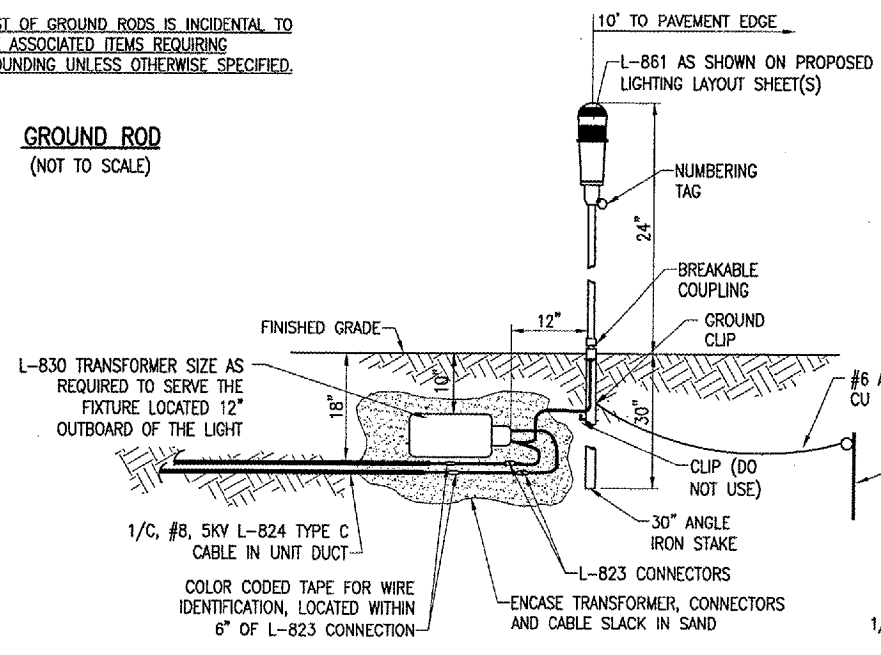
LIGHT AND CABLE INSTALLATION DETAIL
(NOT TO SCALE)

NOTES:
SEE PROPOSED LIGHTING LAYOUT SHEET FOR LIGHT LOCATIONS.

PROFILE VIEW



MEDIUM/HIGH INTENSITY LIGHT - BASE MOUNTED
(NOT TO SCALE)



MEDIUM INTENSITY LIGHT - STAKE MOUNTED
(NOT TO SCALE)

BY	
REVISION	
DATE	
<p>QUINCY REGIONAL AIRPORT BALDWIN FIELD ADAMS COUNTY, ILLINOIS</p>	
<p>QUINCY Regional Airport Baldwin Field</p>	
IL PROJ.: UN-3619	A.I.P. PROJ.: 3-17-0085-XX
<p>HEL Project No. 824-06RWTD 0240 Figure R-542ELE.DWG Scale NOT TO SCALE Date 06/06/06</p>	<p>BAK 06/06/06 BAK 06/06/06 CAH 06/15/06</p>
<p>HANSON Hanson Professional Services Inc. 1525 South Sixth Street Springfield, Illinois 62703-2886 Chicago, Illinois</p>	
<p>RUNWAY 13-31 SAFETY AREA IMPROVEMENTS</p>	
<p>PROPOSED ELECTRICAL DETAILS</p>	
<p>9</p>	
<p>9 of 11 sheets</p>	

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GENERAL NOTES

1. THE ELECTRICAL INSTALLATION, AS A MINIMUM, SHALL MEET THE NATIONAL ELECTRICAL CODE AND LOCAL REGULATIONS.
2. 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 MANUFACTURE) THAT IS COMPATIBLE WITH THE REMAINDER OF THE AIRPORT LIGHTING SYSTEM.
3. IN CASE THE CONTRACTOR ELECTS TO FURNISH AND INSTALL AIRPORT LIGHTING EQUIPMENT REQUIRING ADDITIONAL WIRING, TRANSFORMERS, ADAPTERS, MOUNTINGS, ETC., TO THOSE SHOWN ON THE DRAWINGS AND/OR 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.
5. 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 APPROVED.
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/AFD). THE CONTRACTOR SHALL NOT ACCEPT ANY VERBAL INSTRUCTIONS FROM THE RESIDENT ENGINEER REGARDING ANY CHANGES FROM THE PLANS AND SPECIFICATIONS.
7. 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 EQUIPMENT, SUCH AS REGULATORS, PAPI, REIL, ETC. AS A MINIMUM SHALL CONTAIN THE FOLLOWING:
 - A. A DETAILED DESCRIPTION OF THE OVERALL EQUIPMENT AND ITS INDIVIDUAL COMPONENTS.
 - B. THEORY OF OPERATION INCLUDING THE FUNCTION OF EACH COMPONENT.
 - C. INSTALLATION INSTRUCTIONS.
 - D. START-UP INSTRUCTIONS.
 - E. PREVENTATIVE MAINTENANCE REQUIREMENTS.
 - F. CHART FOR TROUBLE-SHOOTING.
 - G. COMPLETE POWER AND CONTROL DETAILED WIRING DIAGRAM(S), SHOWING EACH CONDUCTOR/ CONNECTION/COMPONENT - "BLACK" BOXES ARE NOT ACCEPTABLE. THE DIAGRAM OF THE NARRATIVE SHALL SHOW VOLTAGE/CURRENTS/WAVE SHAPES AT STRATEGIC LOCATIONS TO BE USED WHEN CHECKING AND/OR TROUBLE-SHOOTING THE EQUIPMENT. WHEN THE EQUIPMENT 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 MANUFACTURE AND THE CATALOG NUMBER.
 - I. SAFETY INSTRUCTIONS.

POWER AND CONTROL NOTES

1. 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 CONTRAST WITH THE BACKGROUND.
2. 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 WIRE 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 USE OF WHITE TAPE AT ITS TERMINATIONS AND INSIDE ACCESSIBLE WIREWAYS.
3. 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.
4. IN CONTROL WIRING THE SAME COLOR SHALL BE USED THROUGHOUT THE SYSTEM FOR THE SAME FUNCTION, SUCH AS 10%, 30%, 100% BRIGHTNESS CONTROL, ETC.
5. LOW VOLTAGE (600 V.) AND HIGH VOLTAGE (5000 V.) CONDUCTORS SHALL BE INSTALLED IN SEPARATE WIREWAYS.
6. NEATLY LACE WIRING IN DISTRIBUTION PANELS, WIREWAYS, SWITCHES AND JUNCTION/PULL BOXES.
7. THE MINIMUM SIZE OF PULL/JUNCTION BOXES, REGARDLESS OF THE QUANTITY AND SIZE OF THE CONDUCTORS SHOWN, SHALL BE AS FOLLOWS:
 - A. 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.
 - B. 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 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.
8. 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.
9. EQUIPMENT CABINETS SHALL NOT BE USED AS PULL/JUNCTION BOXES. ONLY WIRING TERMINATING AT THE EQUIPMENT SHALL BE BROUGHT INTO THESE ENCLOSURES.
10. SPLICES AND JUNCTION POINTS SHALL BE PERMITTED ONLY IN JUNCTION BOXES, DUCTS EQUIPPED WITH REMOVABLE COVERS, AND AT EASILY ACCESSIBLE LOCATIONS.
11. CIRCUIT BREAKERS IN POWER DISTRIBUTION PANEL(S) SHALL BE THERMAL-MAGNETIC MOLDED CASE, PERMANENT TRIP WITH 100 AMPERE, MINIMUM FRAME.
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, AND/OR GALVANIZED STEEL STRUT SUPPORT.
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 INCH.
16. 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.
19. 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 INSULATING 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.
23. THE FOLLOWING SHALL APPLY TO RELAY/CONTACTOR PANELS/ENCLOSURES:
 - A. ALL COMPONENTS SHALL BE MOUNTED IN DUST PROOF ENCLOSURE(S) WITH VERTICALLY HINGED COVERS.
 - B. THE ENCLOSURE(S) SHALL HAVE AMPLE SPACE FOR THE CIRCUIT COMPONENTS, TERMINAL BLOCKS AND INCOMING AND INTERNAL WIRING.
 - C. ALL CONTROL CONDUCTOR TERMINATIONS SHALL BE OF THE OPEN-EYE CONNECTOR/SCREW TYPE. SOLDERED CLOSED-EYE TERMINATIONS, OR TERMINATIONS WITHOUT CONNECTORS ARE NOT ACCEPTABLE.
 - D. 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.
 - E. ACCESS TO, OR REMOVAL OF A CIRCUIT COMPONENT OR TERMINAL BLOCK WILL NOT REQUIRE THE REMOVAL OF ANY OTHER CIRCUIT COMPONENT OR TERMINAL BLOCK.
 - F. EACH CIRCUIT COMPONENT SHALL BE CLEARLY IDENTIFIED INDICATING ITS CORRESPONDING NUMBER SHOWN ON THE DRAWINGS AND ITS FUNCTION.
 - G. A COMPLETE WIRING DIAGRAM (SCHEMATIC DIAGRAM) SHALL BE MOUNTED ON THE INSIDE OF THE COVER. THE DIAGRAM SHALL REPRESENT EACH CONDUCTOR BY A SEPARATE LINE.
 - H. THE DIAGRAM SHALL IDENTIFY EACH CIRCUIT COMPONENT AN NUMBERING AND COLOR OF EACH TERMINAL CONDUCTOR AND TERMINAL.
 - I. ALL WIRING SHALL BE NEATLY TRAINED AND LACED.
 - J. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.

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FIELD LIGHTING NOTES



1. 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.
2. 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. 9.
5. 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. 9.
6. L-823 TYPE II, TWO-CONDUCTOR SECONDARY CONNECTORS SHALL BE CLASS "A" (FACTORY MOLDED).
7. 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 TAPED.
9. 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.
12. 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 SEAL.
16. TOPS OF THE STAKES SUPPORTING LIGHT FIXTURES SHALL BE FLUSH WITH THE SURROUNDING GRADE.
17. 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.
20. ENTRANCES INTO L-867 BASES SHALL BE SEALED WITH HEAT SHRINK AS SHOWN IN DETAIL "B" ON SHEET NO. 8.
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.
25. THERE SHALL BE NO SPLICES BETWEEN THE ISOLATION TRANSFORMERS. L-823 CONNECTORS ARE ALLOWED AT TRANSFORMER CONNECTIONS ONLY, UNLESS OTHERWISE SHOWN.
26. APPLY AN OXIDE INHIBITING, ANTI-SEIZING COMPOUND TO ALL SCREWS, NUTS AND BREAKAGE COUPLING THREADS.
27. LOCATIONS OF ENDS OF ALL UNDERGROUND DUCTS SHALL BE IDENTIFIED BY DUCT MARKERS.
28. WHERE A PARALLEL, CONSTANT VOLTAGE PAPI SYSTEM IS PROVIDED, THE "T" SPLICES SHALL BE OF THE CAST TYPE.
29. 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.

GROUNDING NOTES

1. ALL GROUND CONNECTIONS TO GROUND RODS, BUSES, 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 EXOTHERMIC WELD WHERE SPECIFIED HEREIN.
2. TOP OF GROUND RODS SHALL BE TEN (10) INCHES BELOW GRADE, UNLESS SPECIFIED OTHERWISE HEREIN, FOR RESPECTIVE APPLICATIONS.
3. THE RESISTANCE TO GROUND OF THE VAULT GROUNDING SYSTEM WITH THE COMMERCIAL POWER LINE NEUTRAL DISCONNECTED SHALL NOT EXCEED 10 OHMS.

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